ZAMBIA
Vulnerability
Assessment Committee

2009 In-Depth Vulnerability and Needs Technical Assessment Report

By
The Zambia Vulnerability Assessment Committee (ZVAC)

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Acronyms

CBPP	Contagious Bovine Pleuro Pneumonia
CRS	Catholic Relief Services
CSO	Central Statistical Office
DDMC	District Disaster Management Committee
DMMU	Disaster Management and Mitigation Unit
DWA	Department of Water Affairs
FAO	Food and Agriculture Organization
FSP	Food Security Pack
IMCI	Integrated Management of Common Childhood Illnesses
ITN	Insecticide Treated Net
LDHMT	Lusaka District Health Management Team
MACO	Ministry of Agriculture and Cooperatives
MET	Meteorological Department
MOE	Ministry of Education
MT	Metric Tons
NAC	National AIDS Council
NAPS	National Association for the Prevention of Starvation
NFNC	National Food and Nutrition Commission
NRDC	Natural Resources Development College
PAM	Program Against Malnutrition
SanPlat	Sanitation Platform
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WATSAN	Water and Sanitation
WFP	World Food Program
ZAWA	Zambia Wildlife Authority
ZDHS	Zambia Demographic and Health Survey
ZRDF	Zambia Relief Development Foundation
ZVAC	Zambia Vulnerability Assessment Committee

Executive Summary

The beginning of the 2008/9 rainy season was described by the Zambia Meteorological Department (ZMD) as normal with the rains having started early in most parts of the country apart from the extreme eastern parts of the country (Lundazi, Chama and Isoka). However, as the season progressed there was widespread increased rainfall intensity in December and January while rains in the southern half the country eased off in February resulting in prolonged dry spell in the extreme south. The month of March was characterised by wide spread heavy rains culminating into flash floods especially in low lying areas of the country (i.e. valleys). This had varied degree of negative impact on key sectors of the economy.

In view of the above, the Zambia Vulnerability Assessment Committee (ZVAC) undertook a Multi-Sectoral In-Depth Vulnerability and Needs Assessment in twenty (20) districts in order to determine the impact of the 2008/9 floods on various sectors of the economy. The districts visited were Kapiri Mposhi, Serenje, Mambwe, Kawambwa, Mpika, Mungwi, Mporokoso, Chavuma, Zambezi, Kabompo, Kasempa, Mufumbwe, Mwinilunga, Lukulu, Kaoma, Mongu, Kalabo, Shang'ombo, Senanga and Sesheke.

The assessment employed the qualitative and quantitative approaches in the collection of the data. Under the quantitative approach, structured household questionnaires were employed in 280 Standard Enumeration Areas (SEAs) targeting a total of 2, 800 households in twenty (20) districts. Under the qualitative approach, community interviews were conducted in all the 280 SEAs. In each of the sampled SEA, anthropometric data collection methods were used to collect nutrition data for the under-five children.

Major Findings

- The post floods survey conducted in twenty (20) districts established that a total of 499 359 people (83, 227 households) were negatively impacted upon by the 2008/9 flood situation. It should be emphasized that this figure represents the number of people and households affected overally and does not in any way represent any sector based population.

- The major income sources for most of the households were cash crop production, casual labour, petty trading and fishing, in order of importance. It was found that there were no major differences in income sources of the sampled households between the 2007/08 and the 2008/09 season. This implies that no major impact was exerted on these sources by floods.
- The production of cereals, mainly maize, had risen in all the assessed districts. Increase in production of the staple from the previous season ranged between 4% for Mwinilunga and Kabompo to 39% for Lukulu.
- Although maize prices have started falling as small scale maize becomes available on the market from the new harvest, maize grain prices have remained generally high. Breakfast meal prices were still rising in the month of May while the price of roller meal marginally dropped.
- The prevalence of Severe Acute Malnutrition (SAM) was found to be 1.4% out of which 0.3% had bilateral oedema. Global Acute Malnutrition (GAM stood at 3.6%. These results show no significant differences from the expected situation in the country.
- Based on the above scenario, it was established that a total of 110, 651 people (18, 442 households) in seven (7) districts were found to be food insecure.
- The survey found that 69.2% of the under five children had suffered from Fever/suspected malaria, diarrhoea (watery stool), Cough, or skin infection while 30.8% did not suffer from any illness.
- The assessment established that immunization coverage was high in all the assessed districts. The measles coverage of 86.5 % was recorded among children aged between 6-59 months, 93.7% was recorded for OPV and 94.1% for DPT

immunization while the BCG coverage was found to be at 97.2%. The health Card (76.9%) and verbal history provided by the caregiver (22.2%) were the main source of information for child immunization.

- For water and sanitation, the assessment established that 50% of the communities drew water from unprotected water sources such as lakes, rivers, unprotected wells and unprotected springs.
- Of the sampled households, 24% indicated that they treated their drinking water. The most commonly used method for water treatment was found to be use of chlorine (19%) and boiling (5%). There were very few households who resorted to filtration as a water treatment method.
- The assessment revealed that 45% of the sampled households indicated that water sources were within 100 to 500 meters while 32% of the households indicated that water sources were located at a distance less than 100 meters.
- The assessment revealed that the main sanitary facilities used by the sampled households were traditional latrine (67.8%).
- In the last 6 months, 97% of respondents indicated that they did not have any boys and girls that dropped out of school.
- The highest form of violence was early marriage (3.9%) and this was followed by other types ranked as follows: assault (3.4%), child defilement (1.0%), rape (0.9%) and other types of violence (0.9%) and sexual exploitation (0.2%). The highest proportion (5.7%) of child defilements occurred in households headed by the 16 to 19 years age group and the next highest proportion was in the age range of 40 to 59 years (0.9%).
- The survey revealed that of the total number of households that were affected by floods, only 10% were displaced. This translates into a total of 280 households displaced (1,680 people). The displacement of the households was mainly due to the weak housing structures which are built with pole, mud and grass.
- The infrastructure sector was the worst hit sector by the 2008/9 floods. Roads, bridges and culverts were washed away by the flood waters. School infrastructure also suffered major damage.

Conclusions

Infrastructure

A total of 327 structures were damaged or washed away. This includes roads, bridges and culverts in different districts of the country. The school infrastructure has been covered under education.

Agriculture and Food Security

The production of the staple in all the twenty districts had increased with the increase ranging from 4% to 39%. However, owing to the fact that most of these districts have had floods the past three seasons, it is likely that this marginal increase would afford the community enough resilience in terms of food security.

Cattle prices in the assessed districts either rose or remained stable with respect to prices which prevailed in December 2008. The fact that cattle prices in areas with relatively low December prices (lean season prices) increased in May shows that at the time of the assessment, farmers were still able to negotiate for higher prices and therefore not desperate to sale.

The price increases over the previous season were high for most areas with the highest reported in Kaoma (100%), while Lukulu, Senanga, Kalabo, Mwinilunga, Shang'ombo and Mongu reported at least 50% increase in price. This can be attributed to the fact that 2008/09 marketing season was a maize deficit year when most areas experienced low maize supply towards the end of the season which pushed prices up significantly. Therefore May 2009 prices still remained high as the new harvest had not yet adequately reached the market.

Of the twenty (20) districts visited, 7 districts were found to have most households which had experienced drastic reduction in their harvest of the main staple. A total of 110, 651 people (18,442 households) were found to be food insecure and will require some assistance. Four districts namely Kapiri Mposhi, Kasempa, Mambwe and

Mongu were likely to face food insecurity as the analysis showed that the situation in the districts could go either way.

Nutrition

The 2009 in-depth vulnerability assessment revealed that vitamin A supplementation and de-worming program among children (6 – 59 months) was as low as 61.6% and 17.2 %. These coverage results, on vitamin A supplementation and de-worming, are lower compared to other community surveys that have been conducted before.

It was also observed that the supplementation and therapeutic feeding programs coverages were low (2.0 and 1.4% respectively). The number of children who were reported to have been on therapeutic feeing program at the point of survey was 14 (1.0%).

The in-depth assessment revealed that the prevalence of Severe Acute Malnutrition (SAM) was 1.4%. The proportion of children with bilateral oedema was 0.3%. Global Acute Malnutrition (GAM) was 3.6%. Underweight rate among under-five children was 15.2%, of which about 5% were severe. Stunting was the most prevalent form of malnutrition in the flood affected areas. The levels of malnutrition (wasting) in the flood affected areas were normal, while the levels of underweight were slightly higher.

Water and Sanitation

The assessment revealed that most of the unprotected water sources such as spring, well and rivers were highly prone to contamination of faecal matter due to flooding. About 36% of the sampled households whose main water source was unprotected wells indicated having a household member suffering from diarrhoea. The assessment further revealed that 22% of the households whose main water source was river/lake and 19% of the households whose main water source was borehole indicated having a household member suffering from diarrhoea. Despite the unsafe water sources that the sampled households used, 74% of them indicated that the water quality was good.

Health

The survey found that 69.2% of the under five children had suffered from fever/suspected malaria, diarrhoea (watery stool), cough, or skin infection while 30.8% did not suffer from any illness. The assessment established that immunization coverage was high in all the assessed districts. The measles coverage of 86.5 % was recorded among children aged between 6-59 months, 93.7% was recorded for OPV and 94.1% for DPT immunization while the BCG coverage was found to be at 97.2%. A small percentage of the eligible children did not receive vaccines while 0.9% of the child caretakers did not know whether the child had been immunized or not. Shang'ombo was the only district that reported severe damage on the health facility while Kabompo, Kasempa and Lukulu had their facilities moderately affected. Kawambwa, Mufumbwe, Mwinilunga, Zambezi, Mongu, Senanga and Sesheke reported minor damages on the health facilities. However, there was no impact of floods on health infrastructure in Kapiri Mposhi, Serenje, Mambwe, Mporokoso, Mungwi, Chavuma and Kalabo districts.

Education

The assessment indicated that the floods did not have remarkable impact on school drop out. It was established that the reasons why 2.6% of children dropped out were due to the fact that the family could not afford school fees. The other reasons for school drop – out were because of pregnancy on the part of girls and ill health. The assessment also established that schools in the assessed districts had suffered damage due to the heavy rainfall.

Social Protection

The assessment showed that there were protection issues in the assessed districts although the cases were very low. The most common cases in order of ranking were; early marriages (35%), assault (25%), sexual exploitation (14%), rape (11%), child defilement (9%) and other types of violence (1%). In most of the instances the main perpetrators of these cases were relatives/neighbours and other people (94%), while development workers constituted 4% of the perpetrators.

Human Habitation and Shelter

The floods displaced total of 280 households (1, 680 people) with the Western Province being the worst affected. All the displaced communities were actually in the rural areas.

Recommendations

Agriculture and Food Security

Short-term

- Food support to be provided to 110, 618 people amounting to 8,295.5 metric tones for a period of nine (9) months start from August 2009 to May 2010. The proposed mode of transfer to be labour based.
- Four districts namely Kapiri Mposhi, Kasempa, Mambwe and Mongu be placed under monitoring.
- Timely provision of inputs to population residing in the viable wetland areas (dambos, plains) for off season production.
- Provide market support to the populations from surplus districts who did not manage to sell the surplus maize to FRA (e.g. WFP local purchase programme).

Nutrition

Short-term

- Continuation of therapeutic and supplementary feeding and extension of their coverage
- Strengthen mother and child health activities through health centres
- Strengthen community involvement in prevention activities such as;
    - Breast feeding support groups
    - Peer to peer learning
    - Promotion of balanced diet and kitchen gardens.

Long Term

- Strengthen the existing nutrition surveillance system to identify areas of higher acute malnutrition
- Roll out nutrition surveillance through annual surveys

Water and Sanitation

Short-term

- Increase availability and affordability of chlorine at household level in all the twenty affected districts, especially in Mporokoso, Mungwi, Shang'ombo, Senanga, Mwinilunga and Zambezi.
- Intensify community sensitisation, participation and training in treatment and protection of water sources through WASHE programmes.
- Rehabilitate, with community participation, damaged water sources and support affected communities in improving their unsafe sources.

Medium to Long - term

- Increase access to safe drinking water by constructing water facilities such as boreholes and dams especially in areas with poor or low access to safe drinking water
- Promote rainwater harvesting facilities and spring protection and utilisation to improve access to safe drinking water.

Sanitation

Short-term

- Promote and increase awareness of personal hygiene and promote behavioural change initiatives at household and community levels.
- Upgrade to 'sanplat' standard the existing and commonly used traditional latrines
- Support communities to rehabilitate damaged latrines and other sanitation structures

Medium and Long

- Promote and encourage construction of strong and recommended structures for excreta disposal such as "sanplat" (improved traditional latrine)
- Strengthen and institutionalise WASHE programmes in all districts
- Formulate and enforce policies that promote construction of strong and recommended structures for sanitary or excreta disposal

Health

Short-term

- Provision of Insecticide Treated Mosquito Nets (ITNs) for prevention of vector – human contact.
- Provision of Rapid Diagnostic Testing Kits (RDTs) for easy and early detection of positive cases of Malaria.
- Provision of essential drugs (anti-malarial drugs) for the treatment of malaria cases.
- Strengthen community participation in good hygiene practices and waste disposal to prevent diarrheal diseases.

Medium to Long-term

- Strengthen malaria intervention, in accordance with National Health Strategic Plan (NHSP) 2006/10.
- Implement Participatory Hygiene and Sanitation Transformation (PHAST) methodology to improve community health.

Education

Short-term

- Rehabilitation of all damaged school infrastructure

Medium to long term

- Tents should be prepositioned to provide temporary learning facilities during the floods. This will minimise disruptions in the learning process.
- Provision of incentives for the teachers to be motivated to continue teaching during the flood period. This can be done through provision of relief food and non food items.
- Pre-positioning of fairly big speed boats to ensure that children are rescued during the floods, to avoid loss of life or children missing. It could also help to transport children to schools across flooded rivers.

Social Protection
Short-term

- The Ministry of Community Development and Social Services (MCDSS) and its partners must empower families that are keeping orphans and vulnerable children.

Medium to long term

- Build capacities of enforcement agencies such as the police and community support groups to monitor gender based violence and child protection activities

Human Habitation and Shelter

Medium to long term

- Safer lands to be identified on the uplands and be provided with basic infrastructure such as boreholes, health and educational services for the resettling of the flood displaced persons.

- Sensitize population residing in flood prone areas on the importance of relocating to higher grounds.

- Introduce alternative sustainable livelihood sources for the resettled populations such as crop production and bee keeping

1.0. INTRODUCTION

1.1 Background

The beginning of the 2008/9 rainy season was described by the Zambia Meteorological Department (ZMD) as normal with the rains having started early in most parts of the country apart from the extreme eastern parts of the country (Lundazi, Chama and Isoka). However, as the season progressed there was widespread increased rainfall intensity in December and January while rains in the southern half the country eased off in February resulting in prolonged dry spell in the extreme south. The month of March was characterised by wide spread heavy rains culminating into flash floods especially in low lying areas of the country (i.e. valleys). This had varied degree of negative impact on key sectors of the economy.

In view of the above, the Zambia Vulnerability Assessment Committee (ZVAC) undertook a Multi-Sectoral In-Depth Vulnerability and Needs Assessment in twenty (20) districts. The provinces and districts where the assessments were conducted included the following:

- Central Province – Kapiri-Mposhi and Serenje
- Eastern Province – Mambwe
- Luapula Province – Kawambwa
- Northern Province – Mpika, Mungwi and Mporokoso
- North-Western Province – Chavuma, Zambezi, Kabompo, Kasempa, Mufumbwe, Mwinilunga
- Western Province - Lukulu, Kaoma, Mongu, Kalabo, Shang'ombo, Senanga and Sesheke

The report, therefore, presents the major findings of the 2009 In-depth Vulnerability and Needs Assessment conducted to determine the extent and effects of the floods and/or water logging on agriculture and food security, infrastructure, health and nutrition, water and sanitation and habitation and human shelter.

1.2. Objectives

1.2.1. Overall Objective

The assessment was aimed at determining the extent and effects of the 2008/9 floods and/or water logging on various sectors of the economy.

1.2.2. Specific Objectives

- To determine the full extent to which floods and/or water logging impacted on:
  - Crops and livestock
  - Livelihoods of affected communities
  - Water and Sanitation
  - Education
  - Human Settlement and Shelter
  - Markets
  - Infrastructure
  - Health and Nutrition status of under-five children
- To determine the areas as well as the population affected
- To determine extent of violence against women and children in flood affected areas.
- To determine the food and non-food needs in the affected areas, if any.

1.3. Scope of the In-Depth Vulnerability and Needs Assessment.

The floods experienced in the 2008/9 rainfall season had adverse effects in Central, Eastern, Luapula, Northern, North Western and Western Provinces where 20 districts were directly affected. The sectors impacted upon by the floods included health and nutrition, water and sanitation, education, infrastructure, habitations and agriculture.

The assessment was designed in such a way that data collection was conducted at three (3) levels of the district. The entry level for the teams collecting the In-Depth Assessment data was at the district level through the District Disaster Management Committees (DDMCs) where meetings were held. The next level was the community where

community leaders were interviewed through focused group discussions (FGDs). The main variables/parameters collected during the FGDs included the following:

- Rainfall pattern and its effects
- Food security programmes
- Livelihoods sources
- Food crop and livestock production and availability
- Health and nutrition related variables
- Water contamination
- Sanitation
- Infrastructure

1.4. Methods and Procedures

1.4.1. Sampling Frame

Zambia is administratively divided into nine provinces. Each province is in turn subdivided into districts. Each district is further subdivided into constituencies and wards. For statistical purposes each ward is subdivided into Census Supervisory Areas (CSAs) and these are in turn subdivided into Standard Enumeration Areas (SEAs). The 1998-2000 mapping exercise in preparation for the 2000 census of population and housing, demarcated the CSAs within wards, wards within constituencies and constituencies within districts. In total, Zambia has 72 districts, 150 constituencies, 1,289 wards. Wards are further divided into CSAs, which are in turn divided into Standard Enumeration Areas (SEAs). The SEAs are also stratified by urban and rural strata. The listing of SEAs has information on number of households and the population. However, for the purposes of this survey, SEAs constituted the ultimate Primary Sampling Units (PSUs). Therefore, the sample frame for this survey is the list of SEAs developed from the 2000 Population Census.

1.4.2. Sample Stratification and allocation

In order to have district level estimates, as well as equal precision in the estimates, the Equal Sampling Allocation Method (ESAM) was adopted. Within each district, 14 SEAs were selected. These consisted of 7 SEAs in the flood-affected areas and 7 SEAs in the

areas not affected by floods. The allocation of sample points within each district was done proportional to their size. The measure of size in the SEAs was based on their respective populations as reported in the 2000 Census of Population.

1.4.3. Sample Selection

The In-Depth Vulnerability and Needs Assessment survey employed a two-stage stratified cluster sample design. In the first stage, 14 SEAs were selected across the two strata (flood- and non-flood affected) from each of the 20 targeted districts, while in the second stage, households were randomly selected from the selected SEAs.

1.4.4. First Stage Selection

At the first sampling stage, the sampled SEAs were selected within each district identified to have received above normal rainfall systematically with probability to estimated size (PPES) from the ordered list of SEAs in the In-Depth Vulnerability sampling frame. The measure of size for each SEA was based on the population size identified in the 2000 Census. The frame of SEAs within each district was sorted by urban/rural variable which provided further implicit stratification. The following first stage sample selection procedures were used:

(1) Sort the SEAs within each district by the following codes: region (rural/urban), constituency, ward, CSA and SEA.
(2) Cumulate the measures of size (population) down the ordered list of SEAs within District. The final cumulated measure of size will be the total population in the frame for the strata or district (*Mds*).
(3) To obtain the sampling interval for district or stratum ds (*Ids*), divide *Mds* by the total number of SEAs to be selected in district ds (*nds*):

$$Ids = Mds/nds$$

The Excel software was used for selecting the sample of the 280 sample SEAs for the survey following these procedures, based on the allocation of the sample SEAs, described

Sample Stratification and allocation section above. Separate excel files per province were used showing the ordered frame of SEAs with the corresponding 2000 Zambia Census information. It documents the first stage systematic selection of sample SEAs with PPS for each district stratum within the province for the selected districts. The selected areas were arranged in a separate excel file used to calculate the weights for each selected HHLD in a district stratum.

1.4.5. Second Stage Selection

The second stage of the sampling procedure involved the selection of households in the SEAs selected at the first stage. Due to time and resource limitations, listing to get the updated number of households was not done. For the purposes of this survey the measure of size (N_{SEA}) for the PSUs was assumed to be that in the Census 2000 frame. In each SEA 10 households (n_{SEA}) were selected. The sampling interval *k* was calculated as follows:

$$k = (N_{SEA}) / (n_{SEA}).$$

Every *k*-th household in the selected area was canvassed until all the required 10 households were covered.

1.4.6. Weighting Procedure

In order for the sample estimates from any particular survey to be representative of the population, it was necessary to multiply the data by a sampling weight, or expansion factor. In other words a sample of households that were selected using a known probability, it was necessary to make inference to the population where the sample came from. The raw data was multiplied by a factor which represented the actual population estimates. The basic weight for each sampled household was equal to the inverse of its probability of selection (calculated by multiplying the probabilities at each sampling stage).

Based on the sample design for the Survey, the probability of selection within each SEA was different for the households depending on which strata it was sampled from i.e. flood or non flood (e.g. dry spell areas). The probability of selection for sample households in each stratum within a selected district was generalized as follows:

$$p_{dsi} = \frac{m_{ds} X N_{dsi}}{N_{ds}} X \frac{n_{dsi}}{N_{dsi}}$$

Were:

p_{dsi} = probability of selection for the sample households within the i-th sample SEA in district or stratum ds

m_{ds}= number of sampled SEAs selected in district ds.

Ndsi = total number of households in the frame for the i-th sample SEA in district ds.

Nds = total number of households in the frame for district ds.

ndsi = number of sample households selected in a district s from the given number of households (2000 census) for the i-th sample SEA in district h

The two terms in p_{dsi} correspond to the first and second stage probabilities of selection; at the first stage the SEAs were selected with probability proportional to size of population (PPS), and at the second stage the households were selected with estimated equal probability within each SEA.

The basic sampling weight was equal to the inverse of the probability of selection. Therefore the corresponding basic weight for the sampled households in each district was calculated as follows:

$$w_{dsi} = \frac{N_{ds}}{m_{ds} X N_{dsi}} X \frac{N_{dsi}}{n_{dsi}},$$

Where:

w_{dsi} = the basic weight for the sample household selected within the i-th sample SEA in each district.

The first and second parts of the equation represents the weights for the two stages of selection i.e. first stage weight and second stage weight, respectively. The excel file with the selected areas was used to calculate these weights. Since listing was not done, the basic weights for this survey represent the situation as at 2000. So the weights had to be adjusted so as to account for population growth to represent the situation for the survey period June 2007. Post stratification adjustment to the weights was done using the racking method as follow:

$$w_{dsi}' = w_{dsi} \; X \; \frac{Dp_{2007}}{Dp_{data}}$$

Where:

w_{dis}'=adjusted weight or the final weight.

Dp_{2007}=Projected district population from volume10 of the C.S.O 2000 Census Report

Dp_{data}=initial weighted district population using survey data.

The factor Dp_{2007} over Dp_{data} can be considered as the growth rate for the district. The final weights for calculating the survey estimates used SPSS and STATA software. STATA was also used to calculate variance estimation using the Taylor Series method to build in the software taking into account the complex survey design.

1.4.7. Estimates for Nutrition Component

1.4.7.1. Sample size and sampling process for the household survey

In the calculation for the minimum number of children required for the whole survey for key nutrition indicators, it was found that 1,300 children would be required to get estimates at 95% confidence level in the entire survey (20 districts) that is the minimum number. Based on the national and NGO nutrition surveys, assumptions were made that each household would have an average of one child aged 6 to 59 months, a household size of six members and one mother. Prevalence estimates were based on previous surveys carried out by Government departments in charge of nutrition and other UN and NGO agencies national wide. Due to the two-stage sampling technique that was used, it was necessary to increase the sample size by a factor that would allow for any loss in precision due to departure from simple random sampling. This was estimated using the Rapid Nutrition Survey of 2005 and the targeted nutrition assessment conducted in 2006 by GRZ, UNICEF and WFP. The 2, 797 households covered in the In-Depth study were more than adequate to meet the minimum sample size. The number of children that were successfully measured in the study was 1, 198.

1.4.7.2 Anthropometric measurement

Survey workers measured children's weight, height/length, and assessed the presence of bilateral oedema. Children were weighed to the nearest 100 grams using a digital SECA scale. For children younger than 2 years of age or less than 85 centimetres (cm) long, length was measured to the nearest millimetre in the recumbent position using a standard height board. Children 85 to 110 cm were measured in a standing position. Oedema was assessed by applying thumb pressure to the feet for approximately 3 seconds and then examining for the presence of a shallow print or pit.

1.4.8. Analytical Approach

1.4.8.1. Estimating Food Production in Maize Equivalent

To estimate the production of main staples produced by the sampled households in maize equivalent for the 2008/09-production season, each of the produced cereals and/or tubers was converted into maize kilo calorie equivalent as a common unit. Maize was used as a common unit because of the staple being widely consumed in most parts of the country. To obtain the total produced quantities of maize equivalent, each of the crops was first converted maize kilo calorie equivalent using formula below;

$$\text{Quantity of crop } i \text{ in metric tons of maize calorie equivalents} = \left(\text{Quantity of crop } i \text{ in metric tons}\right) \text{x} \frac{\text{Kilo calorie content of crop } i \text{ per metric ton}}{\text{Kilo calorie content of maize per metric ton}}. \quad (1)$$

The calorie contents of various crop commodities were obtained from FAO (1997). The total maize equivalent produced was therefore a summation of all the produced staple crops by the sampled households as well as staples from other alternative sources such as carry over stocks, remittances and purchases.

1.4.8.2. Identifying Desperate Areas and Persons

Using the 2007/08 household production data as a base for determining the production gap, the production estimates for 2008/09 for all the visited districts were reviewed by comparing 2007/08 and 2008/09 production. All districts that had percentage increase of 10% or less were flagged as potential hotspot areas. The assumption is that households in these districts did not recover substantially from the adverse impacts of the 2007/08 floods. Furthermore, the little positive change in production recorded during the 2008/09 season will not be enough to stretch these affected households to the next harvest due to their already eroded livelihood base such as unsustainable consumption strategies (over reliance on less expensive foods that are not nutritious , high percentage expenditure on food items. The other consideration is that these household's improved livelihoods during the 2008/09 season, will start to fade away as the peak lean period is reached.

The following formula was used to determine the production gap which was further used to select the hot spot districts:

$$Maize\ Production\ Gap = [(Maize\ Prod\ 09 - Maize\ Prod\ 08)] \div Maize\ Prod\ 08$$

The number of the affected persons in need of the food support was derived through a proportional pilling method and validated by the percentage of households affected as depicted in the Rapid Assessment in May 2009. Asset ownership amongst the sampled households was also taken into consideration in determining the ability for the affected households in cushioning the food gap. This was going to be through potential disposal of their assets without necessarily eroding their livelihoods further.

The districts that had a percentage increase of between 10% and 15% were flagged as those requiring monitoring. The other attributes used for the hotspots also applied to those districts determined to be on monitoring.

1.4.8.3. Determination of cereal requirements for the affected population in food insecure District

The assessment used the following formula to determine the amount of cereal required by those affected:

$$\text{MAIZE REQUIREMENT}^{1} = \frac{\text{STANDARD RATION}^{2} \text{ X \# OF MONTHS}^{3} \text{ X \# AFFECTED PEOPLE}}{1000}$$

Where,

i. Total maize requirements in Metric Tonnes (MT) refers to total quantity of maize required in the affected district
ii. Standard ration = 250grammes per person per day
iii. Number of months = duration of the food assistance

1.4.8.4. Nutrition Cut-off points for children

The cut – off point for the anthropometric measurements taken by children were as follows:

Moderate malnutrition< -2 W/H Z-scores and >-3 Z-scores

Severe malnutrition: <- 3 W/H Z-scores and/or presence of bilateral pitting (oedema) of the feet.

The prevalence of malnutrition in children below <-2 and <-3 Z-scores, and the confidence intervals were worked on to indicate the precision of the estimate obtained. The age and sex distribution of the population was analysed to see whether there was any abnormality. A high prevalence of malnutrition in children above 36 months is usually an indicator of acute food insecurity.

1.5 Limitations

The limitations faced by the survey included the following:

- Information on water quality was qualitative based on aesthetic characteristics as the actual scientific tests of water could not be done within the framework of the assessment.
- The small sample size for nutrition does not permit making generalisations at district level.

- The teams had to rely on air transport due to inaccessibility of some of the flood affected districts. This caused some delay for the teams to access the particular SEAs that were inaccessible.
- The data did not make any comparison between primary and secondary schools. The emphasis was only on drop out. It could have been interesting to show whether there was resilience for secondary school children compared to primary school.

2.0. CONTEXT

2.1. The Economy

After registering continued growth as measured by the real gross domestic product (real GDP) in the last few years, economic growth in Zambia slowed down in 2008. This was attributed to unprecedented global and domestic events. The economy only grew by 5.8% in 2008 marking an 8% reduction in growth compared to the 6.3% achieved in 2007. The economic performance was largely driven by growth in transport, communication, mining and manufacturing sectors. The poor performance in the agricultural sector as well as the slowdown in the construction sector significantly contributed to the lower than expected growth. Despite the mining sector recording a welcome 4.9% growth, the sharp decline in world copper prices due to the global economic downturn has had serious effects on mining operations which has in some cases resulted into mine closures and loss of jobs. Although the Government policy under the FNDP of achieving and sustaining a single digit inflation was attained in both 2006 (8.2%) and 2007 (8.9%), the year end inflation rate rose to 16.6% in 2008. This was 86% above the 2008 end of year inflation and 137% above the target of 7%. The failure to sustain single digit inflation has been mostly attributed to the effects of the high international oil prices and food prices. The food inflation particularly rose significantly from 5.9% at the end of 2007 to 20.5% at the end of 2008. The global financial crisis also negatively affected the exchange rate resulting in sharp depreciation of the local currency (Kwacha) against the US dollar by 27.3% between December 2007 and December 2008.

With regard to the monetary and financial development, there was general slowdown of external sector performance coupled with lower than expected build up of international reserves. This was the resultant of the impact of the global economic crisis as export receipts slowed down while imports significantly increased. As a result of the inflationary environment which prevailed in part of 2008, the interest rates which had been gradually falling in the past few years, increased in 2008. The commercial bank lending rates increased in line with increases observed in government securities discouraging borrowing. This impediment to borrowing has kept private sector investment in

agriculture very low. The low investment in agricultural equipment and early warning/preparedness systems has left the sector highly vulnerable to climatic change.

The growth in the agriculture sector contracted by 4% in 2008 compared to a 2.7% decline in 2007. The poor performance has been largely attributed to six factors namely; high cost of inputs; limited access to credit, extension services and inputs; inadequate infrastructure; poor livestock management; fertilizer support programme weaknesses and inadequate private sector investment in the sector. The 2007/08 production season was characterized by adverse rainfall in the southern parts of the country reducing maize production by 11% compared to the 2006/07 season, and resulting in reduced stocks on the market which kept maize prices at an abnormally high level towards the end of 2008. With the large production from the 2008/09 season, adequate national stocks are available to meet national demand keeping the local market well supplied and ensuring reduced staple food prices for consumers. Continued support to small scale farmers through programmes such as the fertilizer support programme, food security pack and out grower schemes should to a certain extent help sustain high production particularly for food crops. Government is concerned that the input support programme has had only limited impact on agricultural productivity and therefore intends to comprehensively review the programme in order to increase its efficiency and effectiveness. As agriculture has remained a key sector in economic growth, Government intends to continue supporting increased agricultural production with focus on improved extension services, increased funding to rural infrastructure and livestock development as well as increased support to livestock disease control and irrigation projects.

2.2. Agriculture and Food Security

2.2.1. Input Distribution

The various Input Distribution Programmes which commenced by the 2002/2003 agricultural season have in the last few years been aiming at increasing small scale farmer access to inputs for increased productivity. Unfortunately, over these years, most farmers remained substantially dependent on inputs distributed by the Government and Non

Governmental Organisations without graduating into self sustaining farmers. The major input programmes have been GRZ Fertilizer Support Programme (FSP), PAM's Food Security Pack (FSP) and the FAO input programme. All these programmes were necessitated by the need to facilitate farmers' recovery from previous droughts.

Table 1: Input Distribution through Fertilizer Support Programme (2002-2009)

Item	Main Season Input Distribution by Agricultural Season						
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Number of beneficiaries	305,924	336,000	134,000	186,000	263,292	131,000	200,000
Maize Seed (MT)	3,333	3,935	2,545	2,938	4,422	2,500	4,000
Fertilizer (MT)	66,600	79,445	45,900	55,930	86,792	50,600	80,000

Source: MACO

The most consistent among the three has been the Fertilizer Support Programme (FSP) which has been funded annually.

Although input support to small scale farmers increased in 2006/07 season in terms of both the number of beneficiaries as well as quantities of inputs distributed, there was general down sizing in the 2007/08 season. This was attributed to the increased cost of fertilizer and Government's inability to increase the funding towards this program after fertilizer prices increased. Fertilizer support dropped substantially by 42 percent in 2007/08 compared to the 2006/07 season. At the same time, the number of beneficiaries reduced by 50 percent.

In the 2008/09 season which was characterized by substantial increase in input prices, particularly fertilizer (100% increase), government increased funding to the programme to cushion the small scale farmers from the escalating prices. Government increased the subsidy from 60% to 75% while targeting 200,000 beneficiaries with 80,000MT of

fertilizer and 4,000MT of maize seed. This level of support was a significant increase over the previous season.

Support for the Food Security Pack, a program initiated to assist vulnerable but viable farmers with seed (cereal and legume) and fertilizer in 2001 has been substantially reduced over the years. During the 2008/09 production season, only 5,804 beneficiaries were targeted, marking a 310% reduction from the 23,844 target in 2007/08 season. In line with the reduced beneficiaries, the fertilizer and seed distributed dropped by 116% and 119% respectively from 967MT and 175MT in 2007/08 season to 447MT and 80MT in 2008/09 season.

Input support for wetland production which helps farmers practicing recession farming fill the food gap during the lean period (November to February), has also significantly dropped in the last few years. Although the EU and DFID continued to provide support to wetland production through FAO (North western and Western Provinces) and PAM (Central, Northern and Luapula Provinces) up until 2007/08 season, that support was not forthcoming during the 2008/09 season.

Through the input support programmes, Government expectations of significantly increased agricultural productivity have not been fully met. It is with this back ground that Government is initiating a comprehensive review of the input support programme aimed at increasing efficiency and effectiveness.

2.2.2. Crop Production, Food Supply and Access

The 2008/09 production season crop estimates released by MACO established that production of major crops has generally increased compared to the 2007/08 production season (Figures 1 and 2). Among the 18 monitored crops, only cotton, Virginia tobacco, and mixed beans registered production decreases, while production increased for the remainder of monitored crops. Overall, crop production increased ranging from 25-147 percent compared to the 2007/08 production season, signifying a welcome recovery of production levels.

Among major crops produced, maize and cassava continue to rank high in terms of production volume. The production levels of other crops have remained significantly lower compared to last season. Maize production increased by 31 percent with respect to the 2007/08 season, moving from 1,445,655 MT to 1,888,773 MT (Figure 2). Cassava production on the other hand remained relatively stable.

Production of small grains also increased over last season. Wheat, whose production has doubled in the last 10 years, is expected to register a 72 percent production increase over the last season, based on MACO estimates (wheat is planted in May and harvested in August/September). Due to attractive prices, production of this commodity has generally grown, almost to a point of meeting national demand, which is estimated at 200,000 MT. However, a substantial amount of local wheat (65,000-70,000 MT) from the 2007/08 production season remains unsold seven months after harvesting, and was carried over into the 2009/10 marketing season. This carryover, which resulted from low demand for local wheat due to private sector imports of cheaper wheat flour from South Africa, may discourage production this season, and the 195,000 MT production estimate may not be attained. Farmers are currently lobbying the Government of Zambia (GRZ) to establish policies that favour purchases from local wheat producers.

Figure 1: Maize Production Comparison between 2007/8 and 2008/9 Season

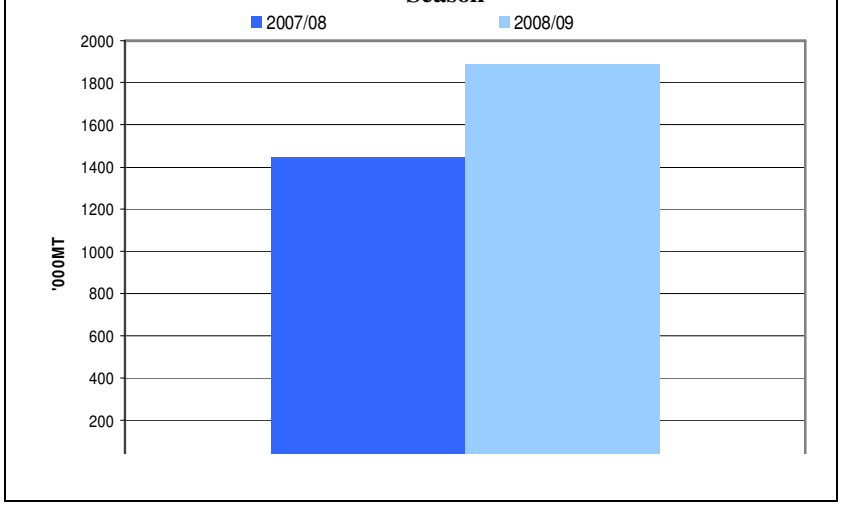
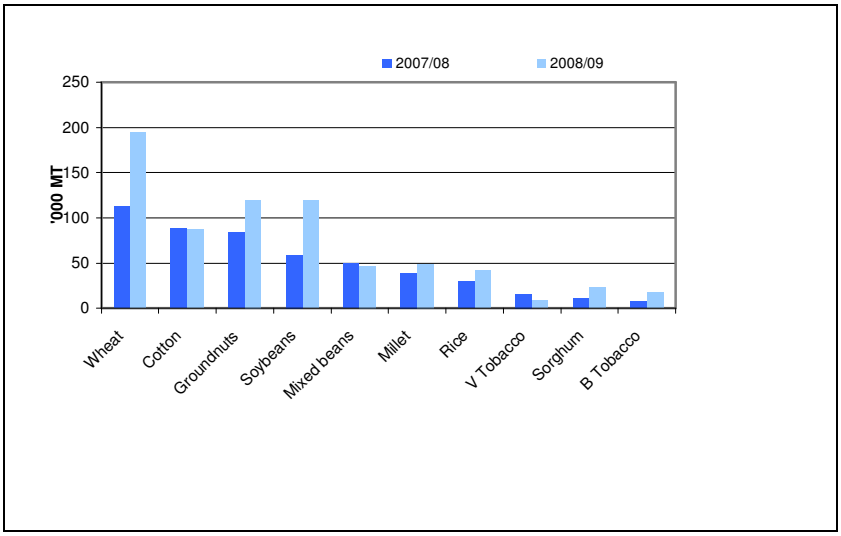


Figure 2: Comparison of small grains and cash crop production levels between the 2007/08 and 2008/09 production season



While the production of cash crops such as soybeans and groundnuts has increased, the cotton and Virginia tobacco production levels continued to decrease, due in part to unattractive world prices (Figure 2).

Although at national level, Zambia has attained above normal maize production, data from the Crop Forecast Survey shows that there are some localized areas mostly in western Zambia whose production was reduced due to the impact of the excessive rainfall.

2.2.3. National Food Supply for the 2008/09 Marketing Season

Based on data from the Ministry of Agriculture, at the national level, Zambia has produced adequate maize to meet the country's consumption requirements for the 2009/10 marketing season. This implies that no maize imports will be required for commercial or relief purposes.

The total maize supply is estimated to exceed domestic requirement by 203,271 MT (Table 1), a surplus which could be made available for export. In the case of wheat, increased local production in the last few years is bringing production levels closer to those needed to meet national demand. However, an unusually large wheat carryover from the 2008 production season, resulting from imports of cheaper wheat flour, may

lead to reduced production of the crop in 2009. Similar to past years, sorghum, millet and cassava production are adequately available to meet domestic requirements this year (Figure 2). An estimated 12,000MT of rice will be required to meet the shortfall in line with previous years.

Table 2: National Cereal and Cassava Balance Situation 2009/10 Marketing Season

Item	Maize (MT)	Wheat (MT)	Rice (MT)	Sorghum & Millet (MT)	Cassava Flour (MT)
Opening Stocks (May1)	62,035	65,060	178	1,485	0
Gross Production	1,888,773	195,456	41,927	70,796	1,151,700
Total Availability	**1,950,808**	**260,516**	**42,107**	**72,281**	**1,151,700**
Human Consumption	1,263,098	200,227	52,011	68,741	629,482
Strategic Grain Reserves	110,000	0	0	0	0
Industrial Requirements	200,000	0	0	0	0
Seed	20,000	0	0	0	0
Losses	94,439	9,773	2,096	3,540	57,585
Informal Cross Border Trade	60,000	0	0	0	0
Total Requirement	**1,747,537**	**210,000**	**54,107**	**72,281**	**687,067**
Surplus/Deficit	**203,271**	**50,516**	**-12,000**	**0**	**464,633**

Source: MACO

There is significant increase in maize availability with respect to the 2008/09 marketing season as compared to last season. As a result, Government is considering lifting of the maize export ban which was maintained throughout the 2008/09 marketing season due to the maize deficit on the market and consequently abnormally high maize prices. Government intends to initially allow maize exports up to 100,000MT, while periodic reviews of the maize stock position during the current marketing season will determine if more imports will be allowed later in the season. In view of the increased local supply, informal exports to neighbouring DRC are expected to significantly rise above levels that prevailed during the previous marketing season.

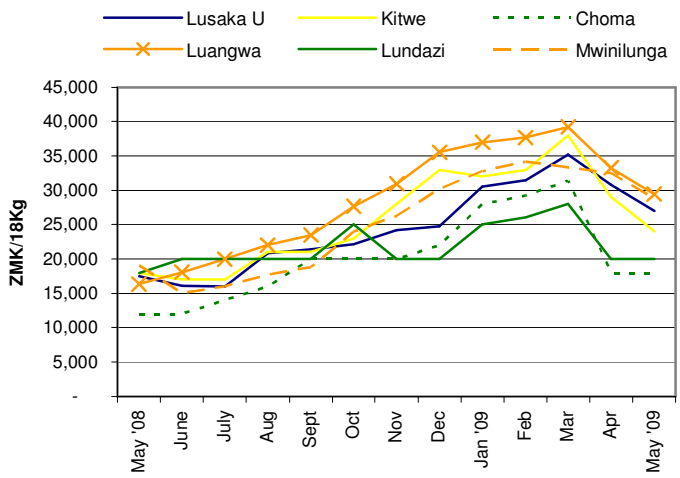
Although at national level, the food supply situation is good, there are potential food problem areas in some localized parts of the country particularly the western Zambia where excessive rainfall caused flooding and waterlogging.

With adequate maize in the country, redistribution from surplus areas to deficit areas will be key in ensuring that maize prices do not remain at the high levels which prevailed in the 2008/09 marketing season. This also implies that any maize relief needs, in response to the adverse impact of the excessive rainfall in localized areas during the 2008/09 agricultural season, can be purchased in-country.

2.2.4. Food Access

Maize prices which were abnormally high (Significantly above normal) during the second half of the 2008/09 marketing season though still high, have started falling as the new harvest reaches the market (figure 3). During the 2008/09 marketing season, maize and meal prices reached record high levels which compelled the Government to intervene in the market through subsidizing maize sales to millers in order to reduce maize meal prices. This intervention led to the temporal reduction of maize meal in January and February. However maize meal prices rose again thereafter as the maize shortage on the market persisted limiting Government supply of subsidized maize to millers and creating meal shortage in localized areas consequently pushing prices up.

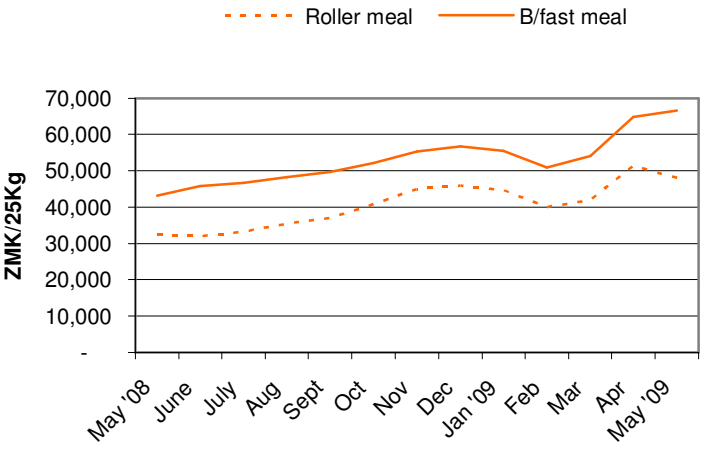
Figure 3: Nominal Maize Prices in selected Districts



Source of data : CSO

Although maize prices have started falling as small scale maize becomes available on the market from the new harvest, maize grain prices have remained generally high. Breakfast meal prices were still rising in the month of May while the price of roller meal marginally dropped. The fall in the roller meal prices is largely driven by the low demand for the product as other seasonal foods have become readily available reducing pressure on roller meal.

Figure 4: Nominal Maize Meal Price Trend



Source of data : CSO

The Food Reserve Agency (FRA) announced its intention to purchase 110,000 MT of maize from remote areas of the country this marketing season at a price of ZMK 65,000/50 kg (about USD 250/MT). In view of the increased levels of production this

season, the amount of maize to be purchased is 38 percent higher than last season. The FRA purchase price also increased by 44 percent with respect to the initial 2008/09 marketing season price, and is 18 percent above the August 2008 revised price. The increased indicative price was necessitated by the rise in production costs, as input prices, especially that of fertilizer, increased from last production season. The Zambia National Farmers Union is lobbying the GRZ to increase the minimum price of maize by an additional 13 percent, using the significant increase in production costs as justification for the increase.

With the large output of maize, the market is likely to become a buyer's market, which may reduce the ability of small scale farmers to negotiate for prices above the FRA price. In fact, in most cases, small scale farmers are likely to sell at prices below the ZMK 65,000 floor price, as maize floods the market and farmers become desperate to dispose of their maize due to inadequate storage and immediate need for cash. These farmers will be forced to sell large volumes in order to earn adequate money for other necessities. They will, later in the season, have to depend on the market, and, at that point, will face higher prices and difficulties meeting their food needs. The lifting of the maize export ban may help maintain relatively high prices for farmers storing the maize to sell later in the season.

2.2.5. Livestock Situation

Livestock production continues to be major livelihood activity among small scale farmers in the country. According to statistics obtained from MACO, production of major livestock is concentrated in the three provinces of Central, Southern and Western Provinces with cattle contributing at least 55% share of major livestock in Zambia. The other major livestock include goats (35%) and pigs (10%). Cattle population was estimated at 2,790,965 at the end of 2006 representing a 16.1% increase from the 2004 estimate. Poultry continues to play a major role as a source of income and food with most household rearing it.

In the past number of years, cattle production has severely been disrupted by recurring disease outbreaks, the common ones being Foot and Mouth Disease (FMD), East Coast Fever, Contagious Bovine Pleuropneumonia (CBPP) and New Castle. The FMD is endemic in Sesheke (Western Province), Kazungula (Southern Province), Mbala and Nakonde (Northern Province), but in 2004 spread to parts of Central and other Southern Province districts. CBPP is endemic in areas of Western Province, North-western, Southern (Kazungula) and extreme Northern Province Districts. East Coast Fever areas include Eastern, Southern, Central, Lusaka and Northern Provinces. Most of the areas affected by these diseases are also prone to drought and occasionally floods. Livestock movement bans associated with control measures often disrupt the cattle enterprise associated trade, affecting farmers, beef traders and consumers of cattle products. This often exacerbates farmers' vulnerability to the effects of drought/floods especially in Southern province by taking away the means to cultivate their land (draught power) as well as one of the most reliable income sources (Tembo, et.al., 2006). Under normal circumstances, in these farming systems, livestock acts as some form of insurance against poor weather and subsequent crop failure.

In the early part of 2008, following the occurrence of floods, FMD broke out in some districts of Southern (Monze, Namwala, Mazabuka and Itezhi tezhi) and Western (Sesheke, Senanga and Mongu) provinces. The outbreak of the FMD in Mazabuka, Monze and Namwala were attributed to contact between cattle and wild game following the movement of the former from the traditional grazing lands in the plains to the upland forests to escape the flooding that had occurred around February 2008. In order to control FMD and stop it from spreading, government through the Department of Livestock and Veterinary Services imposed a ban on the movement of Livestock from Southern and Western provinces. It also embarked on vaccination of cattle in districts affected by FMD in the two provinces.

In a bid to compliment government efforts to control economically important Trans-boundary Animal Diseases (TADs), such as CBPP and Anthrax in Western and North western Provinces, FAO with funding from the European Union assisted Government in

carrying out effective vaccinations against the diseases from November 2007 to January 2008. As a result of the exercise, there haven't been any new reported cases of these disease incidences after the recent floods. However, FMD outbreak continues to be a problem in parts of Western and Southern Provinces. In order to insure sustained control of FMD, resources should be made available for timely vaccinations, surveillance and diagnostic services.

2.3. Water and Sanitation

The Government continues to implement the National Rural Water Supply and Sanitation Programme (NRWSSP) whose main objective is to provide sustainable and equitable access to safe water supply and proper sanitation to meet basic needs for improved health and poverty alleviation for Zambia's rural population and contribute to achievement of the Millennium Development Goals (MDGs) for water and sanitation. The National Urban Water Supply and Sanitation Programme (NUWSSP) is also being developed, whose objective is to facilitate peri-urban and urban water supply and sanitation infrastructure development and rehabilitation.

Other programmes being implemented are the National Solid Waste management Programme whose objective is to facilitate improved environmental management and reduce sanitation diseases through collection of solid waste and construction of VIP latrines; the Water Resources Action Programme (WRAP) whose overall objective is to ensure that Zambia's water resources are managed and utilised for maximum economic benefit in an equitable and sustainable manner with strong stakeholder participation; and the water supply regulatory body called National Water Supply and Sanitation Council (NWASCO) which issues licences to all urban water supply and sanitation service providers in Zambia and has now extended to the peri-urban.. The Department of Water Affairs is carrying out exploration programmes for development of ground water and the development of surface water sources through dam construction, rain water harvesting and protection of springs and also monitors the development of water resources in the country.

Based on constructed water and sanitation facilities, access to safe water supplies is estimated at 86% for urban population while 37% of Zambia's rural population have access to safe water. The estimated coverage for proper sanitation is 41% for urban population and only 13% for the rural population. Rural coverage figures uses "sanplat" as proper sanitation facility. It is also estimated that approximately 30% do not have access to any type of sanitation facility and that 30% of the existing water points in rural areas are not functioning.

In recent years the country has experienced varying rainfall amounts and patterns resulting in droughts and floods of varying severity in different parts of the country. Flood damages due to small rivers' inundation and inadequate drainage systems occur during the rainy season. Rural communities *(people, livestock, crops, and infrastructure)* are the most vulnerable to floods, especially in the flood plains, valleys and near small rivers that are prone to flash flooding.

2.4. Health

Health is one of the major factors with significant impact on the living conditions of the population. The Government of the Republic of Zambia is committed to improving the quality of health for all Zambians through its efforts to improve health care delivery. Since 1992, Zambia has been Implementing comprehensive health sector reforms aimed at developing the necessary capacities to ensure equity of access to cost -effective, quality health care services as close to the family as possible . An important component of the health policy reform is the restructured Primary Health Care (PHC) programme, which aims to, among other things; deal with the main health problems in the community including child and maternal health.

According to the annual health statistical bulletin of 2007 the top ten causes of health facility visitation were malaria, respiratory Infection (non pneumonia), diarrhoea (non bloody), trauma, skin Infections, respiratory infections (pneumonia), muscular skeletal and connective tissue, digestion system (not infection) eye , ear, nose /throat infection.

Overall, Maternal Mortality Rates (MMR) and Under-five Mortality Rates (U-5 MR) in Zambia were among the highest in the region (ZDHS, 2007). The major causes of child mortality are malaria, respiratory infection, diarrhoea, malnutrition and anaemia (including HIV and AIDS) while maternal mortality is largely due to Obstetric causes such as postpartum haemorrhage, sepsis, obstructed labour, post-abortion complications and eclampsia. Malaria, anaemia and HIV and AIDS also contribute significantly to high MMR. Other contributing factors include delays in accessing healthcare at community and health centre levels both in rural and urban areas.

Several interventions have been put in place to reduce the burden of disease in the country. Achievements in malaria prevention and treatment included 436,439 nets treated nationwide, distribution of approximately 2,400,000 ITNs distributed by October 2007, in indoor residual house spraying (IRHS); entomological and parasitological surveys conducted in IRS districts; needs assessment conducted to facilitate for IRS scale up from 15 to 36 districts and strengthening clinical diagnosis and treatment. In maternal, neonatal and child care programmes health, orientation of MCH coordinators in focused antenatal care, maternal death review, scaling up of reproductive health services through strong referral system e.g. transport, integration of prevention of mother to child (PMTCT) are being implemented. Due to the increase in the number of ART centres (from 145 in 2006 to 197 by June 2007), voluntary counselling and testing services increased leading to more clients accessing ART (from 78,683 in 2006 to 156,783). The health sector has also continued to procure and supply drugs, health centre kits and community health worker kits for all the districts to meet the shortages of these supplies.

However, despite the significant efforts and resources invested into these reforms, and major achievements made, the health sector has continued to face significant obstacles and challenges which have continued to adversely affect performance and made it difficult to provide assured quality basic health care services to all. Some of the obstacles and challenges that have led the sector not to achieve desirable level of development in the health service delivery include;

- High disease burden exacerbated by the impact of malaria and HIV/AIDS which are responsible for the majority of morbidities and mortalities.
- Increase in the numbers of healthcare seekers partly attributed to public response to the implementation of the of user fee removal policy in 54 rural districts.
- Continued critical shortage of and unbalanced distribution of qualified health workers at all levels of public health care system.
- Continued shortages and erratic supply of essential drugs and medical supplies.
- Inadequate and poor state of essential infrastructure, equipment and transport especially in the rural areas.

Nevertheless notwithstanding these obstacles and challenges the Ministry of health has continued to implement the health sector reforms with the hope of achieving sustainable improvements in health sector performance.

2.5. Nutrition

The period from birth to two years of age is important for optimal growth, health, and development. Unfortunately, this period is often marked by prevalence of growth faltering, micronutrient deficiencies, and common childhood illnesses such as diarrhoea and acute respiratory infections (ARI). In Zambia, malnutrition is a serious public health concern. It is currently estimated that about 1.1 million children in Zambia are stunted, while about 120,000 and 456,000 children are wasted and underweight respectively (ZDHS, 2007). In addition, Zambia has one of the highest malnutrition case fatality (~45%) in the region. According to the Zambia Demographic survey of 2007, the vulnerable child age group to malnutrition of all type are children between the 12 to 35 months old.

During a disaster, where household livelihoods are disrupted, food and nutrition security of the affected population(s), particularly children and women of child bearing age is affected.

2.5.1. Trends of Malnutrition at National Level

According to the Zambia Health Demographic Survey (ZDHS), chronic malnutrition has declined, by about 8% over the years. Stunting levels have reduced from 47% in 2001 to 39% in 2007. Acute malnutrition (wasting) has remained the same (5%) while the proportion of underweight children has also reduced from 28% percent to 19 percent in 2007.

Analysis by rural - urban shows a decline for both rural and urban populations. In rural and urban areas stunting has declined from 51 % in 2001-2 to 42% in 2007 and from 37 % to 33% respectively during the same reference period.

2.5.2. Trends of Malnutrition at Provincial Level

A comparison of malnutrition status at provincial level shows that stunting is highest among rural provinces, Luapula (50%), Eastern (44%) Northern (42%) and Central (46%) (Refer to Table below). These are the provinces that have few delivery services and limited infrastructure and have consistently shown to have higher malnutrition levels in other surveys such as the Living Conditions Monitoring survey (LCMS).

Even with these high proportions of stunting being reported in these provinces, there has been an improvement in stunting since 2001 with exception of Central province. Eastern, Northern and Western provinces recorded the highest declines ranging from 15 to 12% (Refer to Table 3 below). Trends in wasting show that only Copperbelt and Northern provinces have improved in the levels of wasting, while Western, Southern, North-Western and Lusaka provinces have been stable with slight changes. Wasting in Central, Eastern and Luapula has however worsened. The overall underweight levels among children under the age of five years showed an improvement in all the provinces. Eastern province recorded a higher improvement (32.1% in 2001 to 17.1% in 2007), while Central province recorded the lowest underweight improvement (26.6% in 2001 to 20.0% in 2007).

Table 3: Provincial Trends in Malnutrition 2001/2-2007

Province	2001/2*			2007*		
	Stunting	**Wasting**	**underweight**	**Stunting**	**wasting**	**Underweight**
Central	45.9	4.2	26.6	45.7	6.9	20.0
Copperbelt	39.9	6.5	29.0	37.3	3.4	19.2
Eastern	59.4	5.2	32.1	44.1	7.6	17.1
Luapula	57.6	3.8	33.0	50.4	9.5	21.8
Lusaka	35.6	5.1	21.7	31.4	5.4	13.7
Northern	54.8	7.6	33.8	42.3	4.2	22.2
North-Western	44.8	2.8	27.1	38.8	3.0	26.6
Southern	40.2	3.9	23.6	29.8	3.3	17.1
Western	42.6	2.5	23.7	30.7	2.9	18.6

*Each of the indices is expressed in standard deviation units (SD) from the median of the NCHS/CDC/WHO international reference population.

2.6. Education

While it has always been conceived as a *factor* of personal and national development, education in Zambia has continued to exhibit fairly low growth. This is manifested in low progression rate, high drop out rate, low gross and net enrolment ratios, and the general plummeting quality. Of clear concern to all stakeholders in the provision of education, is the need to meet the challenge of education for all (EFA), with the perfect intention of maximizing quality over quantity. The recently developed National Education Strategic Plan "Educating our future" is a most recent government framework to guide the education provision process in the country (Commonwealth Fund). The plan spans between 2003 and 2007. The plan is supported by a number of donors through a sector pool funding mechanism and a small number of donors are into project support funding. What is contained in the Strategic Plan is a mere expression of interest by the government to collaborate with other stakeholders on ECCED, coordinate life skills training for youth across relevant ministries, develop a programme to set up adult literacy programmes and strengthen the gender component at primary and secondary levels. There is, however, a striking absence of a direct mention of the EFA goals in the strategic plan, and how the Ministry of Education (MoE) and other ministries with an education agenda, wish to address them in terms of strategies and financing.

The Education system in Zambia consists of academic learning at primary, secondary and tertiary levels. However, the lower levels of primary and secondary are currently being

reorganized into two levels, namely Basic education, running from grades 1 to 9 and high school running from grade 10 to 12.

The government, through the Ministry of Education (MoE), has now started a national process focusing on addressing the EFA goals in an effort to meet the 2015 MDG targets. The EFA Secretariat has been assigned to coordinate the development of the EFA plan. The process is participatory, involving a wider cross-section of NGOs and civil society.

The current Zambia national education policy document "Educating our Future", laid down a clear vision for reforms of the whole education sector focusing on:

- Increasing access to quality education for all at all levels of the education system;
- Achieving high pupil retention, and progression and completion rates with emphasis on girls and the poor and vulnerable;
- Supplying adequate trained and motivated teachers and lecturers for all levels;
- Reviewing the curriculum at basic, high school and tertiary levels to provide relevant skills and knowledge;
- Supplying sufficient learning/teaching materials for all levels;
- Effective decentralization of education delivery, and;
- Management/mitigation of HIV/AIDS.

The government's thrust on education is to achieve increased and equitable access to quality education at all levels through a variety of policy decisions, initiatives / strategies and programmes, which are well articulated in the Strategic Plan include the abolition of schools fees, support to alternative modes of delivery, introduction of bursaries to carter for the most vulnerable. The MoE has prepared the National Implementation Framework (NIF) to guide the translation of these policy decisions and programmes into activities aimed at achieving national policy on education "Educating Our Future."

As a realization of the MDGs where universal primary education for all is emphasized, government seems to be doing a lot towards achieving this, but a lot of work still needs to be done, especially in the rural areas.

Zambia has 8,013 schools classified as basic, 583 schools classified as secondary, 14 training colleges and 3 public universities (Education statistics bulletin 2007). Additionally there are 2,716 community schools, initiated, developed and run by communities with minimal support from the government and development organizations. These community schools though not fully supported by the government, they are expected to follow the school curriculum.

The total school enrolment for grades 1 to 9 in 2006 was 2, 986, 781 while in 2007 it was 3, 166,310 representing an increase of 6%. The enrolment for grades 10 to 12 in 2006 was 193, 843 while in 2007 it was 219,132 representing an increase of 13% (source…). It is important to note that there has been a marked increase in enrolment due to the introduction of free primary education and improvement in quality of school buildings (source…). The number of out of school children has been declining since 2000. According to the 2007 Education Statistics bulletin, the number of out of school children in the 7-18 years age group were 65, 185 males and 173, 380 females representing 6.7 % of the total population.

The Ministry of Education has divided infrastructure in three categories namely permanent, temporary and incomplete structures. The permanent structures are structures built with concrete that can serve for many years, usually at high cost using skilled labour and quality materials. The temporary structures are temporal in nature built as stop gap measure to provide basic infrastructure. The incomplete structures are designed to be permanent structures but are still under construction and are often already in use before completed.

At basic school level, as of 2007, there were 26,546 permanent and 8,132 temporal classrooms. At secondary level, there were 7,292 permanent and 193 temporal

classrooms. The number of temporal classrooms accounted for 23.5 % at basic school level and 2.6% at secondary level. The majority of community schools are made of pole and mud, making them more susceptible to damage from natural induced hazards such as floods.

2.7. Social Protection

Social Protection is a new concept in Zambia. However, there have been new strides in the way programmes are implemented to address issues of Social Protection. Social protection refers to policies and practices that protect and promote the livelihoods and welfare of people suffering from critical levels of deprivation, and/or are vulnerable to risks and shocks. In an emergency, these risks, shocks or forces cause or increase chances of individual and communities becoming more impoverished since the individual depends on resources, assets, or support mechanisms sufficient to mitigate the effects from such situations.

Zambia experienced floods during the 2007/08 rainy season in which many districts were affected causing already impoverished households and communities to move further into deep poverty. It is estimated that 67% of the population in Zambia are poor and hence if sudden impoverishing forces such as floods occur more and more people are not able to cope and hence become poorer. It is, therefore, necessary for the government and other stakeholders to ensure that mechanisms and systems that ensure resilience for communities in emergency are in place.

2.7.1. Children and Women

The situation of children and women in Zambia remains largely one of vulnerability and is exacerbated during an emergency. According to the VAC Report (2008), the common forms of protection issues during an emergency include: early marriages, assault, sexual exploitation, rape, child defilement, separation and HIV/AIDS. The extent of the forms of protection issues varies.

It is therefore imperative that children and women, the most vulnerable groups in society, should be entitled to some kind of special protection by the government and the community during an emergency. This protection should particularly work against all forms of discrimination such as violence, oppression, sexual abuse, exploitation, and abandonment. Ideally, children and women should have access to all the rights on protection written into law by both the Zambian and the international community.

Though the VAC (2008) report indicate that incidences of violence against women and children in the communities and camps during the 2007/2008 flooding period were not very common, it is important to bear in mind that most protection issues are difficult to detect and may go unreported in most cases.

2.8. Human Habitation and Shelter

Shelter is necessary to provide security and personal safety, protection from the climate and enhance resistance to ill health and disease. Although housing is a basic necessity for humans, 80% of the total housing stock in Zambia could be classified as informal (Vision 2030, P 10). About 65 % of Zambian households occupy traditional housing units (LCMS, 2004). Out of this percentage, 91% in rural areas occupy traditional housing compared with 22% in urban areas.

The human settlements and shelter get affected and at times destroyed by the severity of the hazards of various kinds. This coupled with the poor, inappropriate and weak building materials (mainly pole, mud and grass) used in building the shelters only worsens the vulnerability of human life, property and infrastructure to flood disasters. This may cause displacement, the nature and duration of which depend on the duration of the inundation or floods.

Each time a flood occurs, an average of 10% of those affected require relocation and/or resettling as their settlements and shelter get damaged and sometimes completely destroyed. It is therefore important for the government to implement some form of transmigration, which is a programme of voluntary resettling those communities settled

in flood prone areas to higher and safer lands to avoid the repeated experience of same communities being affected each time floods occur. This would accelerate and enhance improved living conditions for vulnerable communities, reduce vulnerability and pressure on the government emergency response, rescue and support.

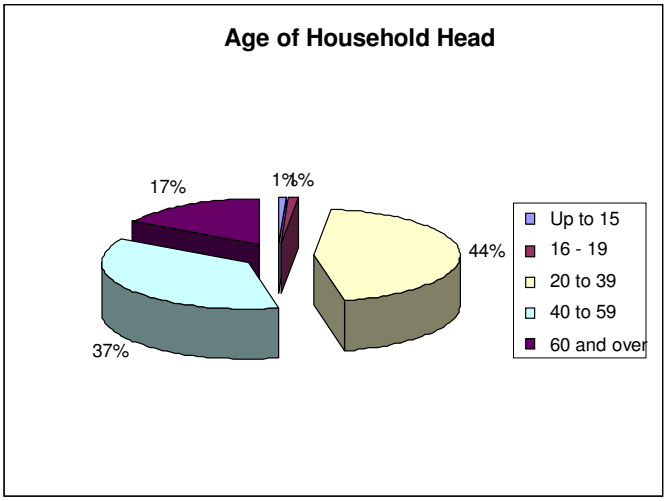
Strategies for post-flood settlements programmes need to be based on the impact of flooding on settlement and shelter and their long-term consequences rather than on the immediate needs of flood victims which are short-term solutions.

3.0. FINDINGS

3.1. General Demographics for the Sampled Population

A total of 20 districts in six provinces were covered during the In-depth Assessment of which 92 percent were rural. The majority of the household heads were in the productive age group of 20 to 39 years (44.7 percent) and 40 years to 59 years (36.5%) respectively. The elderly headed households (60 years or older) were quite significant representing about 16.8% of the households and most of whom are widowed (37.7%). The female-headed households stood at 23.6% while the child-headed households were insignificant standing at only 0.7%.

Figure 5: Age of Household Head



Most of the household heads (73.5%) were married while a small number (12.5%) were widowed. The remaining 13.9% were single, divorced or separated. Of those who indicated as being married, 44.7% were in the 20 to 39 year bracket while 36.5% were between 40 and 59 years. The remaining 16.8% of the married household heads were 60 years or older. Cases of early marriages were actually insignificant standing at 0.7%. This is in line with the findings in the 2008 In-Depth Assessment where early marriages stood at 1%.

The average family size for most households was 6 members, which is in line with the findings of the Living Conditions Monitoring Survey (LCMS, 2004). About 4% of the sampled households indicated having an orphan in their households. However, 94% of the households had no orphan. The assessment also revealed that household heads had diverse educational levels. The majority of respondents (50.7%) had primary education. A further 31% indicated that they had attained secondary education while 14.6%

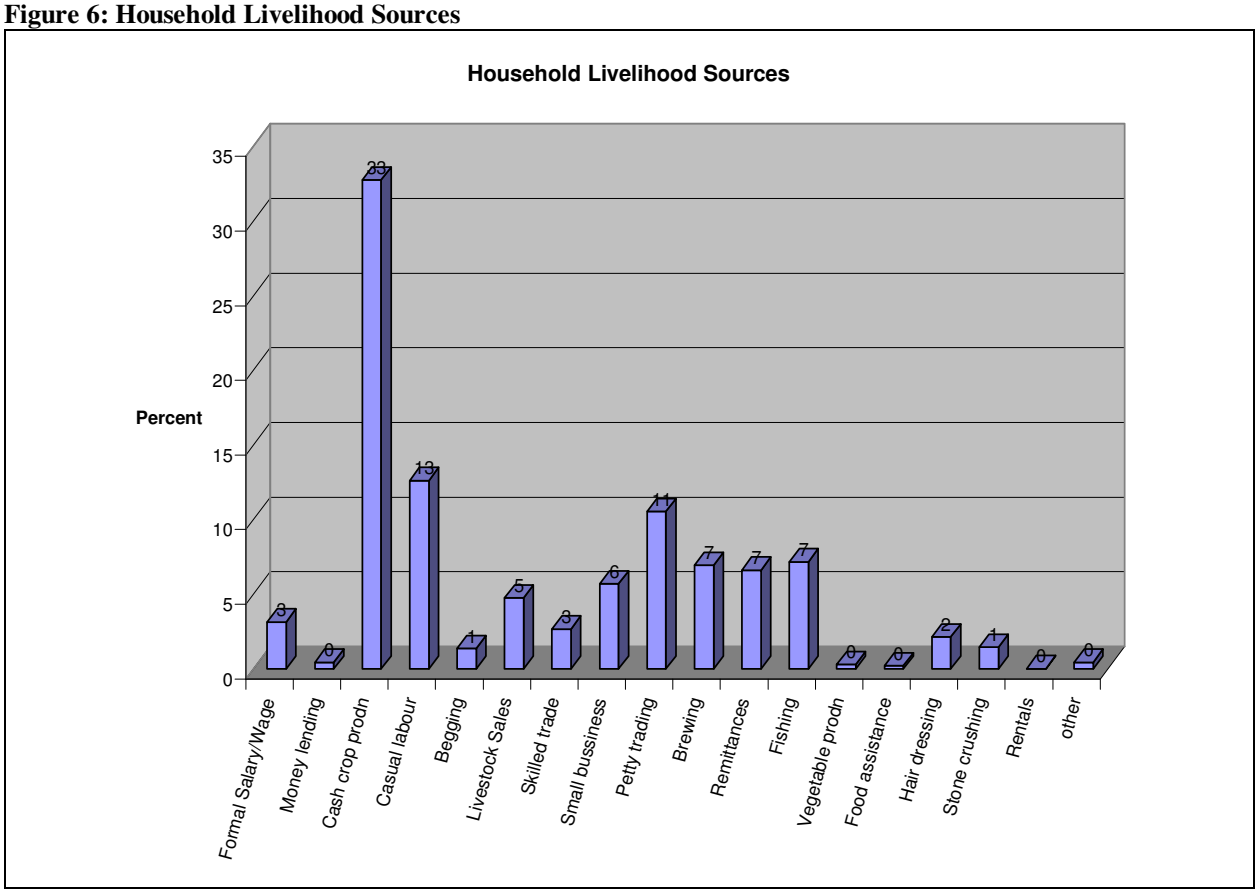
indicated that they had not been to school. The survey further revealed that 59.3% of the spouses had attained primary education while 20.3% had done secondary schooling.

3.2. Livelihoods, Incomes and Expenditure Patterns

3.2.1 Livelihoods

The survey revealed that most of the sampled households indicated that the first highest livelihood contributors to their incomes were cash crop production (33%), followed by petty trading/small business (17%), casual labour (13%) and brewing, remittances and fishing all at seven percent (7%) as shown in the figure below.

Figure 6: Household Livelihood Sources

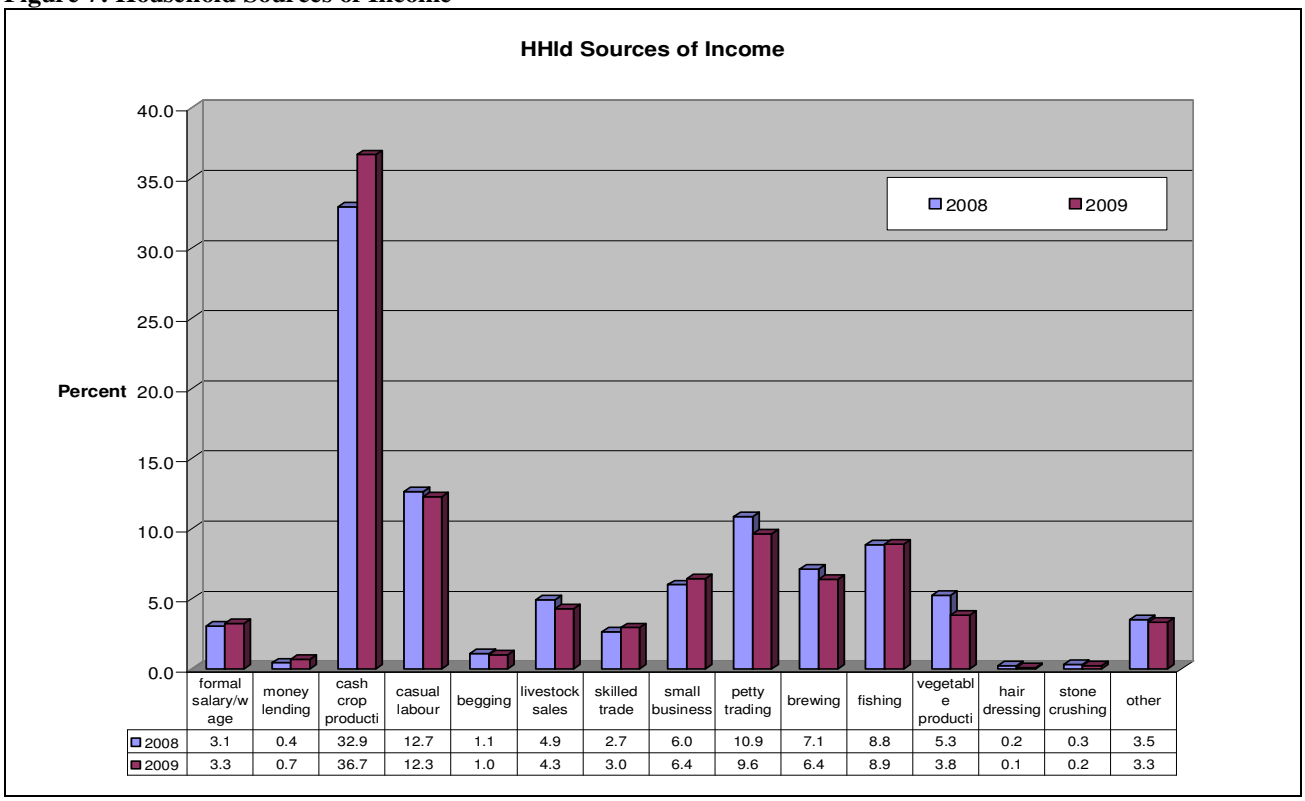


3.2.2 Income Sources

Income sources for most households were diverse. The major income sources were cash/food crops sales, casual labour, petty trading and fishing (Fig 6). Other sources of

income were brewing, vegetable production, small business, Livestock sales, formal salary/wage.

Figure 7: Household Sources of Income



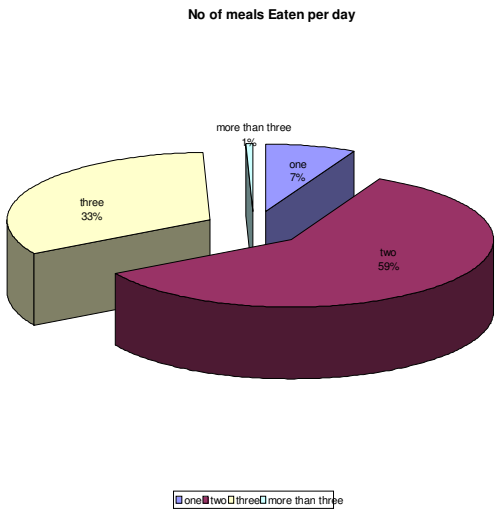
	formal salary/wage	money lending	cash crop producti	casual labour	begging	livestock sales	skilled trade	small business	petty trading	brewing	fishing	vegetable producti	hair dressing	stone crushing	other
2008	3.1	0.4	32.9	12.7	1.1	4.9	2.7	6.0	10.9	7.1	8.8	5.3	0.2	0.3	3.5
2009	3.3	0.7	36.7	12.3	1.0	4.3	3.0	6.4	9.6	6.4	8.9	3.8	0.1	0.2	3.3

The assessment revealed that there were no major differences in income sources of the sampled households between the 2007/08 and the 2008/09 season (Fig 6). This implies that no major impact was exerted on these sources by floods and/or water logging.

3.2.3 Expenditure Patterns

The assessment revealed that most of the sampled households spent their money on food compared to other non food items such as education and rent. Of the sampled households, 18% spent between K48, 000 and K207, 000 on food while another 18% spent K50, 000 and more on education with a further 15% of the households spending K15, 000 and more on repaying debts. Furthermore, the assessment also revealed that 9% of the sampled households spent K30, 000 on transport. Minimal expenditure was observed on alcohol, social events and rent.

3.2.4 Coping Strategies

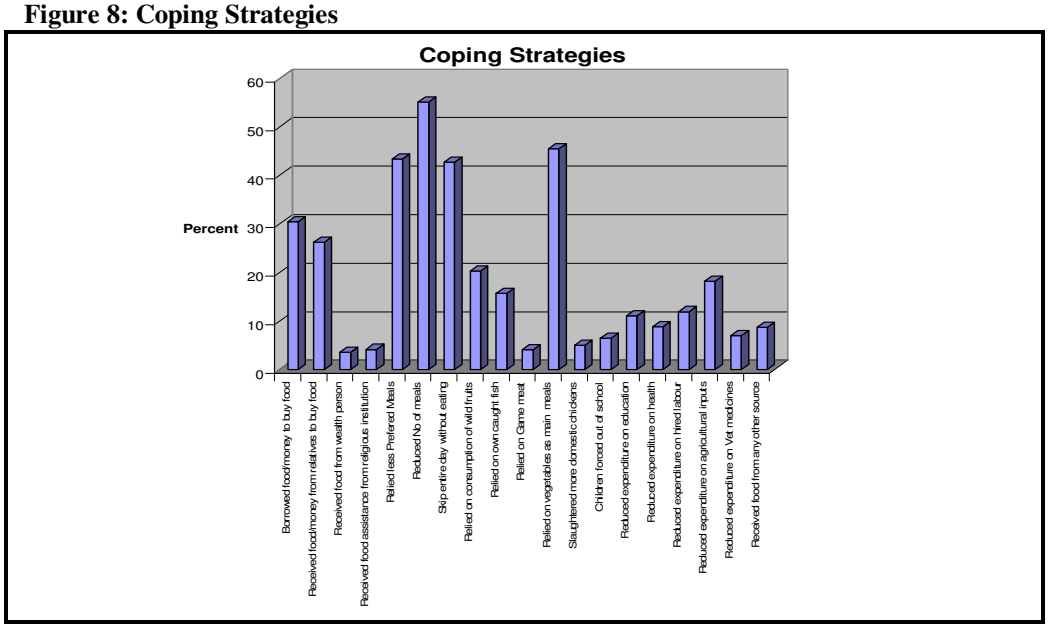


The assessment revealed that most of the sampled households indicated having two meals a day (56%). There were very few households that indicated having more than one meal (1%) and two meals (7%) per day.

The assessment revealed that the common coping strategies that sampled households employed were eating of meals with vegetables (46%) and reliance on less preferred foods in the past six (6) months starting from December 2008 and May 2009. The assessment further revealed that 55% of the sampled households regularly reduced the number of meals while 25% received food or money to buy food from relatives from outside the country and on food and/or non remittance from relatives. Furthermore, 12% of the sampled households indicated that they reduced expenditure on hired labour or draught power due to hunger where as 11% of them indicated reduced expenditure on education due to the same reason. About 14% of the sampled households indicated having additional household members joining the income generating activities for the first time to compliment the household food gaps.

It is also worth noting that no major unsustainable coping mechanisms were employed to signal stress as a result of hunger from the sampled households. Notable ones employed were withdrawing children aged between 6 to 15 years from school (6%), sale of productive assets (4%) and sale of household assets (7%). This is a sign that most of these households resilience levels are progressively improving over time.

Figure 8: Coping Strategies

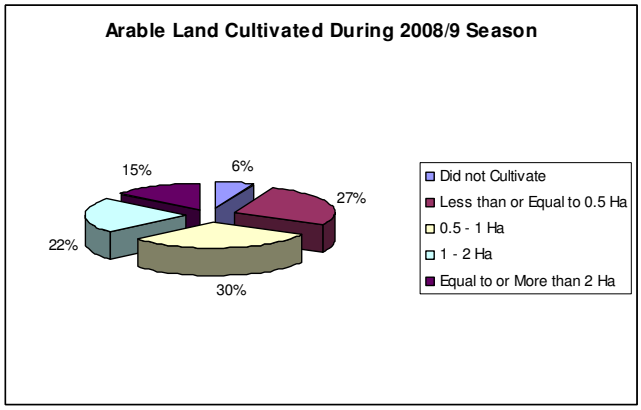


3.3. Agriculture and Food Security

3.3.1. Household Food security

The assessment revealed that most (94%) of the sampled households had access to arable land; however the sizes varied from district to district. Out of the twenty (20) districts assessed, most of the households who had access to arable land amounting to two (2) hectares or more were found in Kapiri Mposhi (8%), Shang'ombo (7%) and Serenje, Mporokoso, Mungwi, Kabompo, Kasempa and Kaoma all at 6% (see figure 8). Furthermore, households indicated having less than or equal to half a hectare were mainly in Lukulu (11%), Kaoma (8%) and Mpika (7%).

Figure 9: Arable Land Cultivated During the 2008/9 Season



Of the households that indicated having access to arable land, twenty seven percent (27%) cultivated half a hectare or less, thirty percent (30%) cultivated between ½ to 1 hectare, twenty two percent (22%) cultivated between 1 - 2 hectares during the 2007/08 agricultural season. Furthermore, fifteen percent (15%) indicated having cultivated two hectares and more. A further 6 percent indicated that they did not cultivate the land which they had.

The production of cereals, mainly maize, had risen in all the assessed districts. Increase in production of the staple from the previous season ranged between 4% for Mwinilunga and Kabompo to 39% for Lukulu.

The contribution of own production to the household staple consumption stood at 79.2 % with the remaining coming from other sources such as purchases, remittances and gifts (see figures 10 and 11). The assessment revealed that although the households had diverse livelihoods, own production still remained a dominant source of the staple food to the households**.**

Figure 10: Production of Staple Crops by Households

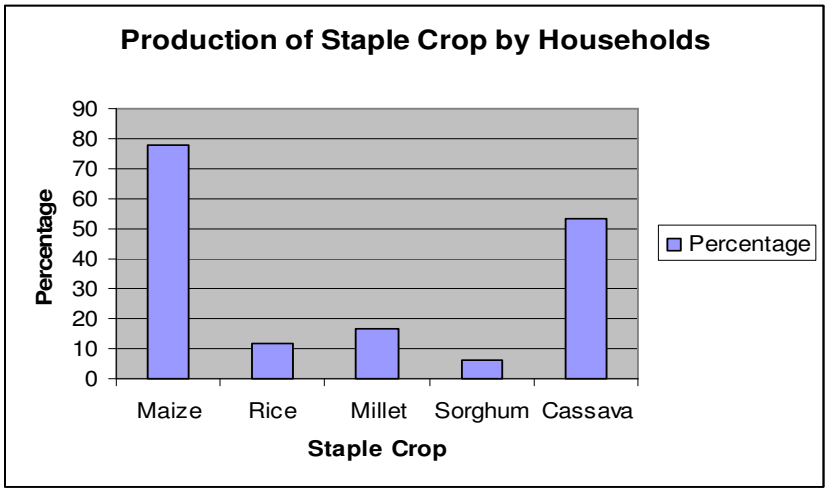
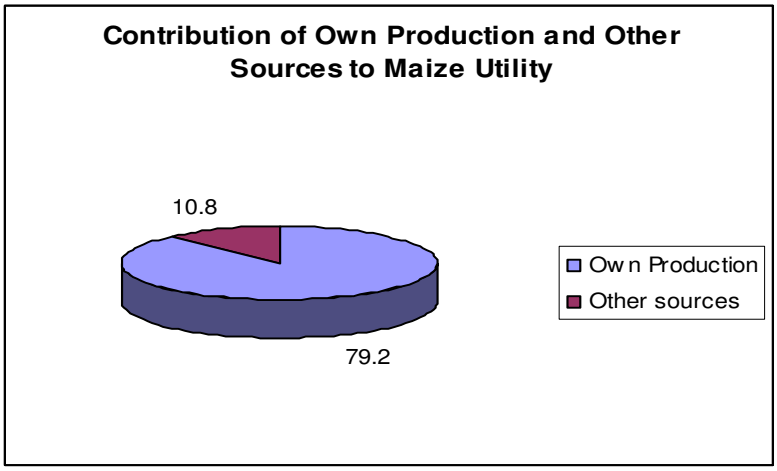


Figure 11: Contribution of Own Food versus Other Sources

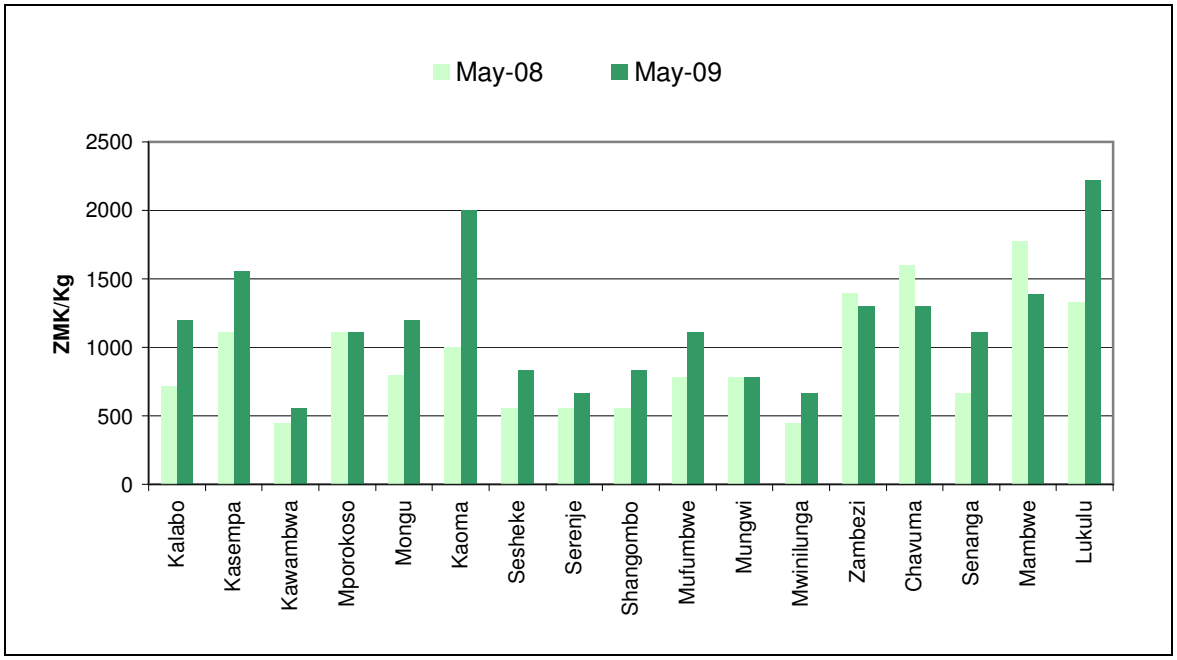


The dominance of own production in most rural households, as was the case in the 2008 assessment entails that such households are likely to be food insecure arising from the floods experienced in their districts.

3.3.2. Market Situation

Generally, maize prices in assessed districts were higher in May 2009 with respect to the same period in the previous season with very few exceptions. The price increases over the previous season are high for most areas with the highest reported in Kaoma (100%), while Lukulu, Senanga, Kalabo, Mwinilunga, Shang'ombo and Mongu reported at least 50% increase in price. This can be attributed to the fact that 2008/09 marketing season was a maize deficit year when most areas experienced low maize supply towards the end of the season which pushed prices up significantly. Therefore May 2009 prices still remained high as the new harvest had not yet adequately reached the market. Exceptionally high price levels were recorded in Lukulu (low producing) and Kaoma (high producing area) which could signify high maize deficit levels on the market in May for these areas. The fact that the current marketing season which opened May 1, had low carryover stocks from the previous season meant that market prices were retained at high level at the start of the 2009/10 marketing season. The May period is also a period when household dependency on the market starts to reduce due to availability of own harvest and therefore prices in June are expected to be lower.

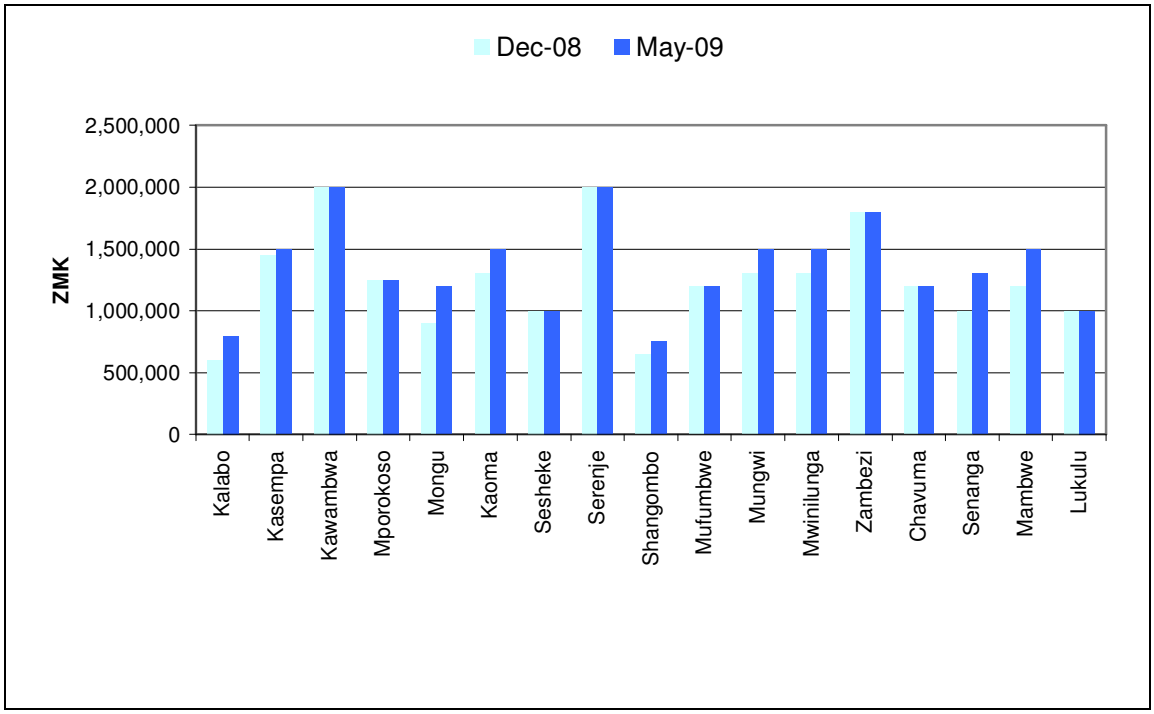
Figure 12: Maize Prices in Affected Districts - May 2008 versus May 2009



In this case, the May prices best reflect the end of the previous market stocks on the market and partly extent to which the households are accessing food from own production.

The flood affected districts of western Zambia are also major livestock rearing districts. Cattle prices in the assessed districts either rose or remained stable with respect the prices which prevailed in December 2008. The fact that cattle prices in areas with relatively low December prices (lean season prices) increased in May 2009 shows that at the time of the assessment, farmers were still able to negotiate for higher prices and therefore not desperate to sale. Furthermore, the comparatively low cattle price levels in Kalabo, Shang'ombo, Sesheke and Lukulu could be a reflection of the livestock market situation.

Figure 13: Cattle Prices in Affected Districts – Dec. 2008 to May 2009



For the past few years there has been a ban on livestock movement (only carcasses are permitted) out of western Province due to disease outbreaks. The prices of smaller animals (goats) also showed a similar picture. Price of goats mostly increased from the December 2008 levels, implying no desperation to sale. Furthermore, it was also observed that the lowest prices for goats (no more than K600, 000) were reported in Western Province (Sesheke, Senanga, Shang'ombo and Kaoma districts).

Generally, at the time of the assessment, both the maize prices and the livestock prices do not reflect a desperate situation in the assessed areas this being the harvesting period and therefore not reflective of the post harvest situation. However, the relatively low prices of livestock in Western Province reflect the relatively low income from livestock sales that the middle and better off households obtain from such sales compared to the other areas.

3.3.3. Seasonal Calendar

Out of the 268 sampled communities, 50% indicated that rainfall started in October while 31% indicated rainfall having started in November. It was evident that the timings on when to undertake land preparation for most sampled communities tied very well with the period when rainfall started. Furthermore, 24% of the communities indicated having started land preparation in October while 61% of them indicated having started the planting of their main food and cash crops respectively. The communities also indicated that the peak periods for the land preparation and planting was November (29%) and December (22%). The assessment further revealed that first main crop for consumption for the sampled communities was maize (76%) and cassava (17%).

It is worth noting that of the 268 sampled communities, 11% indicated that the main cash crop grown was ground nuts and rice while 6% indicated beans and 5% indicated maize as their main cash crop. It was further revealed that 15% of the sampled communities indicated that milk production started in November when most pasture condition are just starting to improve with 8% indicating February when the activity was ending. The peak period for this activity was found to December. In terms of sale of livestock, 46% indicated that the activity started in January and 45% indicated the end of the same activity ended in December. The assessment further revealed that labour migration was done all year round, however it was found to be less pronounced among sampled communities with most of them indicating the activity started in January (5%) and 7% ending in December.

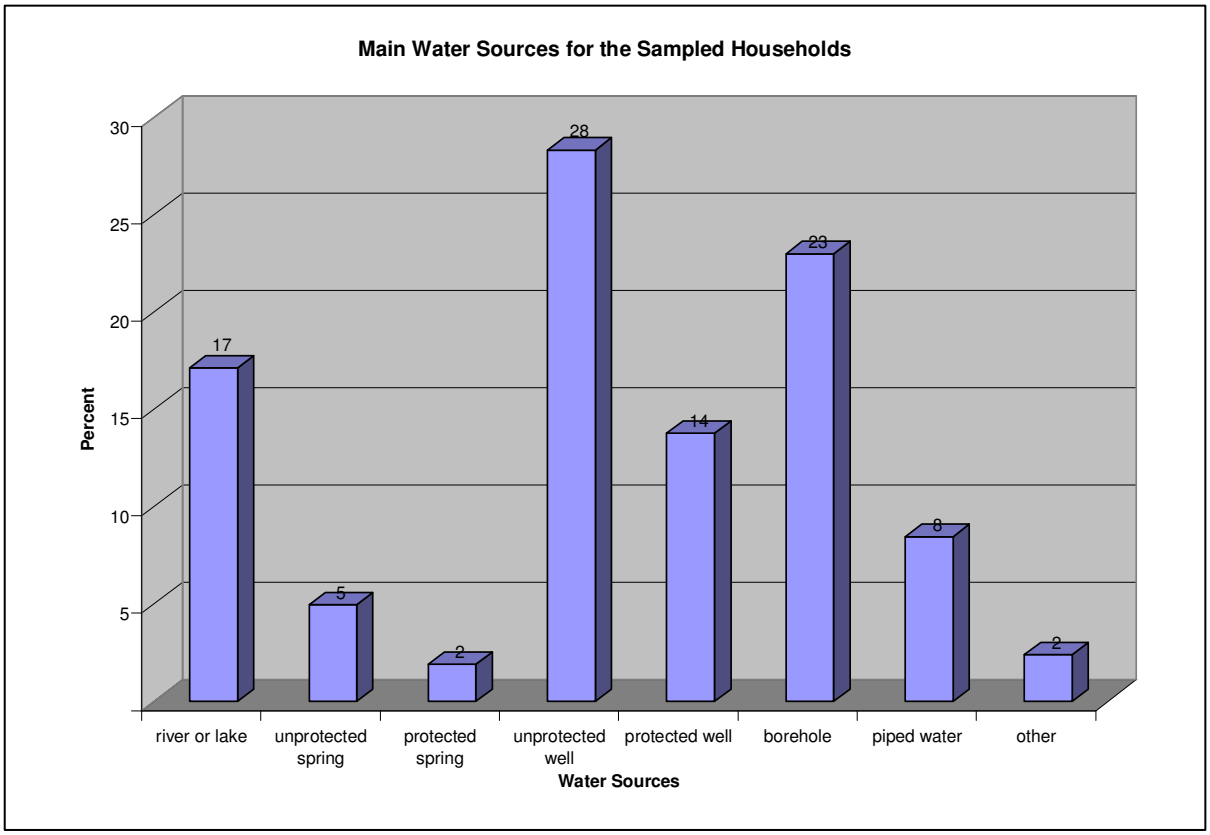
For the communities whose livelihood is fishing, the assessment revealed that 20% of the sampled communities indicated that the activity started in March while 22% of them indicated the activity ended in December. Furthermore, 15% of the same communities indicated that the peak month of the activity was April as most water bodies have high levels resulting into increased catches. It was further revealed that most own produced foods among the sampled communities ran out between October and February, however 27% indicated that most own produced foods started running out in November while 43% of them indicated February as the month when own produced foods stops running out.

3.4. Water and Sanitation

3.4.1. Drinking Water at Household

The assessment revealed that there were diverse water sources that sampled households used for domestic purposes. It was established that 28% of the sampled households used unprotected well, 23% used boreholes and 17% used river/lake (see figure 12).

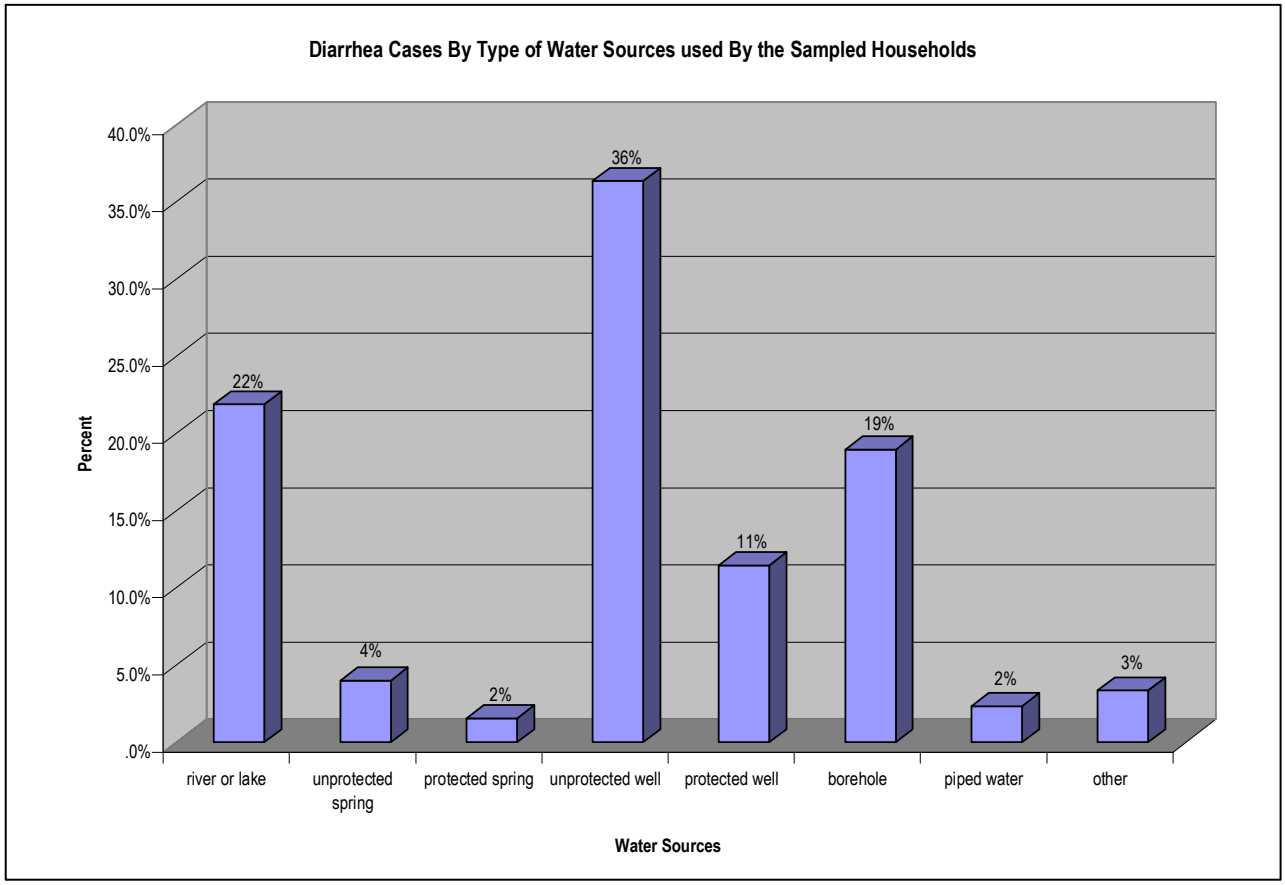
Figure 14: Source of Drinking Water



The assessment revealed that most of the unprotected water sources such as spring, well and river were highly prone to contamination of faecal matter due to flooding. About 36% of the sampled households whose main water source was unprotected wells indicated having a household member suffering from diarrhoea. The assessment further revealed that 22% of the households whose main water source was river/lake and 19% of the households whose main water source was borehole indicated having a household member suffering from diarrhoea. Despite the unsafe water sources that the sampled households used, 74% of them indicated that the water quality was good.

Of the sampled households, 24% indicated that they treated their drinking water. The most commonly used method for water treatment was found to be use of chlorine (19%) and boiling (5%). There were very few households who resorted to filtration as a water treatment method.

Figure 15: Diarrhea Cases by Type of Water Sources

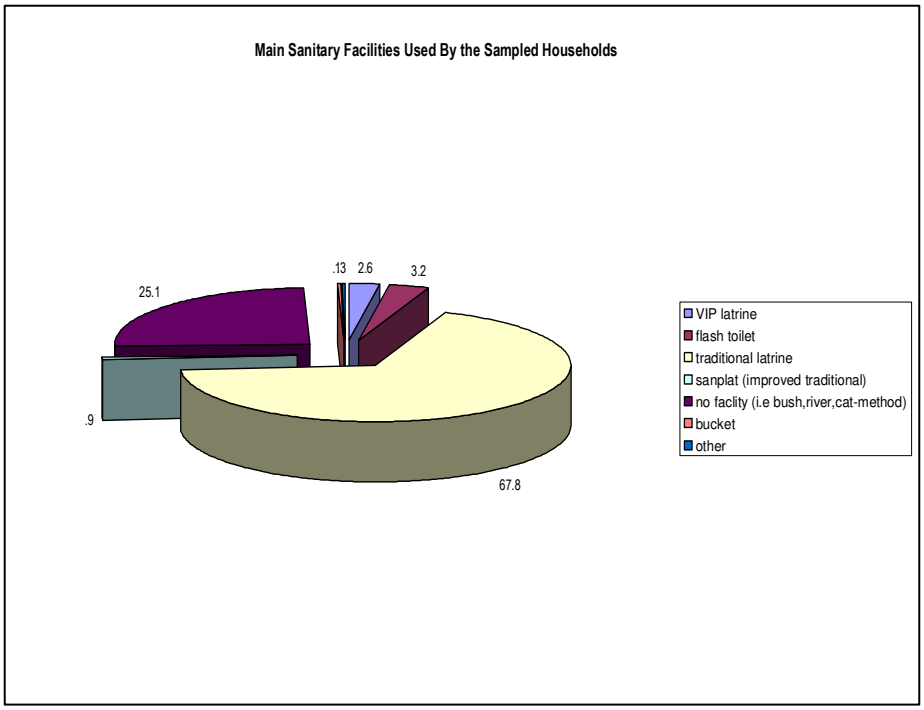


Most of the common water sources used by the sampled households were not within their premises as only 4% of them indicated having their water sources in their premises. Furthermore, the assessment revealed that 45% of the sampled households indicated that water sources were with 100 to 500 meters while 32% of the households indicated that water sources were located at a distance less than 100 meters. Overall, there is clear evidence that most of these water sources were easily accessible by the sampled households.

3.4.2. Sanitation

The assessment revealed that the main sanitary facilities used by the sampled households were traditional latrine (67.8%) and flash toilets (25.1%). The assessment further revealed that 68% of the sampled households whose sanitary facilities were traditional facilities indicated having a household member suffering from diarrhoea. Furthermore, 32% of the sampled household who indicated that they had no sanitary facility had a household member suffering from diarrhoea. It is worth noting that for the sampled households whose sanitary facilities were VIP latrines, 5% of them indicated having a household member that suffered from diarrhoea.

Figure 16: Main Sanitary Facility Used by Sampled Households



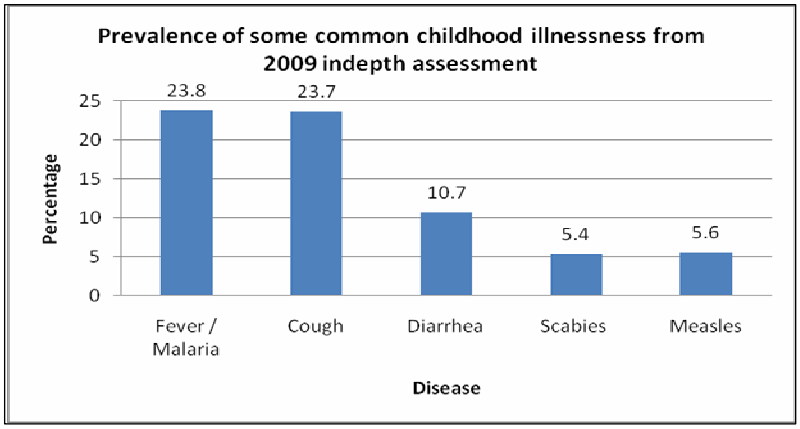
3.5. Health

The assessment revealed that 50% of the sampled households indicated that having one household member who got sick over two weeks prior to the survey. The assessment further revealed that of those households that had a household member that fell sick two

weeks prior to the assessment, 28% of them indicated fever/malaria as the disease that household member suffered from, 17% cough, 8% diarrhea and 2% scabies. In terms of the health care that the sick household members had, majority went for formal health care (37%) with others opting for traditional healers (3%), own medication (4%) and private clinics 1%.

The survey found that 69.2% of the under five children had suffered from Fever/suspected malaria, diarrhoea (watery stool), Cough, or skin infection while 30.8% did not suffer from any illness. The figure below shows the prevalence of some common childhood illnesses from 2009 in-depth assessment.

Figure 17: Prevalence of Common Childhood Illness



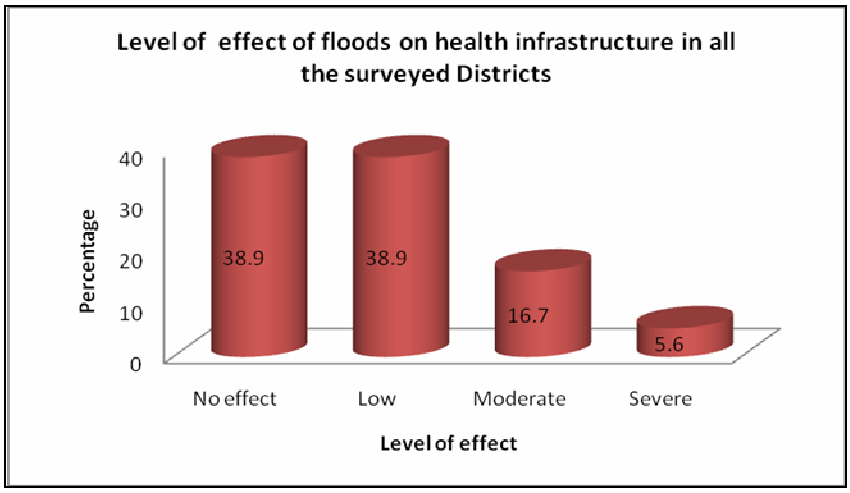
In looking at the cases of diarrhoea, it was noted that of the affected households, the water source was 100-500metres from the dwelling. The use of unprotected wells was the highest source of drinking water at 38% whilst the least used source of drinking water was piped water at 2.2%. 57.1% of the water source got flooded and only 15.1% households had access to alternative water sources.

3.5.2. Health Infrastructure

From the assessment it was found that each district had one health infrastructure either severely, moderately, low or having no effect at all. Only one clinic was severely affected due to the floods in Shang'ombo. The assessment further indicated that Kabompo, Kasempa and Lukulu had health infrastructures moderately affected. The floods had a low impact on physical health infrastructure in Kawambwa, Mufumbwe, Mwinilunga, Zambezi, Mongu, Senanga and Sesheke. Generally, there was no impact of floods on physical health infrastructure in Kapiri Mposhi, Serenje, Mambwe, Mporokoso, Mungwi,

Chavuma and Kalabo district. The figure below shows the level of effect of floods on health infrastructure in all the districts.

Figure 18: Effects of Floods on Health Infrastructure



3.5.3. Vaccination

The assessment established that immunization coverage was high in all the assessed districts. The measles coverage of 86.5 % was recorded among children aged between 6-59 months, 93.7% was recorded for OPV and 94.1% for DPT immunization while the BCG coverage was found to be at 97.2%. The health Card (76.9%) and verbal history provided by the caregiver (22.2%) were the main source of information for child immunization. The percentage of child caretakers who did not know whether the child had been immunized or not was found to be at 0.9%.

3.6. Nutrition

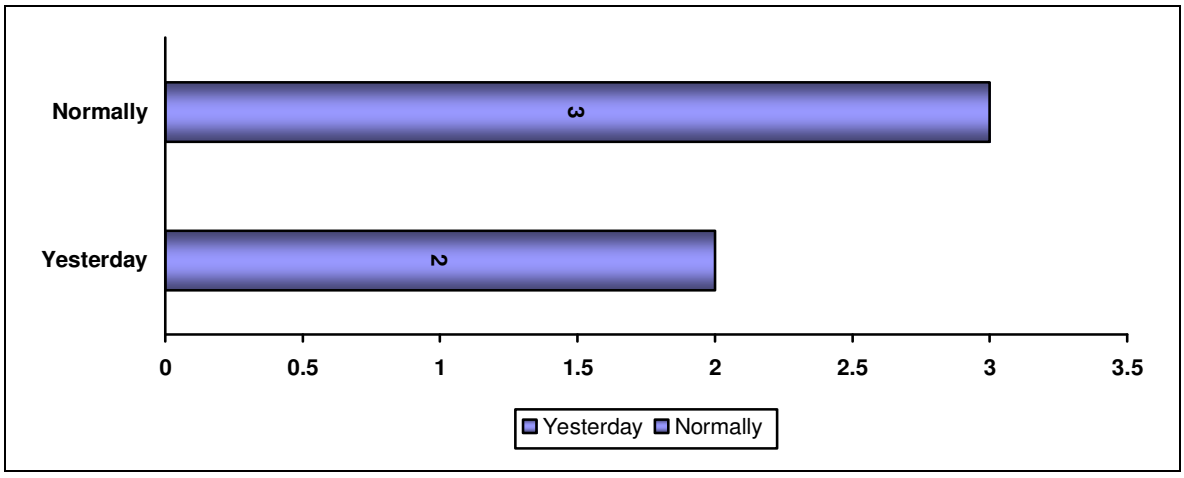
3.6.1. Nutritional Status of Children

Anthropometric measurements were taken from a total of 1198 children aged 0 - 59 months. About 172 (1.0%) of the children had their anthropometric measurement flagged. Therefore the results on nutritional status are based on 1026 children aged 0-59 months.
The in-depth survey revealed that about 35% of the children (0 – 59 months) were still being breastfed. The results further show that 34.9% of children below the age of 6 months were already introduced to other foods. Only 64% of children above the age of 6 months were given complementary foods.

3.6.2. Household Food Consumption Pattern

The average number of meals that the households were reported to have consumed 24 hours prior to the survey (2 meals) was less than what the households consumed normally (3 meals).

Figure 19: Average number of meals consumed by the Households



The results show that the most commonly consumed food items were cereals, dark-leafy vegetables, white tubers and fish, while the least consumed food items were, eggs, vitamin A rich and other fruits and milk and milk products (refer to table 5 below). The results further show that children consumed less of all the foods apart from sugary foods.

Table 5: Number of Times the Households consumed Specific Food Items.

No.	Food Group	Average Number of Days tin a week he Food Group is consumed		
		Children	Women	Men
1	Cereal	5.28 (+/-2.9)	5.75 (+/- 2.5)	5.38 (+/- 2.8)
4	Dark-leafy Vegetable	3.31 (+/- 2.9)	3.64 (+/- 2.9)	3.37 (+/- 2.9)
2	White Tuber	3.15 (+/- 3.0)	3.46 (+/- 2.9)	3.20 (+/- 3.0)
9	Fish	2.61 (+/- 2.6)	2.82 (+/- 2.6)	2.66 (+/- 2.6)
12	Oils and Fats	2.57 (+/- 3.0)	2.79 (+/- 3.1)	2.62 (+/- 3.1)
13	Sugary Foods	1.70 (+/- 2.6)	1.59 (+/- 2.5)	1.47 (+/- 2.5)
3	Yellow and Orange Vegetables and Tubers	1.59 (+/- 2.3)	1.72 (+/- 2.4)	1.56 (+/- 2.3)
10	Legume, Nut and seed	1.50 (+/- 2.0)	1.64 (+/- 2.1)	1.52 (+/- 2.1)
7	Meats	0.59 (+/- 1.2)	0.64 (+/- 1.2)	0.61 (+/- 1.2)
11	Milk and Milk Products	0.47 (+/- 1.4)	0.49 (+/- 1.5)	0.45 (+/- 1.4)
6	Other Fruits	0.46 (+/- 1.4)	0.43 (+/- 1.3)	0.39 (+/- 1.3)
5	Vitamin A Rich Fruits	0.32 (+/- 1.2)	0.31 (+/- 1.1)	0.30 (+/- 1.1)
8	Eggs	0.31 (+/- 0.9)	0.30 (+/- 0.9)	0.28 (+/- 0.9)

3.6.3. Coverage of Public health / Nutrition Services

The Assessment showed that vitamin A supplementation among children (6 – 59 months) stood at 61.6 percent while de-worming for the same age group was 17.2 % (See Table 6). It was also observed that the supplementation and therapeutic feeding programs coverage was low (2.0 and 1.4% respectively). The number of children who were reported to have been on therapeutic feeing program at the point of survey was 14 (1.0%).The vitamin A supplementation and de-worming coverage results of the in-depth vulnerable assessment is lower compared to other surveys such as the ZDHS and the pilot nutrition surveillance.

Table 6: Coverage of Some public Health and Nutrition services and Coverage

Public Health / Nutrition Service / Intervention	Coverage	
	Number	Percent
Children - Vitamin A Supplementation	829	61.6
Children – De - worming	231	17.2
Supplementary Feeding Program	27	2.0
Therapeutic Feeding Program	19	1.4
Currently on Therapeutic Feeding Program	14	1.0

3.6.4. Prevalence of Child Malnutrition

The nutrition levels of the children in the surveyed population are comparable to other surveys. The proportion of children aged 0-59 months who were stunted was 45.5 percent. Wasting and underweight were reported at 3.6% and 15.2% respectively (see Table 7).

Table 7: Prevalence of Child Malnutrition

Type of Malnutrition	Total Number of children	Severe (% < -2SD)	(95% CI)	Moderate (% < -2SD)	(95% CI)
Wasting	1026	1.4	(0.6%, 2.1%)	3.6	(2.4%, 4.8%)
Stunting	1026	20.7	(18.1%, 23.2%)	45.5	(42.4%, 48.6%)
Underweight	1026	5.1	(3.7%, 6.5%)	15.2	(13.0%, 17.5%)

Prevalence of Acute Malnutrition (Wasting)

The prevalence of Severe Acute Malnutrition (SAM) was found to be 1.4%. The proportion of children with bilateral oedema was 0.3%. Global Acute Malnutrition (GAM) was 3.6%.

Prevalence of Acute Malnutrition (Wasting) by Age group

The survey results showed that wasting increased with increase in age. Global Acute Malnutrition (Wasting) and Severe Acute Malnutrition (SAM) peaked among children aged 36 to 47 months (refer to Table 8).

Table 8: Prevalence of Acute Malnutrition by Age Group based on weight-for-height z-scores

Age groups (months)	Total Number of children	Wasting (%)			
		Severe (% < -3SD)	(95% CI)	Moderate (% < -2SD)	(95% CI)
(0-5)	13	0	(0.0%, 3.8%)	0	(0.0%, 3.8%)
(6-11)	125	1.6	(0.0%, 4.2%)	4	(0.2%, 7.8%)
(12-23)	300	0.7	(0.0%, 1.8%)	3	(0.9%, 5.1%)
(24-35)	248	1.2	(0.0%, 2.8%)	2.8	(0.6%, 5.1%)
(36-47)	214	2.8	(0.4%, 5.2%)	5.6	(2.3%, 8.9%)
(48-60)	126	0.8	(0.0%, 2.7%)	3.2	(0.0%, 6.6%)
Total:	1026	1.4	(0.6%, 2.1%)	3.6	(2.4%, 4.8%)

Figure 20: Weight -for-Height Z-score for all Children

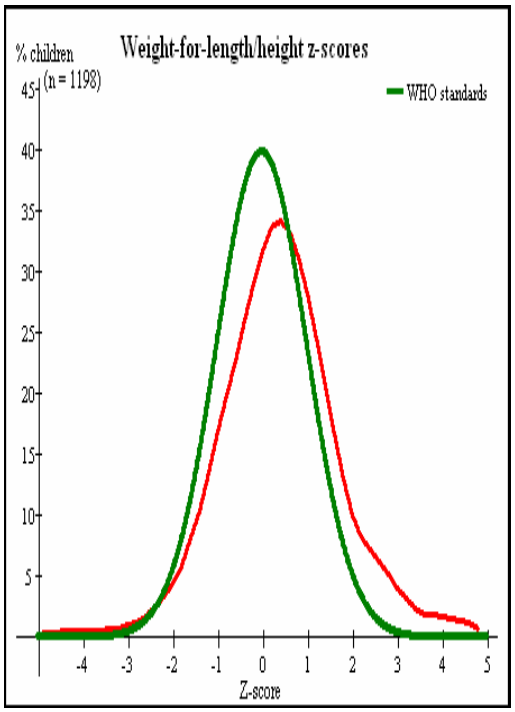
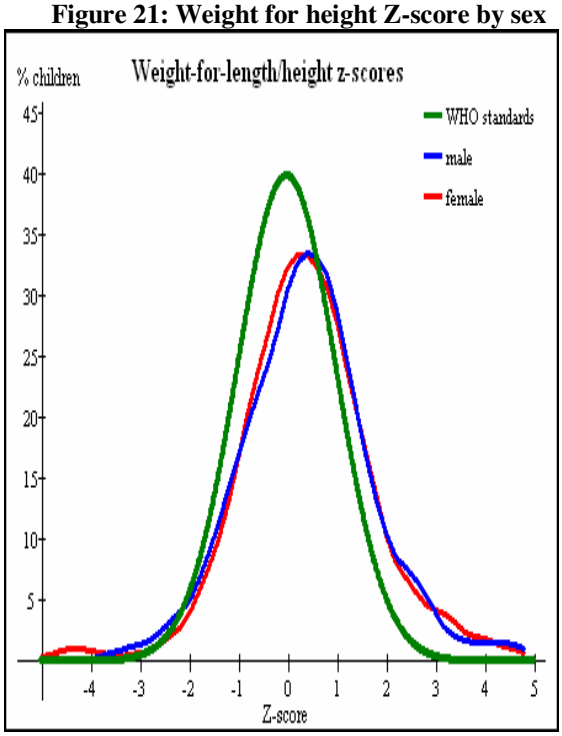


Figure 21: Weight for height Z-score by sex



Prevalence of Under-weight by Age group

The prevalence of underweight increased with increase in age. The results show that prevalence of underweight was higher among children aged 36-47 months with 31% and was nonexistent among children aged 0-5 months.

Table 9: Prevalence of underweight by age group based on weight-for-age z-scores

Age groups (months)	Total number of children	Underweight (%)			
		Severe (% < -3SD)	(95% CI)	Moderate (% < -2SD)	(95% CI)
(0-5)	13	0	(0.0%, 3.8%)	0	(0.0%, 3.8%)
(6-11)	125	0	(0.0%, 0.4%)	1.6	(0.0%, 4.2%)
(12-23)	300	3	(0.9%, 5.1%)	10.3	(6.7%, 13.9%)
(24-35)	248	6	(2.9%, 9.2%)	19	(13.9%, 24.0%)
(36-47)	214	8.4	(4.5%, 12.4%)	22.9	(17.0%, 28.8%)
(48-60)	126	7.9	(2.8%, 13.1%)	21.4	(13.9%, 29.0%)
Total:	1026	5.1	(3.7%, 6.5%)	15.2	(13.0%, 17.5%)

Figure 22: Weight-for-age Z-score for all children

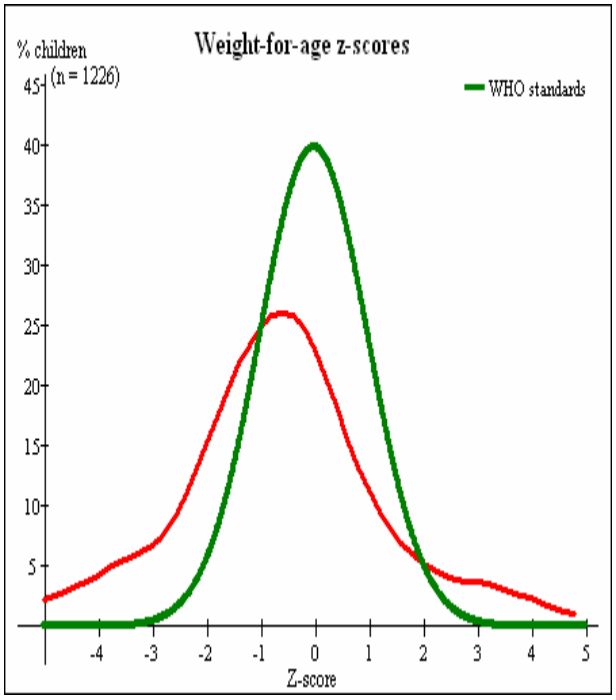
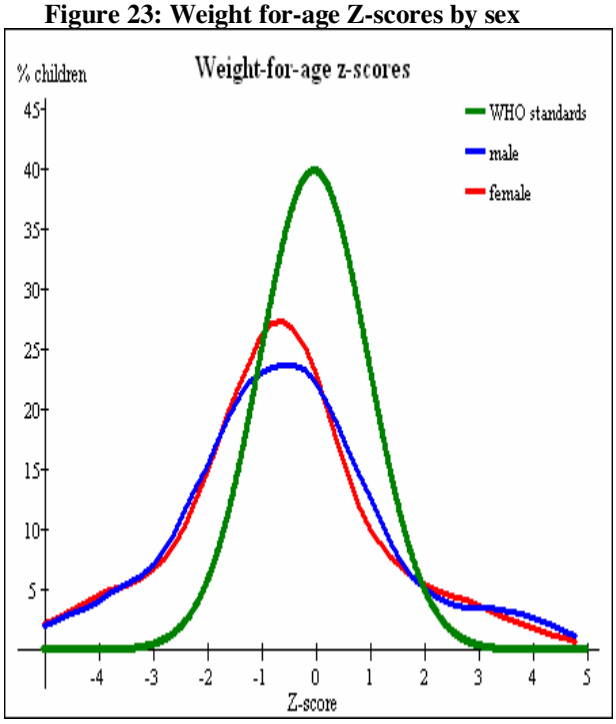


Figure 23: Weight for-age Z-scores by sex



Prevalence of Chronic Malnutrition (Stunting) by Age Group

Stunting is apparent among children aged 0-5 months and increases rapidly during the first year of life. By the time children are 6-11 months old, up to 25% are short for their age. By age 48-60 months over half the children (58%) are stunted.

Table 10: Prevalence of chronic malnutrition by age group based on height-for-age z-scores

Age groups (months)	Total Number of children	Stunting (%)			
		Severe (% < -3SD)	(95% CI)	Moderate (% < -2SD)	(95% CI)
(0-5)	13	0	(0.0%, 3.8%)	15.4	(0.0%, 38.8%)
(6-11)	125	4.8	(0.7%, 8.9%)	20.8	(13.3%, 28.3%)
(12-23)	300	18	(13.5%, 22.5%)	44	(38.2%, 49.8%)
(24-35)	248	24.6	(19.0%, 30.2%)	54	(47.6%, 60.4%)
(36-47)	214	23.8	(17.9%, 29.8%)	46.7	(39.8%, 53.6%)
(48-60)	126	31.7	(23.2%, 40.3%)	57.9	(48.9%, 67.0%)
Total:	1026	20.7	(18.1%, 23.2%)	45.5	(42.4%, 48.6%)

Figure 24: Weight for age Z-scores for all children

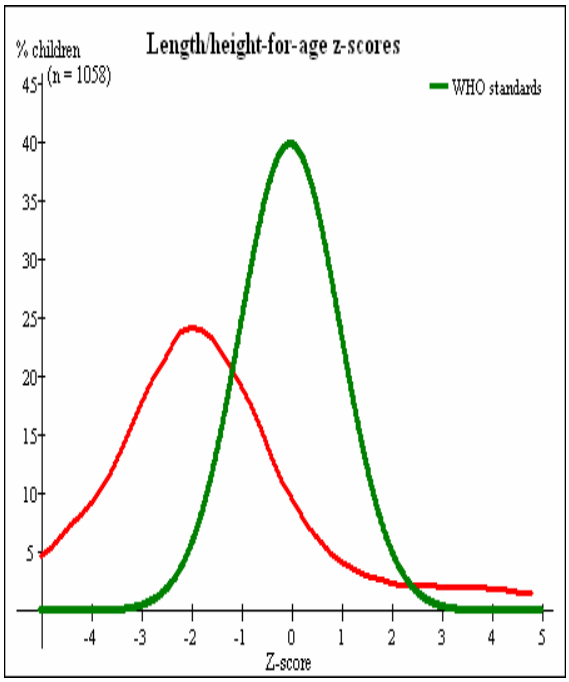
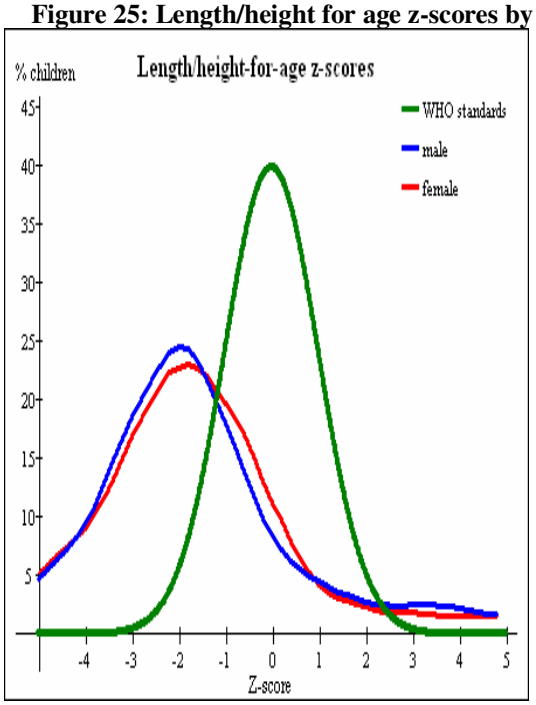


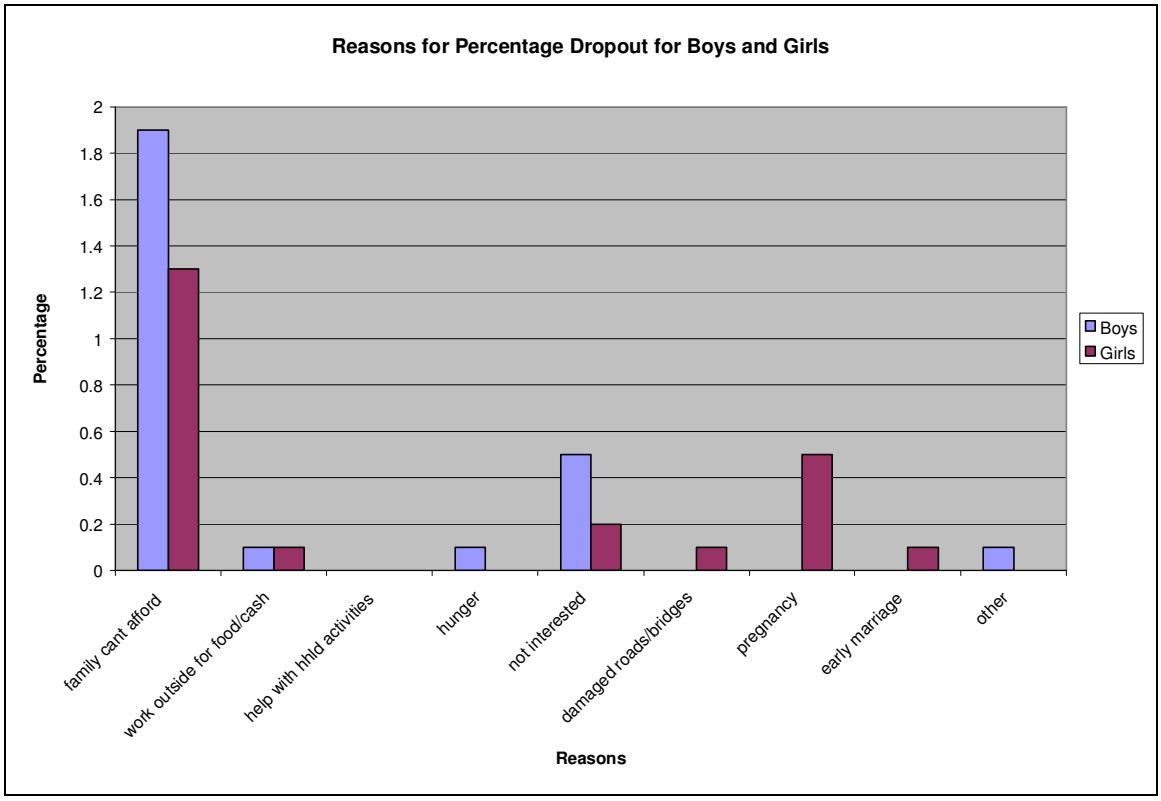
Figure 25: Length/height for age z-scores by sex



3.7. Education

In the last 6 months, 97% of respondents indicated that they did not have any boys and girls that dropped out of school. On the percent of children that dropped out, 2.6% of respondents indicated that only 1 male child dropped out of school and 2.5% indicated that only 1 female child dropped out of school. The reason for the slight drop out of 2.6% for both boys and girls was either because the family could not afford fees, work outside for food or cash or children not interested in education. The main reason however for the slight drops out was lack of school fees.

Figure 26: Reason for Drop-outs for Boys and Girls

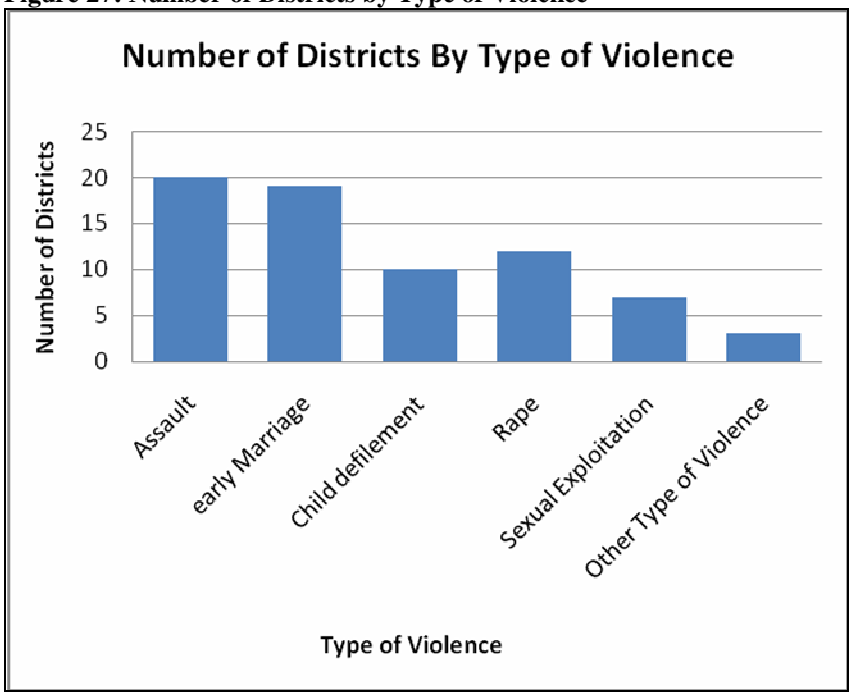


The data showed that 15% of the respondents who were heads of households had never been to school and 51% had completed primary school, while only 31% completed secondary school. The assessment showed that 97% of respondents indicated that they did not pull children out of school due to the flood situation.

3.8. Social Protection

All the twenty districts reported some sort of protection issues. The type of violence by district is indicated in the table below. All districts reported the occurrence of assault, 19 reported the occurrence of early marriages while 12 reported rape, 10 child defilement, 7 sexual exploitation and 3 reported the occurrence other types of violence.

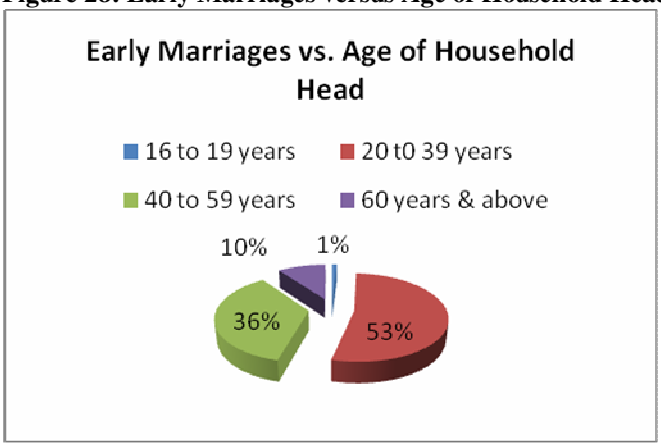
Figure 27: Number of Districts by Type of Violence



The assessment established that there were few incidences of violence against women and children in the assessed households. The highest form of violence was early marriage (3.9%) and this was followed by other types ranked as follows: assault (3.4%), child defilement (1.0%), rape (0.9%) and other types of violence (0.9%) and sexual exploitation (0.2%). The highest proportion (5.7%) of child defilements occurred in households headed by the 16 to 19 years age group and the next highest proportion was in the age range of 40 to 59 years (0.9%). In all the cases the main perpetrators were relatives/neighbours. Among all the household head age groups, early marriages were highest within the age group of 20 to 39 years and lowest among child headed households.

The study defined an orphan as a person below the age of fifteen years who had lost both parents. There were a total number of 465 double orphans aged below 15 that were being kept by 5.65% of the assessed households.

Figure 28: Early Marriages versus Age of Household Head



The results from the assessment show that there was some relationship between the distance to the water source and the number of households that reported incidences of child defilement. Out of 20 households that reported defilement, 65% indicated that the incidences happened in the distance of over 100meters. However, there was no significant difference between the number of incidences of rape that happened within the 100 meters distance and those that happened in a distance of more than 100 meters.

Table 11: Prevalence of Violence by Livelihood Sources for Households

	Rape	Early Marriage	Child Defilement	Assault	Sexual Exploitation	Other
Begging	6.70%	6.70%	0.00%	0.00%	0.00%	0.00%
Petty Trading	4.20%	6.30%	4.20%	6.30%	0.00%	6.30%
Beer Brewing	3.40%	3.40%	2.30%	4.60%	0.00%	2.30%
Skilled Trading	2.90%	11.40%	2.90%	8.60%	0.00%	0.00%
Small Business	1.30%	3.80%	1.30%	6.40%	1.40%	1.30%
Formal Salary	1.80%	3.60%	2.40%	6.50%	0.00%	0.60%
Crop Production	0.60%	3.90%	0.70%	2.80%	0.20%	0.90%

The analysis of livelihood sources by prevalence of violence revealed that there was a link between prevalence of violence and livelihood sources. The prevalent causes of violence included begging, petty trading, beer brewing, skilled trading, small business, formal salary and crop production. There should be, therefore, targeted protection awareness activities for households earning livelihood through the stated livelihood options.

3.8.1. Community Response to Protection

Out of the 268 communities that were assessed, 3.8% of them reported that they had missing children during the floods. There were, on the other hand, 20.1% of the total communities that engaged children in some paid and unpaid child labour.

The assessment reviews that most communities had some measures for HIV prevention. The government provided measures for HIV prevention to 74.3% of communities while the community and NGO provided to 49.1% and 61.6% respectively. There were 79.8% of the communities assessed responded that there was an existence of reporting mechanisms for rights violations and the percentages of existence of mechanisms in communities were : police (76.2 %), local authority (71.8%), local health clinic (26.7%), and humanitarian (5.8%) reporting systems.

3.9. Human Habitation and Shelter

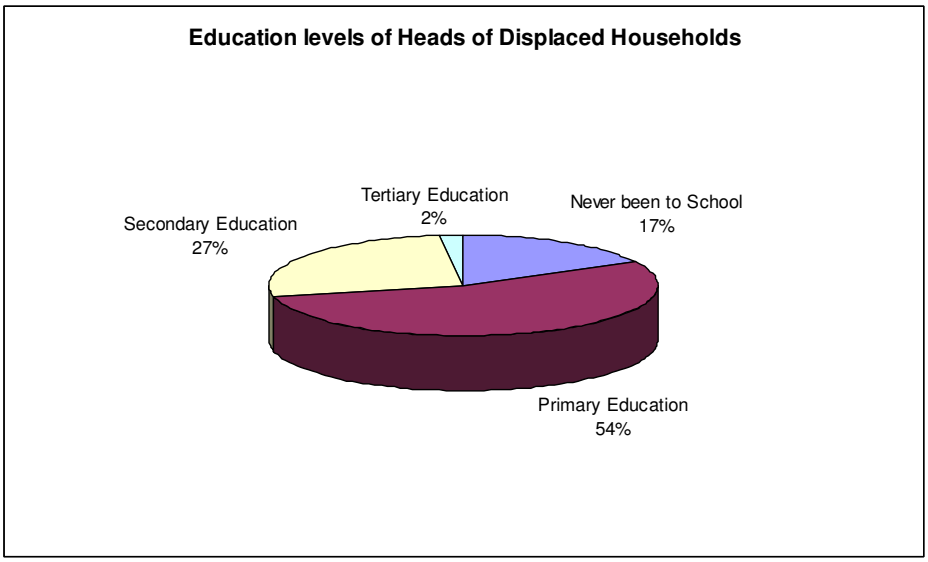
The survey revealed that of the total number of households that were affected by floods, 10% were displaced. This translates into a total of 280 households displaced (1,680 people). The displacement of the households was due mainly to the weak housing structures which are mainly built with pole, mud and grass. This coupled with location of the houses along the flood water ways only enhanced the vulnerability of the houses, people and their properties.

Of the 280 displaced households, 76.5% were male headed while 23.5% were female headed. Furthermore, 64.7% had traditional hut type of houses while the 28.7% lived in improved traditional hut type of houses and 3.7% conversional, 2.9% other types of houses.

The assessment results showed that there was a correlation between the level of education of the household heads and the number of the households that were displaced. The figure

below shows the level of education for the heads of displaced households and the corresponding number of households displaced for each level of education.

Figure 29: Education Levels of Heads of the Displaced Households



The figure above shows that 54% of the displaced household heads had acquired only up to primary education, 27% had reached secondary education, 17% had never been to school and 2% tertiary education. These figures show that the largest proportion of the displaced households had acquired low levels of education and consisted of those that had never been to school and those that had acquired primary education.

A bigger proportion of the displaced households were headed by persons in the most productive to less productive age groups. 51.7% of the displaced households were headed by person in the age range of 20 to 39 years of age, 31.6% in 40 to 59 years old and 15.2% for the 60 years and above age group. The other group was the 16 to 19 years old at 1.1% and 0.4% for child headed households below the age of 15 years. Furthermore, the survey established that of the total number of households displaced; only 7.5% of the households had carryover food stocks from the previous season.

4. CONCLUSIONS (Sector Based)

4.1. Infrastructure

A total of 327 structures were damaged or washed away. This includes roads, bridges and culverts in different districts of the country (refer to the Technical Report on the Washed Away and Affected Drainage Structures by the 2008/9 Heavy Rains, RDA, May 2009). The school infrastructure has been covered under education.

4.2. Agriculture and Food Security

The production of the staple in all the twenty districts had increased with the increase ranging from 4% to 39%. However, owing to the fact that most of these districts have had floods the past three seasons, it is likely that this marginal increase would afford the community enough resilience in terms of food security.

Cattle prices in the assessed districts either rose or remained stable with respect to prices which prevailed in December 2008. The fact that cattle prices in areas with relatively low December prices (lean season prices) increased in May shows that at the time of the assessment, farmers were still able to negotiate for higher prices and therefore not desperate to sale.

The price increases over the previous season were high for most areas with the highest reported in Kaoma (100%), while Lukulu, Senanga, Kalabo, Mwinilunga, Shang'ombo and Mongu reported at least 50% increase in price. This can be attributed to the fact that 2008/09 marketing season was a maize deficit year when most areas experienced low maize supply towards the end of the season which pushed prices up significantly. Therefore May 2009 prices still remained high as the new harvest had not yet adequately reached the market.

Of the twenty (20) districts visited, 7 districts were found to have most households which had experienced drastic reduction in their harvest of the main staple. A total of 110, 651 people (18,442 households) were found to be food insecure and will require some assistance. Four districts namely Kapiri Mposhi, Kasempa, Mambwe and Mongu were likely to face food insecurity as the analysis showed that the situation in the districts could go either way.

4.3. Nutrition

The 2009 in-depth vulnerability assessment revealed that vitamin A supplementation and de-worming program among children (6 – 59 months) was as low as 61.6% and 17.2 %. These coverage results, on vitamin A supplementation and de-worming, are lower compared to other community surveys that have been conducted before.

It was also observed that the supplementation and therapeutic feeding programs coverages were low (2.0 and 1.4% respectively). The number of children who were reported to have been on therapeutic feeing program at the point of survey was 14 (1.0%).

The in-depth assessment revealed that the prevalence of Severe Acute Malnutrition (SAM) was 1.4%. The proportion of children with bilateral oedema was 0.3%. Global Acute Malnutrition (GAM) was 3.6%. Underweight rate among under-five children was 15.2%, of which about 5% were severe. Stunting was the most prevalent form of malnutrition in the flood affected areas. The levels of malnutrition (wasting) in the flood affected areas were normal, while the levels of underweight were slightly higher.

4.4. Water and Sanitation

The assessment revealed that most of the unprotected water sources such as spring, well and rivers were highly prone to contamination of faecal matter due to flooding. About 36% of the sampled households whose main water source was unprotected wells

indicated having a household member suffering from diarrhoea. The assessment further revealed that 22% of the households whose main water source was river/lake and 19% of the households whose main water source was borehole indicated having a household member suffering from diarrhoea. Despite the unsafe water sources that the sampled households used, 74% of them indicated that the water quality was good.

4.5. Health

The survey found that 69.2% of the under five children had suffered from fever/suspected malaria, diarrhoea (watery stool), cough, or skin infection while 30.8% did not suffer from any illness. The assessment established that immunization coverage was high in all the assessed districts. The measles coverage of 86.5 % was recorded among children aged between 6-59 months, 93.7% was recorded for OPV and 94.1% for DPT immunization while the BCG coverage was found to be at 97.2%. A small percentage of the eligible children did not receive vaccines while 0.9% of the child caretakers did not know whether the child had been immunized or not. Shang'ombo was the only district that reported severe damage on the health facility while Kabompo, Kasempa and Lukulu had their facilities moderately affected. Kawambwa, Mufumbwe, Mwinilunga, Zambezi, Mongu, Senanga and Sesheke reported minor damages on the health facilities. However, there was no impact of floods on health infrastructure in Kapiri Mposhi, Serenje, Mambwe, Mporokoso, Mungwi, Chavuma and Kalabo districts.

4.6. Education

The assessment indicated that the floods did not have remarkable impact on school drop out. It was established that the reasons why 2.6% of children dropped out were due to the fact that the family could not afford school fees. The other reasons for school drop – out were because of pregnancy on the part of girls and ill health. The assessment also established that schools in the assessed districts had suffered damage due to the heavy rainfall.

4.7. Social Protection

The assessment showed that there were protection issues in the assessed districts although the cases were very low. The most common cases in order of ranking were; early marriages (35%), assault (25%), sexual exploitation (14%), rape (11%), child defilement (9%) and other types of violence (1%). In most of the instances the main perpetrators of these cases were relatives/neighbours and other people (94%), while development workers constituted 4% of the perpetrators.

4.8. Human Habitation and Shelter

The floods displaced total of 280 households (1, 680 people) with the Western Province being the worst affected. All the displaced communities were actually in the rural areas.

5. RECOMMENDATIONS

5.1. Infrastructure

- Refer to the Technical Report on the Washed Away and Affected Drainage Structures by the 2008/9 Heavy Rains, RDA, May 2009.

5.2. Agriculture and Food Security

Short-term

- Food support to be provided to 110, 618 people amounting to 8,295.5 metric tones for a period of nine (9) months start from August 2009 to April 2010. The proposed mode of transfer to be labour based.
- An attempt to create scenarios was made in 2 districts where baseline data was available (see annex 11).
- Four districts namely Kapiri Mposhi, Kasempa, Mambwe and Mongu be placed under monitoring.
- Timely provision of inputs to population residing in the viable wetland areas (dambos, plains) for off season production.
- Provide market support to the populations from surplus districts who did not manage to sell the surplus maize to FRA (e.g. WFP local purchase programme).

5.3. Water and Sanitation

Short-term

- Increase availability and affordability of chlorine at household level in all the twenty affected districts, especially in Mporokoso, Mungwi, Shang'ombo, Senanga, Mwinilunga and Zambezi.
- Intensify community sensitisation, participation and training in treatment and protection of water sources through WASHE programmes.
- Rehabilitate, with community participation, damaged water sources and support affected communities in improving their unsafe sources.

Medium to Long - term

- Increase access to safe drinking water by constructing water facilities such as boreholes and dams especially in areas with poor or low access to safe drinking water
- Promote rainwater harvesting facilities and spring protection and utilisation to improve access to safe drinking water.

5.3.1. Sanitation

Short-term

- Promote and increase awareness of personal hygiene and promote behavioural change initiatives at household and community levels.
- Upgrade to 'sanplat' standard the existing and commonly used traditional latrines
- Support communities to rehabilitate damaged latrines and other sanitation structures

Medium and Long

- Promote and encourage construction of strong and recommended structures for excreta disposal such as "Sanplat" (improved traditional latrine)
- Strengthen and institutionalise WASHE programmes in all districts
- Formulate and enforce policies that promote construction of strong and recommended structures for sanitary or excreta disposal

5.4. Health

Short-term

- Provision of Insecticide Treated Mosquito Nets (ITNs) for prevention of vector – human contact.
- Provision of Rapid Diagnostic Testing Kits (RDTs) for easy and early detection of positive cases of Malaria.
- Provision of essential drugs (anti-malarial drugs) for the treatment of malaria cases.

- Strengthen community participation in good hygiene practices and waste disposal to prevent diarrheal diseases.

Medium to Long-term

- Strengthen malaria intervention, in accordance with National Health Strategic Plan (NHSP) 2006/10.
- Implement Participatory Hygiene and Sanitation Transformation (PHAST) methodology to improve community health.

5.4. Nutrition

Short-term

- Continuation of therapeutic and supplementary feeding and extension of their coverage
- Strengthen mother and child health activities through health centres
- Strengthen community involvement in prevention activities such as;
    - Breast feeding support groups
    - Peer to peer learning
    - Promotion of balanced diet and kitchen gardens.

Long Term

- Strengthen the existing nutrition surveillance system to identify areas of higher acute malnutrition
- Roll out nutrition surveillance through annual surveys

5.5. Education

Short-term

- Rehabilitation of all damaged school infrastructure

Medium to long term

- Tents should be prepositioned to provide temporary learning facilities during the floods. This will minimise disruptions in the learning process.

- Provision of incentives for the teachers to be motivated to continue teaching during the flood period. This can be done through provision of relief food and non food items.
- Pre-positioning of fairly big speed boats to ensure that children are rescued during the floods, to avoid loss of life or children missing. It could also help to transport children to schools across flooded rivers.

5.6. Social Protection

Short-term

- The Ministry of Community Development and Social Services (MCDSS) and its partners must empower families that are keeping orphans and vulnerable children.

Medium to long term

- Build capacities of enforcement agencies such as the police and community support groups to monitor gender based violence and child protection activities

5.7. Human Habitation and Shelter

Medium to long term

- Safer lands to be identified on the uplands and be provided with basic infrastructure such as boreholes, health and educational services for the resettling of the flood displaced persons.
- Sensitize population residing in flood prone areas on the importance of relocating to higher grounds.
- Introduce alternative sustainable livelihood sources for the resettled populations such as crop production and bee keeping

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6. Zambia Health Demographic Survey, CSO 2007

ANNEXES

Annex 1: Household Questionnaire

ZVAC In-depth Vulnerability and Needs Multi-Sectoral Assessment (May 2009) **Questionnaire ID** |__|__|__|__|__|__|__|	
Province Name:	**Province Code** |__|
District Name:	**District Code** |__|__|__|
Constituency Name:	**Constituency Code** |__|__|__|
Ward Name:	**Ward Code** |__|__|
CSA NAME	**CSA Code** |__|__|
SEA NAME	**SEA Code** |__|
Enumerator Name:	**Rural = 1 Urban = 2** |__|
Date of Interview: _____/_____/_____/ **DD MM YY**	**Time Start Interview:____/____/**

Household Demographics			
1	**Sex** of household head	**1** = Male **2** = Female	|__|
1a	**Sex** of main respondent	**1** = Male **2** = Female	|__|
2	**Age** of household head (completed years)	**1=** Up to 15years **2=** 16 to 19 years **3=** 20 to 39 years **4=** 40 to 59 years **5=** 60 years or older	|__|
2a	**Marital** status of household head	**1** = married *- go to 3, else go to 3b* **2** = widowed **3** = divorced 4 = separated **5** = single	|__|
3	**Age** of Spouse (years)	**1=** Up to 15years **2=** 16 to 19 years **3=** 20 to 39 years **4=** 40 to 59 years **5=** 60 years or older	|__|
3a	What is the education level for the spouse?	**1 =** Never been to school **2 =** Primary **3 =** Secondary **4 =** Tertiary **5 =** Other, specify:_____	|__|

3b	What is the education level for the household head?	**1 =** Never been to school **2 =** Primary **3 =** Secondary **4 =** Tertiary **5 =** Other, specify:_____	|__|
4	**Household Size** – How many people eat and stay in the household permanently? **verify = sum (questions 5-6d)**	**4a –** males |__|__|	**4b** females |__|__|
5	Number of children under 5 years of age (**up to 59 months**)	**5a –** males |__|__|	**5b** females |__|__|
6i	Number of children **5-15** years of age	**6a –** males |__|__|	**6b** females |__|__|
6ii	Number of persons aged **16-19** years	**6c –** males |__|__|	**6d** females |__|__|
6iii	Number of persons **20-39** years of age	**6e –** males |__|__|	**6f** females |__|__|
6iv	Number of persons **40–59** years of age	**6g –** males |__|__|	**6h** females |__|__|
6v	Number of adults **60** or **older**	**6i –** males |__|__|	**6j** females |__|__|
7i	How many of these persons are **chronically unable** to work for **health** reasons?	**7a –** males |__|__|	**7b** females |__|__|
7ii	How many of these persons are **chronically unable** to work for **disability** reasons?	**7c –** males |__|__|	**7d** females |__|__|
8	Number of **orphaned children** (defined as "**both** parents lost" and "less than 15 years of age") in the household**.**	**8a –** males |__|__|	**8b** females |__|__|
9	Number of school children who **dropped out** of school in the last 6 months ***go to question 10 if no child(ren) dropped out***	**9a –** males |__|__|	**9b** females |__|__|

9c	**Three main reasons for dropping out of school for boys (Please indicate where √ appropriate)** **1=** Family can't afford fees/costs |__| **2=** Work outside home for food or cash |__| **3=** Help with household activities |__| **4=** Care for sick family member |__| **5=** Hunger |__| **6=** Not interested/Bad pupil |__| **7=** Damaged Roads/Bridges |__| **8=** Collapsed School Buildings |__| **9=** Other; specify_____	**9d. Three main reasons for dropping out of school for Girls (Please indicate where √ appropriate)** **1=** Family can't afford fees/costs |__| **2=** Work outside home for food or cash |__| **3=** Help with household activities |__| **4=** Care for sick family member |__| **5=** Hunger |__| **6=** Not interested/Bad pupil |__| **7=** Damaged Roads/Bridges |__| **8=** Collapsed School Buildings |__| **9 =** Pregnancy |__| **10 =** Early Marriage |__| **11=** Other; specify_____

10	Main type of cooking fuel used by the household.	**1 =** Electricity **2 =** Fire wood **3 =** Charcoal **4 =** Kerosene **5 =** Gas **6 =** Kraal manure **7 =** Other, specify_____	|__|
10a	Main type of lighting used by the household	**1 =** Electricity **2 =** Fire wood **3 =** candle **4 =** Kerosene **5 =** Gas **6 =** Kraal manure **7 =** Other, specify_____	|__|
10b	What type of housing is occupied by the household?	**1 =** Traditional hut (pole & mud) **2** = Improved traditional hut (unburnt bricks) **3** = Improved traditional hut (Burnt Bricks) **4** = Conventional house **5** = Other, specify_____	|__|
10c	What material is the roof made of?	**1 =** Asbestos sheets **2 =** Corrugated Iron sheets **3 =** Thatch **4** = Other, specify _____	|__|
10d	Has your household been displaced between December 2008 and March 2009 due to floods?	**1** = Yes **2** = No	|__|

11	How many of the following productive assets are owned by your household? *Please do not leave any cell blank, and indicate actual number of assets in the appropriate column*			**12. Reason for change** 1=Sale 2=Purchase 3=Gift 4=Damaged 5=Stolen 6=Other, specify
	Type of Asset **Indicate** **1** = Yes **2** = No	**Number of Assets Owned Now** (May 09)	**Number of Assets Owned same time last year** (May 08)	
	Hoe |__|	**11a** |____|	**11a1** |____|	**12a1** |__|
	Plough |__|	**11b** |____|	**11b1** |____|	**12b1** |__|
	Canoe/Boat |__|	**11c** |____|	**11c1** |____|	**12c1** |__|
	Bicycle |__|	**11d** |____|	**11d1** |____|	**12d1** |__|
	Ox Cart |__|	**11e** |____|	**11e1** |____|	**12e1** |__|
	Fishing Net |__|	**11f** |____|	**11f1** |____|	**12f1** |__|
	Sewing Machine |__|	**11g** |____|	**11g1** |____|	**12g1** |__|
	Hair drier |__|	**11h**|____|	**11h1** |____|	**12h1.** |__|

	Popcorn machine |__|	**11i** |____| **11i1** |____|	**12i1.** |__|
	Telephone Booth |__|	**11j** |____| **11j1** |____|	**12j1.** |__|
	Hammer mill |__|	**11k** |____| **11k1** |____|	**12k1.** |__|
	Hand mill |__|	**11l** |____| **11l1** |____|	**12l1.** |__|
	Cell phone |__|	**11m** |____| **11m1** |____|	**12m1.** |__|
	Hair cut (Barber Shop) |__|	**11m** |____| **11n1** |____|	**12n1** |__|
	Other Assets …… ……	**11o** |____| **11o1** |____|	**12o1.** |__|
13	Does your household own any livestock? 1 = Yes 2 = No		|__|
14	Indicate the number of livestock that household owns?		

		Number of Assets Owned Now (May 09)	**Number of Assets Owned same time last year** (May 08)	**15.State reason for change** 1=Sale 2=Purchased 3=Gift Given 4=Stolen 5=Died 6=Reproduction 7=Consumption 8=Other, specify
		Cattle |__|__|__|__|	Cattle |__|__|__|__|	**15a** |__| **15a1** |__|
		Goats |__|__|__|__|	Goats |__|__|__|__|	**15b** |__| **15b1** |__|
		Sheep |__|__|__|__|	Sheep |__|__|__|__|	**15c** |__| **5c1** |__|
		Donkeys |__|__|__|__|	Donkeys |__|__|__|__|	**15d** |__| **15d1** |__|
		Poultry |__|__|__|__|	Poultry |__|__|__|__|	**15e** |__| **15e1** |__|
		Pigs |__|__|__|__|	Pigs |__|__|__|__|	**15f** |__| **15f1** |__|

C. HOUSEHOLD LIVELIHOODS & EXPENDITURE PATTERNS: – 2008/09 Season		
16	What are the three main livelihoods for your household? **16.1** |__|__| **16.2** |__|__| **16.3** |__|__| ***first*** ***Second*** ***Third***	**17.** What is the percentage contribution of each of the identified livelihoods to total household income? (*Use proportional pilling to derive the % estimates*) **17.1** |__|__| **17.2** |__|__| **17.3** |__|__| ***first*** ***Second*** ***Third***
18	What are your household three (3) most important income sources (2008/09 season)?	**18.1** First |__|__| **18.2** Second |__|__| **18.3** Third |__|__|
19	What were your household's three (3) most important income sources last year (2007/08 season)?	**19.1** First |__|__| **19.2** Second |__|__| **19.3** Third |__|__|

Livelihood codes: *1 = formal employment* *2 = Money lending* *3 = Cash crop production/ Food crop production* *4 = casual labour* *5 = begging*	*6 = livestock production* *7 = skilled trade/artisan* *8 = small business(cross border, Kantemba, etc)* *9 = petty trading (sale of clothes, charcoal, e.t.c.)* *10 = brewing*	*11 = fishing* *12 = vegetable production* *13 = Hair dressing* *14 = Stone crushing* *15. Other,* *specify*_____ ____

20	What was the estimated amount of money spent on the following **last month**?	1. Food |__|__|__|__|__|__|__|__| 2.Rent |__|__|__|__|__|__|__|__| 3. Transport |__|__|__|__|__|__|__|__| 4. Alcohol & Tobacco |__|__|__|__|__|__|__|__| 5. Electricity, Charcoal, Fuel (wood, paraffin, etc.) |__|__|__|__|__|__|__|__| 6. Water |__|__|__|__|__|__|__|__| 7. Household items (soap, etc.) |__|__|__|__|__|__|__|__| 8. Medical expenses/health care |__|__|__|__|__|__|__|__| 9. Clothing, shoes |__|__|__|__|__|__|__|__| 10. Debt repayment |__|__|__|__|__|__|__|__| 11. Education, fees, uniforms |__|__|__|__|__|__|__|__| 12. Celebrations, funerals, social |__|__|__|__|__|__|__|__|
Agricultural Production and HOUSEHOLD FOOD SECURITY		
Cereal Production – LAST Year's Harvest 2007/08 (WET SEASON):		
21	Does your household have access to any arable land (back yard or field)	**1** = Yes **2** = No – **go to Q31** |__|

21a	What is the size of arable land you have access to?	**1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None
22	If the household has access to arable land, how much of it was cultivated during the **2008/09** agricultural season?	**1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None
23	What amount of arable land was cultivated during the **2007/08** agricultural season?	**1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None
24	Compared to last season (2007/08), how much of this arable land has been cultivated this season (2008/09)?	**1** = Less , **2** = Same, **3** = Larger |__|

24a	If response to Q 24 is "**Less** or **Same**", what was the main reason for not cultivating part and/or the whole field? *Please make sure you Indicate √ where appropriate*	1. Planned Fallow |__| 2. Lack of labour |__| 3. Pest problems |__| 4. Illness in the household |__| 5. Lack of inputs (fertilizer and seed) |__| 6. Could not access land |__| 7. Floods/Water Logging |__| 8. Field rented out |__| 9. Other, specify_____

25	Did you grow any of the following staple crops during the 2007/08 rainy season? **1** = Yes **2** = No			
	Type of crop	**Produced (2008)**	**Quantity Sold (2008)**	**Quantity Given Away (2008)**
	Maize |___|	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**
	Sorghum |___|	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**
	Millet |___|	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**
	Rice (polished) |___|	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**
	Cassava |___|	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**	|__|__|__|. |__|__| **50kgs bags**

Cereal Production – WINTER (DRY SEASON) HARVEST 2008			
26	Does your household practice winter maize growing?	**1=** Yes **2=** No – *go to question 27*	|__|
26a	Did you cultivate any **winter (dry season) MAIZE** crop during 2008?	**1=** Yes **2=** No – *go to question 26c*	|__|

26b	If yes, what was your **TOTAL MAIZE** harvest during last year's dry season?	**|__|__|__|. |__|__| 50kgs bags**
26c	Do you intend to engage in winter production during 2009 dry season? **1 = Yes** - *go to question 27* **2 = No**	**26c.** If response to question *26c* is "No", **state the reason why and after go to Question 27** **1** = Insufficient Moisture |__| **2** = Lack of money to buy inputs |__| **3** = Limited wet land/Dambo areas |__| **4** = Non availability of seeds from the market |__| **5** = Other (specify)_____
26d	What is the size of the arable land you intend to cultivate?	**1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha
Production – ALL -YEAR TUBER/Root HARVEST 2008/09 Season		
27	Do you grow **cassava** for your **own consumption** and/or for **sale**?	**1=** Yes for **consumption** **2 =** Yes for **sale** |__| **3** = Yes, **both consumption and sale** **4=** No – *go to question 28*
27a	Do you eat cassava as a main **staple** food or as a **snack**?	**1=** Staple *go to question 27b* **2=** Snack *go to question 27c* |__| **3=** Both *go to question 27b*
27b	For how many months of this past year did you eat **cassava** as main staple from own production?	**1 =** <3 mo **2 =** 3-6 mo **3 =** 6-9 mo |__| **4 =** >9 mo

27c	How much **land** did you have under **MATURE CASSAVA** last year (2007/08)? **1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None	**27d.** How much land do you have under **MATURE CASSAVA** (2008/09)? **1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None
28	Do you grow **sweet potatoes** for your **own consumption**?	**1=** Yes **2=** No – *go to question 28b* |__|
28a	For how many months of this past year did you eat **sweet potatoes**?	**1 =** <3 months **2 =** 3-6 months **3 =** 6-9 months **4 =** >9 months |__|
28b	Do you grow **sweet potatoes** for **sale**?	**1=** Yes **2=** No – *go to question 29* |__|
28c	How much **land** did you have under **SWEET POTATOES** last year (2007/08)? **1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None	**28d.** How much land did you have under **SWEET POTATOES** this year (2008/09)? **1** =<0.5 ha **2** = 0.5 to 1 ha **3** = 1 to 2 ha |__| **4** = > 2 ha **5** = None

PRODUCTION – CURRENT (WET SEASON) HARVEST 2008/09					
29	Did you grow any of the following crops? **1** = yes **2 =** No ***(If no to all the crops below, go to Q31)*** |__|				
	Type of Crop	Production	Sales	Give Away	**Compare 2007/08 and 2008/09 harvest (quantities)** **1**=Less **2**=Same **3**=More
	Maize |___|	|__|__|__|. |__|__| 50kg bags	|__|__|__|. |__|__| 50kg bags	|__|__|. |__|__| 50kg bags	|__|
	Millet |___|	|__|__|__|. |__|__| 50kg bags	|__|__|__|. |__|__| 50kg bags	|__|__|. |__|__| 50kg bags	|__|
	Sorghum |___|	|__|__|__|. |__|__| 50kg bags	|__|__|__|. |__|__| 50kg bags	|__|__|. |__|__| 50kg bags	|__|
	Cassava |___|	|__|__|__|. |__|__| 50kg bags	|__|__|__|. |__|__| 50kg bags	|__|__|. |__|__| 50kg bags	|__|
	Rice (polished) |___|	|__|__|__|. |__|__| 50kg bags	|__|__|__|. |__|__| 50kg bags	|__|__|. |__|__| 50kg bags	|__|
30	For how many months did the household consume green maize?		|__|__| **months**		
30a	Has your household had premature MAIZE harvest for its own consumption?		**1** = Yes **2** = No – go to question 31		
30b	If yes, **how many 50 kg bags** have you harvested early?		|__|__|. |__|__| **50kg bags**		
30c	What are the reason(s) why you consumed pre-mature maize?		**1=**Depleted own-stocks 1 = Fear of crops being washed away 2 = Theft 3 = Short of staple on the market 4 = Animal destruction 5 = Other (specify) …… …….		

Other Direct Sources of Cereal – 2008/09			
31	Did the household acquire or earn cereal from **casual labor** from ***January 2009 to date***?	**1=** Yes **2=** No – *go to question 32*	|__|
31a	Approximately how many **kilograms** were acquired /earned?	|__|__|__|__|__|__|**.** |__|__| ***Kg***	
32	Did any member of this household **purchase** cereal/meal from ***January 2009 to date***?	**1=** Yes **2=** No – *go to question 33*	|__|
32a	Approximately how many **kilograms** were purchased?	|__|__|__|__|__|__|**.** |__|__| ***Kg***	
33	Did any member of this household receive cereal as **gifts** from relatives, neighbours, or friends from ***January 2009 to date***?	**1=** Yes **2=** No – *go to question 34*	|__|
33a	Approximately how many **kilograms** were received?	|__|__|__|__|__|__|**.** |__|__| ***Kg***	
34	Do you have carry **over stocks** from 2007/08 agricultural season?	**1 = Yes** **2 = No** – *go to question 34b* |__|	
34a	If response in question 34 is **yes**, specify quantity	|__|__|__|__|__|__|**.** |__|__| ***Kg***	
34b	State month when food ran out	|__|__|	
Relief food – January 2009 to April 2009			
35	Did any member of this household earn cereal from **Relief food** from ***January 2009 to date***?	**1=** Yes **2=** No – *go to question 36*	|__|
35a	If **yes** to question 35, under what type of relief food programme was the cereal received?	**1** = Food For Work |__| **2** = Home Based Care **3** = ART |__| **4** = General Food Distribution (Free Food) |__| **5** = Other, specify:_____ |__|	
35b	Approximately how many **kilograms** were earned?	|__|__|__|__|__|__| ***Kg***	

36	Did any member of this household receive any **HEPS** as **Relief food - Supplementary Assistance** from **January 2009 to date**?	**1=** Yes **2=** No – *go to question 37*	|__|
36a	Approximately how many **kilograms** were received?	|__|__|__|__|__|__| ***Kg***	
37	Did any primary school children receive any **prepared food** at school?	**1=** Yes **2=** No – *go to question 38*	|__|
37a	How frequently did this/these child(ren) receive this food?	**1 =** daily **2 =** once weekly **3 =** irregularly	|__|

Food Purchases during the last Consumption Year: 2008/09			
38	What is the main staple consumed by your household?	1 = Maize 2 = Cassava 3 = Millet 4 = Sorghum 5 = Maize and Cassava 5 = Other, specify _____	|__|
38a	Since **2008/09** consumption season until now, have you purchased **CEREAL** for your household consumption?	**1 =** Yes **2 =** No **–** *go to question 39*	|__|
38b	If yes to question **38a**, indicate the month (√)?	**38a1**. May 08 |__| **38a11.** Mar09 |__| **38a2.** Jun 08 |__| **38a12** Apr09 |__| **38a3**. Jul 08 |__| **38a4**. Aug 08 |__| **38a5**. Sep 08 |__| **38a6**. Oct 08 |__| **38a7**. Nov 08 |__| **38a8**. Dec 08 |__| **38a9**. Jan 09 |__| **38a10**. Feb 09 |__|	
38c	If yes to *question **38a***, how much of cereal have you purchased so far.	|__|__|__|__|__|__| **KG**	
39	Compared to last consumption year **(2008/09)**, do you expect to purchase **more**, the **same** or **less** cereals?	**1 =** Less **2 =** Same *(go to question 40)* **3 =** More **4 =** Never purchase cereals *(go to question 40)*	|__|

39a	If respondent doesn't expect to purchase the **SAME** amount of cereals: **What is the main reason?**	**1.** Will need **less** cereals: will have **better** harvest than last year **2.** Will need **more** cereals: harvest is **worse** than last year **3.** Will be able to buy **less** cereals: have lower **income** **4.** Will be able to buy **less**: expect less to be **available** **5.** Will be able to buy **more** cereals: **income** higher than last year **6.** Will be able to buy **more**: more is **available** on the market **7.** Rarely/do not eat cereals: consume tubers instead	|__|
40	Is **cassava** your main staple food?	**1=** Yes **2 =** No |__|	
40a	Since 2008/9 marketing season until now, did anyone in your household **purchase CASSAVA** to **eat**?	**1=** Yes **2=** No – *go to question 41* |__|	
40b	Do you **normally** buy cassava every year?	**1=** Yes – *go to question 40c* **2=** No |__|	
40c	Why did you buy **tubers/roots** during 2007/08 season?	**1=** Could not afford to buy cereals **2=** Could afford cereals, but could not find any cereals to buy **3=** Some but not enough cereals available at markets **4=** Cereal crop failure made purchases necessary **5=** Tuber crop failure made purchases necessary **6=** Total crop failure made purchases necessary **7=** Other, specify_____	|__|
Agricultural Inputs (Cereals) – 2008/09 Production Season			
41	State whether this is a farming household or not	**1 =** Farming **2 =** Non Farming – go to Q46	|__|

41a	Where did you get your seeds from?	**1 =** Previous harvest |__| **2 =** MACO (Fertilizer Support Programme) |__| **3 =** MCDSS/PAM (Food Security Pack) |__| **4 =** Cooperatives |__| **5 =** Purchased |__| **6 =** Gifts **7 =** Other, specify: _____	|__|
41b	Was the seed for your main **cereal** crop adequate?	**1 =** Yes (*go to question 42)* **2 =** No **3 =** No cereal crops (*go to question 44)*	|__|
41c	If not, what was the **main** reason?	**1=** Could not afford to purchase seeds **2=** Could afford, but seeds came late into the market **3=** Could afford, but there were no seeds at the market at any stage **4=** Usually obtain as gifts/remittance, this year didn't get enough **5 =** Not enough own-production of seeds last season **6 =** Could not access seeds due to damaged roads/bridges	|__|
42	Did you have access to fertilizer for your main **cereal** crop in the last growing season?	**1 =** Yes (*go to question 44)* **2 =** No	|__|
42a	If not, what was the main **reason**?	**1=** Could not afford to purchase **2=** Could afford, but it was not available in the market **3=** Could afford, but came too late to market **4=** Normally given as a gift/loan against harvest, this year none received **5=** Communal consensus not to use fertilizer **6=** Personally afraid/concerned to use fertilizer **7** = Other, specify _____	|__|

43	If you could identify the 3 **main limitations** to your last growing season's **cereal** production, what would they be?	**0=** The production was very good – no limitations *(go to question 44)* **1=** Lack of seeds **2=** Lack of labour power **3=** Lack of draught power **4=** Lack of fertilizer and/or manure **5=** Too little/irregular rainfall **6=** Excessive rainfall – water logging or flooding **7=** Too many pests **8=** Too much fungus infection **9=** Too many weeds **10=** Not enough land available/allocated to the household **11=** Too busy looking after sick family member **12=** Other, specify _____ 1. |__|__| 2.|__|__| 3.|__|__| **First** **Second** **Third**	
44	Did you have adequate seeds for your main **legume** (beans, peas, soya beans groundnut) crop during the last growing season?	**1 =** Yes (*go to question 45)* **2 =** No (*go to question 44a)*	|__|
44a	If not, what was the main **reason**?	**1=** Could not afford to purchase seeds **2=** Could afford, but seeds came late into the market **3=** Could afford, but there were no seeds at the market at any stage **4=** Usually obtain as gifts/remittance, this year didn't get enough **5 =** Not enough own-production of seeds last season 6 = Other, specify: _____	|__|
45	Did you apply **manure** to any of your field crops during 2007/08 growing season?	**1 =** Yes **2 =** No	|__|

45a	Did you use conservation farming methods on any of your field crops during 2007/08 growing season?	**1 =** Yes **2 =** No	|__|

F. Coping Strategies from December 2008 – May 2009		
Consumption Strategies		
46 How many main meals does your household normally have in a day?		**1** = One **2** = Two |__| **3** = Three **4** = More than three
46a How many main meals did your household have yesterday?		**1 =** None **2** = One **3** = Two |__| **4** = Three **5** = More than three
47	Has the household borrowed food, or money to buy food in the past 6 months?	**1=** Yes **2=** No |__|
48	Has the household received food, or money to buy food, from relatives, friends, or neighbours outside the household in the past 6 months?	**1=** Yes **2=** No |__|
49	Has the household received food from a wealthy person in the village in the past 6 months?	**1=** Yes **2=** No |__|
50	Has the household received any food assistance from a Church or other religious institution in the past 6 months?	**1=** Yes **2=** No |__|
51	Has the household received food relief from any other source in the past 6 months?	**1=** Yes **2=** No |__|
52	Has the household relied on less preferred foods in the past 6 months?	**1=** Yes **2=** No |__|
53	Have the household members regularly reduced the number of meals eaten per day?	**1=** Yes **2=** No |__|
54	Have HH members regularly skipped entire days without eating due to lack of money or food?	**1=** Yes **2=** No |__|
55	Has the HH relied on the consumption of wild foods (fruits, tubers, cereals) more than normal during this time of the year?	**1=** Yes **2=** No |__|

56	Has the HH relied on the consumption of own-caught fish more than normal during this time of the year?	**1=** Yes **2=** No |__|
57	Has the HH relied on the consumption of game meat more than normal during this time of the year?	**1=** Yes **2=** No |__|
58	Has the household eaten meals consisting only of vegetables more than normal?	**1=** Yes **2=** No |__|
59	Has the household slaughtered more domestic animals than normal for food?	**1=** Yes **2=** No |__|
Expenditure Strategies		
60	Has the HH been forced to take any children **ages 6-15** out of school because of hunger?	**1=** Yes **2=** No |__|
61	Has the HH reduced overall expenditure on education due to hunger?	**1=** Yes **2=** No |__|
62	Has the HH reduced expenditure on healthcare?	**1=** Yes **2=** No |__|
63	Has the HH reduced expenditure on hired labour or draught power?	**1=** Yes **2=** No |__|
64	Has the HH reduced expenditure on purchased agriculture inputs e.g. seeds, fertilizer?	**1=** Yes **2=** No |__|
65	Has the HH reduced expenditure on veterinary medicines?	**1=** Yes **2=** No |__|
66	Other, specify: ……..	**1=** Yes **2=** No |__|
Income Strategies		
67	Has the HH sold more than the usual amount of livestock/poultry?	**1=** Yes **2=** No |__|
68	Has the HH sold other HH assets (furniture, electronics) to buy food?	**1=** Yes **2=** No |__|
69	Has the HH sold productive assets (hoes, ploughs, draught animals) to buy food?	**1=** Yes **2=** No |__|
70	Have additional HH members had to find casual work to get food, or money to buy food?	**1=** Yes **2=** No |__|
71	Have additional HH members entered the Income Generating Activity (IGA) sector for the first time e.g. sale of handicrafts, charcoal?	**1=** Yes **2=** No |__|
72	Other, specify: ……..	**1=** Yes **2=** No |__|

G. Water and Sanitation			
74	What is the main source of drinking water?	**1=** river or lake **2=** unprotected spring **3=** protected spring **4=** unprotected well **5=** protected well **6=** borehole **7=** piped water **8=** Other, specify_____ _____	|__|
75	Did your main water source get flooded?	**1 =** Yes, continued using **2 =** Yes, stopped using, *go to Question 75a* **3 =** No	|__|
75a	If **Yes, stopped using**, What was the alternative water source for the household	**1=** river or lake **2=** unprotected spring **3=** protected spring **4=** unprotected well **5=** protected well **6=** borehole **7=** piped water **8=** Other, specify_____ _____	|__|
75b	Do you treat the water before drinking? **1=**Yes **2=**No |__|	**75c.** If yes to question 75b, State how? **1 =** Use of Chlorine |__| **2 =** Boiling |__| **3 =** Filtering |__| **4 =** Other, specify:_____	
76	What is the distance of the water source to your house?	**0 =** On premises **1 =** Less than 100m **2 =** 100 – 500m |__| **3 =** 500m and above	
77	Compared to the same period last year (May 2008), how is the quantity of water at your main source?	**1 =** Less **2 =** Same **3 =** More	|__|

77a	What is the quality of water being used for domestic purposes	**1** = Good – go to Q78 **2** = Poor	|__|
77b	State the reason for the response in question 77a.	**1 =** Taste **2 =** Odour **3 =** Colour **4** = Other, specify;_____	|__|
78	Does your household conduct any irrigation? **1 =** Yes *go to question **78b*** **2 =** No *go to question **78a*** |__|	**78a.** If "**No**" to question state the reason why? *Indicate √ where appropriate* **78a.1** Field too far from water source |__| **78a.2** No pumps/pipes |__| **78a.3** No manpower to draw water |__| **78a.4** Other, specify: _____ .	
78b	If **yes** to question 78, ? *Please make sure you Indicate √ where appropriate*	**78b1** River |__| **79b2** Dam |__| **78b3** Shallow well |__| **78b4** Hand dug well |__| **78b5** Borehole |__| **78b6** Lake |__| **78b7** Spring |__| **78b8** Dambo |__| **78b9** Other, |__| specify:_____	
79	What main sanitary disposal facility does your household use?	**1** = VIP **2** = Flash Toilet **3** = Traditional Latrine **4** = Sanplat (Improved Traditional) **5** = No facility (i.e. Bush, river, CAT Method) **6** = Bucket **7** = Other, specify: _____	
80	What does the household use for washing hands?	**0 =** None **1 =** Soap **2 =** Ash **3** = Other, specify_____	|__|
80a	Do household members wash their hands before preparing food?	**1 =** Yes **2 =** No	|__|
80b	Do you wash your hands with soap after using the toilet?	**1 =** Yes **2 =** No	|__|

HEALTH Cont'd **List everyone who lived in this household from January 1, 2009 to date. Also ensure children who were born in the same are recorded.**						
Member ID	**82**. Age (Years)	**82a** Sex **1 =** Male **2 =** Female	**83.** What is the individual's current status? **1 =** Alive & living in the house (**go to 87**) **2 =** Alive & living elsewhere **3 =** Died **4 =** Don't know	**84.** State the **month** when the individual died or left the household to live elsewhere?	**85.** For the individual that died, state the cause of death? **1 =** Injury: car accident, fall, drowning, poisoning **2 =** Diarrhoea: 3 or more loose, watery stools in a 24 hour period **3 =** Bloody Diarrhoea: 3 or more loose watery stools with blood in a 24 hour period **4 =** Measles: Any episode of fever accompanied by an eruption/rash accompanied by a runny nose and/or cough and/or runny eyes **5 =** Fever: High temperature with shivering **6 =** Difficulty Breathing: Any episode of difficulty breathing or severe persistent coughing **7 =** Meningitis: **8 =** TB: **9 =** Suspected malaria: **10 =** Other; specify_____	**86** Was the individual that died chronically ill for 3+ months? **1 =** Yes **2 =** No
1	____	__	__	____	____	__
2	____	__	__	____	____	__
3	____	__	__	____	____	__
4	____	__	__	____	____	__
5	____	__	__	____	____	__
6	____	__	__	____	____	__
7	____	__	__	____	____	__
8	____	__	__	____	____	__
9	____	__	__	____	____	__
10	____	__	__	____	____	__
11	____	__	__	____	____	__
12	____	__	__	____	____	__

HEALTH Cont'd

List everyone who lived in this household from January 1, 2009 to date. Also ensure children who were born in the same are recorded

Member ID	**82**. Age (Years)	**82a** Sex **1 =** Male **2 =** Female	**83.** What is the individual's current status? **1 =** Alive & living in the house (**go to 87**) **2 =** Alive & living elsewhere **3 =** Died **4 =** Don't know	**84.** State the **month** when the individual died or left the household to live elsewhere?	**85.** For the individual that died, state the cause of death? **1 =** Injury: car accident, fall, drowning, poisoning **2 =** Diarrhoea: 3 or more loose, watery stools in a 24 hour period **3 =** Bloody Diarrhoea: 3 or more loose watery stools with blood in a 24 hour period **4 =** Measles: Any episode of fever accompanied by an eruption/rash accompanied by a runny nose and/or cough and/or runny eyes **5 =** Fever: High temperature with shivering **6 =** Difficulty Breathing: Any episode of difficulty breathing or severe persistent coughing **7 =** Meningitis: **8 =** TB: **9 =** Suspected malaria: **10 =** Other; specify_____	**86** Was the individual that died chronically ill for 3+ months? **1 =** Yes **2 =** No
13	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
14	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
15	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
16	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
17	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
18	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
19	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
20	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|

Newborn	**Age in Months**	***Sex (M or F)***	***Current Status (as above)***	***If died, or left, when? (Month)***	***Cause of death (as above)***	***Chronically ill?***
21	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|
22	|__|__|	|__|	|__|	|__|__|	|__|__|	|__|

THIS SECTION ONLY APPLIES TO ALL CHILDREN AGED BETWEEN 6 TO 59 MONTHS LIVING IN THE HOUSEHOLD AND THE MOTHER																			
87. Who is providing information on the child/children? **1 =** Mother **2 =** Father **3 =** Sister/Brother **4 =** Grand Parents **5 =** Other relatives |__|																		
88 How many children aged between 6 to 59 months live in your household |__|																		
Child_ID	Birthday **(DD/MM/YY)**	Age in months	Sex **1** = Male **2** = Female	Is child still breastfeeding **1 =** Yes **2 =** No **3 =** Don't Know	**In the past 2 weeks, has the child had any of these diseases?**					Source of immunization information **1 =** Card **2 =** Recall **3 =** Don't Know	Immunization *(Check on the child health card for immunization* ***Check children's under five cards*** Did the child receive any immunization supplementation **1** = Yes **2** = No								
					Fever **1 =** Yes **2 =** No	**ARI/cough** **1 =** Yes **2 =** No	**Diarrhea** **1 =** Yes Watery **2 =** Yes Bloody **3=** No	**Skin Infection** **1 =** Yes **2 =** No	**Measles** **1 =** Yes **2 =** No		**Measles**	OPV0	OPV1	OPV2	OPV3	DPT-HepB-Hib 1	DPT-HepB-Hib 2	DPT-HepB-Hib 3	BCG
1	__/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
2	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
3	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
4	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
5	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
6	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
7	___/____/___/	|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

Child_ID	**Mother_ID**	**Has the child received a vitamin A capsule in the last 6 months? (Show capsule)** 1 = Yes 2 = No	**Has child been dewormed in the last 6months** *(Children 12 months and above)* **1** = Yes **2** = No	**Age when started eating other foods** **1** = Below 6 months **2** = 6 months and above	**In the last 3 months, has the child been enrolled in any of the following?** **1** = Yes **2** = No **3** = Don't know			**Bilateral Oedema Present** 1 = Yes 2 = No	**Height (if no Oedema)** *Measure height twice If first and second measurement difference is=<0.2, get third measurement*	**Weight (if no Oedema)** *Measure weight twice If first and second measurement difference is=<0.2, get third measurement*	**Middle Upper Arm Circumference (MUAC) If no oedema**
					Supplementary feeding programme	Therapeutic feeding programme	Currently enrolled in Therapeutic feeding programme				
1 Under two years		|__|	|__|	|__|	|__|	|__|	|__|	|__|	**1.**|__|__|**.** |__|__|**cm**	**1.**|__|__|**.** |__|__|**kg**	|__|__|**.**|__|
									2.|__|__|**.** |__|__|**cm**	**2.**|__|__|**.** |__|__|**kg**	
2 Above two years		|__|	|__|	|__|	|__|	|__|	|__|	|__|	**1.**|__|__|**.** |__|__|**cm**	**1.**|__|__|**.** |__|__|**kg**	|__|__|**.**|__|
									2.|__|__|**.** |__|__|**cm**	**2.**|__|__|**.** |__|__|**kg**	

Note: Vitamin A Color Code, 6-11 months = Blue Capsule, 12 months and above = Red Capsule

MOTHER AND WOMEN OF CHILD BEARING AGE (15 – 49 YEARS)	
89. Are there mothers/ care takers or women between 15 and 49years old in this household?	**1 =** Yes **2 =** No–*go to question 101* |__|
89a. Are you currently pregnant?	**1 =** Yes **2 =** No–*go to question 100* |__|
90. Are you currently taking iron and float tablets?	**1 =** Yes **2 =** No **3 =** Don't know |__|
91. Middle Upper Arm Circumference (MUAC)	**|__|__|.|__|__|cm**

Note: Please ask the biological mother of the under five children indicated on page 20.

92.Could you please tell me how many days in the **past one week** your household has eaten the following foods and what the source was *(use codes on the right, write 0 for items not eaten over the last 7 days and if several sources, write the main)*							
92a	Yesterday, how many times did the men in this household take a meal?						[____]
92b	Yesterday, how many times did the under-five children in this household eat a meal?						[____]
92c	Yesterday, how many times did the children and women (5 years and above) in this household take a meal?						[____]
	Food item In the past one week, have your household eaten the following food items ↓		*Number of days eaten last 7 days* Men	Children	Women		What is the **main source** of *(the food item consumed)* 1= Own production 2= Purchase 3= Gifts 4= Barter 4= Gathering from the bush 5= Food assistance. 88. Other (specify) ……
	Cereal	Nshima Bread, Rice, Millet, Sorghum, Samp, Wheat or foods made from these food items	[____]	[____]	[____]		[____]
	White tuber	Irish potatoes, Sweet Potatoes, Yams, Cassava	[____]	[____]	[____]		[____]
	Yellow and Orange	Pumpkin, carrots, Squash, or Sweet	[____]	[____]	[____]		[____]

	Vegetable and tubers	potatoes that are orange in-side + other locally available vitamin A rich vegetable					
	Dark-leafy vegetables	Sweet pepper , dark green leafy vegetable, including wild ones + locally available vitamin A rich leaves such as cassava leaves etc	[____]	[____]	[____]		[____]
	Vitamin A rich fruits	Ripe mangoes, pawpaw, other locally available vitamin A rich fruits	[____]	[____]	[____]		[____]
	Other fruits	Other fruits, including wild fruits, citrus fruits	[____]	[____]	[____]		[____]
	Meat	Beef, goat, pork, lamb, rabbit, wild game chicken, duck, other birds, liver, kidney, heart, other organ meats or blood based foods	[____]	[____]	[____]		[____]
	Eggs	[redacted]	[____]	[____]	[____]		[____]
	Fish	Fresh or dry	[____]	[____]	[____]		[____]
	Legume, nuts and seed	Beans, peas, lentils, nuts, seed or foods made from these	[____]	[____]	[____]		[____]
	Milk and milk products	Milk, cheese, yogurt or other milk products	[____]	[____]	[____]		[____]
	Oils and fats	Oil, fats or butter added to food or used for cooking.	[____]	[____]	[____]		[____]
	Sugary Foods	Sugar, honey, sweetened soda or sugary food such as chocolates, sweets or candies.	[____]	[____]	[____]		[____]

SOCIAL PROTECTION				
93. Are there any reports in this household of violence against women and children since the floods? Please indicate in the options below if any				
Type of violence	**1 =** Yes **2** = No	Number of Incidences	State the main perpetrators? **1 =** Relatives/Neighbours **2 =** Development Workers **3 =** Other; specify: _____	Comments
Rape	|__|	|__|__|	|__|	
Early marriage	|__|	|__|__|	|__|	
Child Defilement	|__|	|__|__|	|__|	
Assault	|__|	|__|__|	|__|	
Sexual Exploitation	|__|	|__|__|	|__|	
Others (specify)	|__|	|__|__|	|__|	

Please thank your respondent

Time End Interview: ____/____/

Annex 2: Community Questionnaire

ZVAC In-depth Needs and Vulnerability Multi- Sectoral Assessment (May 2009)
Community Focus Group Discussion

Questionnaire ID |__|__|__|__|__|__|__|

Composition of Interviewees:

The composition of the interviewees should include 8 - 12 key informants. Note that gender balance should be observed. The interviewees must be a mixed group that should at least include any of the following; village headman, elders, teachers, pastors or priests, Ministry of Agriculture Extension workers, local NGO workers, nurse/health workers, representative of women's groups, e.t.c.

Province Name:	**Province Code |__|**
District Name:	**District Code |__|__|__|**
Constituency Name:	**Constituency Code |__|__|__|**
Ward Name:	**Ward Code |__|__|**
CSA Name:	**CSA Code |__|__|**
SEA Name:	**SEA Code |__|**
Enumerator Name:	
Date of Interview:	**Enumerator Code |__|__|__|**
Rural = 1 Urban = 2 |__|	**Time Start Interview:____/____/**

1. Describe how the rainfall pattern was in this community during the 2008/2009 production season |__|

   1=Normal **2**= Floods **3** = Floods and dry spells

2. What was the effect of adverse rainfall performance on the following (Use proportional pilling)?

Impact on the following	**Level of Effects** 0 = No effect 1 = Less **(0 – 29%)** 2 = Moderate **(30- 69%)** 3 = Severe (**70-100%**)	**Comments/ Reasons**
Crop (production)		
Crop (stocks)		
Livestock (animal disease)		

Impact on the following		Level of Effects 0 = No effect 1 = Less (**0 – 29%**) 2 = Moderate (**30- 69%**) 3 = Severe (**70-100%**)	Comments/ Reasons
Livestock (poultry disease)			
Livestock (pasture)			
Health Services			
Water (availability)			
Sanitation (access)			
Market Access			
Income source			
Infrastructure	Education (e.g. Classrooms, teachers' houses)		
	Health (e.g. Clinic, RHP)		
	Public Building (e.g. Community Hall, Govt Building)		
Land Degradation			

Note: **Please Probe**

3. Food Crop and Livestock Availability

3a. What is the current staple food availability in the area compared to May 2008? **(1= More, 2= Same, 3=Less)**

Food Type	**Own Production**	**Other indirect sources** ***(e.g. Casual work, barter system, Relief food, inter district etc)***	*Comments (Specify)*
Maize			
Sorghum			
Millet			
Cassava (areas under mature cassava)			
Rice			
Other			

3b. How long does the main staple food from own production usually last in a normal year (indicate period in month)? ..... **Months**

3c. How long will the main staple food from own production last this year (indicate period in months)? ..... **Months**

3d. Compared to the same period last year, are the fish catches …….?

1= More **2= Same** **3=Less** |__|

4. Access and Livelihoods

4a Are there functional markets in this community? Yes |__| No |__| **go to Q4f**

4b Are these markets easily accessible? Yes |__| No |__|

4c If **No**, Why? |__|

1= impassable roads **2** = broken bridges **3** = destruction of market infrastructure
4 = too far

4d Does staple food on the market come from outside the community? Yes |__| No |__|

4e. Is the staple food readily available on the market in this community? Yes |__| No |__|

4f. What are the three (3) major livelihoods in this community? ***Rank in order of importance***

Rank Order	**Major Livelihood**
1.	
2.	
3.	

4g. What are the three major income sources for households in this community (compare current to May 2008)? ***Please rank in the order of importance as provided below;***

Income Source		
Rank Order	**May 2009**	**May 2008**
1		
2		
3		

4h. **C**ompare the current prices of staple foods to those of May 2008, Please insert price ranges in the table below;

Commodity	**Unit of measure**	**May -09 (price)**	**May - 08 (price)**	**Reason for price variation** (e.g. **1** = Increased harvest, **2** = Reduced harvest, **3** = Reduced demand, **4** = Increased demand, **5** = Other, specify in the appropriate row
Maize				
Sorghum				
Millet				
Rice				
Cassava				

4i. What is the current livestock availability in the area compared to May 2008? **(1= More, 2= Same, 3=Less)**

Livestock	**Availability**	**Comments (Reason for change?)**
Cattle		
Goats		
Sheep		
Pigs		
Poultry		
Other Specify		

4j. How have selling prices for livestock (live weight) been in the last five months (Dec 08 – May 09), on the local market?

Please indicate the price ranges in the table below;

Type of Livestock (full grown)	**Price Now (May 2009)**	**Dec 2008 (price)**	**Reason for price variation** (e.g. **1** = Livestock ban**, 2** = Increased demand, **3** = reduced demand, **4** = Other, specify in the appropriate row
Cattle			
Goats			
Sheep			
Pigs			
Poultry			
Other			

4k. Seasonal Calendar

Steps: 1. Select the most important food and income acquisition strategies from the following list and indicate their timing – by drawing a line – in the table below. Make sure you have covered all the main food and income generating activities of the poor.

2. Note which activities are carried out by men and which by women (in the 'Who?' column).**FM** = Female **M** = Male **B** = Both

For crops, indicate the timing of the following: LP (land preparation) P (planting) W (weeding) CG (consumption green) H (harvesting) Indicate variations in access with ▲ **Denoting peak access**

Food source/Income activity		Who?	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rainfall														
Main Crops for consumption:														
Main Crops for sale														
Livestock:														
Milk production														
Livestock sales														
Employment:														
- Local labour (e.g. on farms)														
- Off-farm employment (e.g. brick-making)														
Labour migration (where to?)														
Wild foods/Game														
Collection and consumption, by														
Fishing														
Food purchases														
Annual 'hunger' season - Timing														
Mining														

5. Health and Nutrition (To be collected from the DHMT/RHC)

5a. What is the total number of under-five (0-59 months) population in the clinic catchment area? **[ ]**

5b. How many under-fives (0-59), were treated for the common childhood illnesses? Please use the table below highlighting the common childhood illnesses and the number of deaths experienced;

Childhood Illness	**First Quarter**					
	2007		**2008**		**2009**	
	Disease Incidence	No. of deaths	Disease Incidence	No. of deaths	Disease Incidence	No. of deaths
Fever/Malaria						
Cough/ARI						
Diarrhea (non blood)						
Measles						

5c. What was the total number of children that attended under 5 clinic sessions in the quarter and how many were **under weight**?

Item	**First Quarter**		
	2007	**2008**	**2009**
Number of Under weight children			
Total Number of under five(5) children			

6.0 Water and Sanitation

6a. What are the three most common water sources in this community? Rank by order of level of use/Utility

a = Unprotected spring **b** = Protected spring **c** = Unprotected well
d = Protected well **e** = Borehole **f** = Piped Water
g = Other; specify _____

1|__| **2**|__| **3**|__|

6b. What percentage of the commonly used water sources for drinking and cooking were affected by floodwaters during 2008/09 rainy-season? (**use proportion piling**)

[ ]

6c. What percentage of the commonly used water sources for other domestic purposes were affected by floodwaters 2008/09 rainy-season? (use proportion piling)

[ ]

6d. Is the treatment of drinking water common in the community? **1**=Yes **2**=No |__| – if **no**, go to **Q6f**

6e. If yes for Q 6d, what is the mode of treatment? Rank by commonly used water treatment.

a=Using chlorine **b**=Boiling **c**=Filtering **d**=Decanting **e**=ash
f = other, specify: _____

1|__| 2|__| 3|__|
first second third

6f. What is the quality of water being used for domestic purposes (Taste, Colour, odour)?

No.	Item	Comment (1= Good 2 = Poor)
1	Taste	
2	Colour	
3	Odour	

6g. What type of sanitary facilities are most commonly used in the community?
1 = VIP 2 = Flash Toilet 3 = Traditional Latrine
4 = Sanplat (Improved Traditional) 5 = No facility (i.e. Bush, river, CAT Method)
6 = Bucket 7 = Other, specify: _____

Rank three commonly used facilities.
1|__| 2|__| 3|__|
First second third

6h. What percentage of commonly used sanitary facilities were affected by floods, where applicable?
[ ]

6i. What are the waste disposal facilities used? Indicate by inserting (√) *in appropriate boxes below*

a. Refuse Pit |__|
b. Refuse Collection Service |__|
c. Indiscriminate Disposal |__|
d. Other, specify_____

7. Floods

7a. What were the main causes of floods?
1= Rainfall **2 =** Bank burst **3 =** Structural failure e.g. dam failure
4 = Blocked drainage **5 =** other; Specify……..

7b. What was the nature of inundation?
1 = River flow type (water flowing in the direction of the flow of the river)
2 = Diffusion (water spreading in all directions from main channel)
3 = Ponding (water collecting in depressions)

7c. Were you warned about floods? **1=** Yes **2 =** No – go to Q7g |__|

7d. If Yes to 7c, who warned you?
1 = DWA **2 =** ZESCO **3 =** MET **4 =** DDMC
5 = other; specify …….

7e. What was the mode of communication?
1 = TV **2 =** Radio **3 =** Newspaper **4 =** Flyers
5 = other; specify……..……...

7f. What preventive measures did you take?

……
….

7g. Have you been evacuated before due to flooding from this area? **1 =** Yes **2=** No |__|

7h. If yes, why have you returned to this area?

……
……....

8.0 Infra structure

8a. What types of infrastructure are available in the community (Circle Appropriate response)?

1 = Gravel road **2** = Paved road **3** = Bridge/culverts **4** = Clinics **5** = Schools
6 = Markets **7** = Public Buildings **8** = other, specify_____

8b. what was the effect of rainfall performance on the following?

Infrastructure	**Level of Effects** 1 = None 2 = Moderate 3 = Severe	Describe the current condition of the infrastructure in view of the floods during the 2008/09 season (List affected areas by ward)
Gravel Road		
Paved Road		
Bridges/culvert		
Houses		
Clinics		
Schools		
Office Buildings		
Community Hall)		
Markets		
Others (specify)		

8c. What type of infrastructure projects **are being implemented** in this community (On-going)?

No.	**Type of Infrastructure Programme**	**Implementing Organisation**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

8d. Were there any school infrastructure affected due to floods? Please indicate in the table below

No.	Name of School	School Type 1 = Basic 2 = High 3 = Community	Number of Pupils	School Infrastructure affected															
				Classroom		Teachers Houses		Water Points		Sanitation Facilities		Other Facilities		School Furniture		School text books		Recreational Areas or Sports field	
				1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number

8e. Were there any clinic/rural health post infrastructure affected due to floods? Please indicate in the table below

No.	Name of Clinic/RHC	Population of the Catchment Area	Clinic/RHC Infrastructure affected													
			Maternity Wing		MCH		Disposal Facility (Incinerator)		Mothers Shelter		Laboratory		Water Points		Staff House (s)	
			1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number

9. Protection

9a. Are there any reports in the community/camp of violence against women and children since the floods? Please indicate in the options below if any.

Type of violence	**1 =** Yes **2** = No	**Number of Cases**	**State the main perpetrators?** **1 =** Relatives/Neighbours **2 =** Development Workers **3 =** Other; specify: _____	**Comments**
Rape	|__|	|__|__|	|__|	
Early marriage	|__|	|__|__|	|__|	
Child Defilement	|__|	|__|__|	|__|	
Assault	|__|	|__|__|	|__|	
Sexual Exploitation	|__|	|__|__|	|__|	
Others (specify)	|__|	|__|__|	|__|	

9b.

Child Welfare	**1 =** Yes **2 =** No	**Comments**
Were there any children missing due to floods?	|__|	
Are there children displaced and living elsewhere (with other relatives) due to floods?	|__|	
Are there any children not attending school due to floods?	|__|	
Are there any children engaged in paid or unpaid labour?	|__|	

9c. Are there any specific measures for HIV prevention (PEP kits, condoms)?

1 = Yes 2 = No \|__\|

9d. If Yes, please indicate by inserting (√) which organizations/institutions are involved.

1. NGOs \|__\|
2. Community \|__\|
3. Government structure \|__\|
4. Other, specify: ……

9e. Are there any reporting mechanisms for Rights violations?

1 = Yes - **2 =** No |__| **go to Q9g**

9f. If yes, indicate by inserting (√) *in appropriate boxes below*

1. police |__|
2. local health clinic |__|
3. local authorities |__|
4. Humanitarian actors |__|
5. Other, specify: …….

9g. What is the distance between the affected community and the reporting point?

.....

Please thank your respondent

Time End Interview: ____/____/

Annex 3: District Questionnaire – 2009

ZVAC In-depth Needs and Vulnerability Multi- Sectoral Assessment (May 2009)
District Focus Group Discussion

Questionnaire ID |__|__|__|__|__|__|__|

Composition of Interviewees:

The composition of the interviewees should include 8 - 12 key informants drawn from the District Disaster Management Committee (DDMC) membership. The interviewees must be a mixed group that should at least include any of the following; Ministry of Education staff, Ministry of Agriculture Extension staff, Veterinary Officers, NGOs, Ministry of Health personnel, local Government representatives etc. The target group should be members of the District Disaster Management Committee

District Name:	**District Code: |__|__|__|**
Constituency Name:	**Constituency Code: |__|__|__|**
Livelihood Zone Name:	**Livelihood Zone Code |__|__|__|**
Place of Interview:	**Date of Interview: |__|__|__|__|__|__| (DD-MM-YY)**
Enumerator Name:	**Time Start Interview:_____/_____/**

3. Describe how the rainfall pattern was in this community during the 2008/2009 production season |__|

1 = normal **2** = Floods **3** = Floods and dry spells

2. Are there any developmental/relief programmes (e.g. food aid distribution; input distribution - seeds, fertiliser etc, cash transfer and/or vouchers) currently running in the district? If yes, approximately what **proportion** of households are benefiting from each programme? **What** are people receiving? How long is the programme expected to **last** (months from today)? Which **organisation** is carrying out the programme**? (NOTE: BE SURE TO ENQUIRE ABOUT FOOD AID AS WELL AS OTHER PROGRAMMES.)**

Type of programme	**Organisation Implementing**	**Ward Names**	**No. of HH benefiting**	**Total No. of HHs**	**Percentage of HH benefiting**	**Quantity received/ HH**	**When Started mm/yy**	**Expected end mm/yy/Ongoing**
Home Based Care (HBC)								
Food For Work / Food For Assets								
General Food Distribution (GFD)								
Input support (e.g. Food Security Pack FSP)								

***Use the codes provided below when indicating which organisation/agency is implementing the food security program in the* area;**

1= Government **2**= International NGO **3**= National (local) NGO **4**= WFP **5**= FAO **6**= Village Association Committees

7= District authorities **8**= Church organisation **9**= other (specify)

Type of programme	**Organisation Implementing**	**Ward Names**	**No. of HH benefiting**	**Total No. of HHs**	**Percentage of HH benefiting**	**Quantity received/ HH**	**When Started mm/yy**	**Expected end mm/yy/Ongoing**
extension services					1 = Adequate |__| 2 = Inadequate			
WATSAN *(Water & Sanitation)* Programmes								
Health								
Therapeutic Feeding								
School Feeding Programmes								
other (specify):								

***Use the codes provided below when indicating which organisation/agency is implementing the food security program in the* area;**

1= Government **2**= International NGO **3**= National (local) NGO **4**= WFP **5**= FAO **6**= Village Association Committees

7= District authorities **8**= Church organisation **9**= other (specify)

3. Food Crop and Livestock Availability

3a. What is the current staple food availability in the district compared to May 2008?

Food Type	**Own Production** **1** = Less, **2** = Same **3** = more	Other indirect sources ***(e.g. Casual work, barter system, Food Aid, inter district etc)*** **1 = Less, 2 = Same 3 = More**	**Comments** (reason for change?)
Maize			
Sorghum			
Millet			
Cassava (areas under mature cassava)			
Other Specify			

3b. Where does the staple food on the market come from?

1 . Within the district **2.** Outside the district **3.** Both

3c. Compare the current prices of staple foods to those of May 2008. Please use the table below;

Commodity	**Unit of measure**	**Measure in kg**	**May -08 (price)**	**May-09 (price)**	**Reason for price variation** **1 =** Increased harvest, **2** = Reduced harvest, **3** = Reduced demand, **4** = increased demand, **5** = Other, specify in the appropriate row
Maize					
Sorghum					
Millet					
Rice					
Cassava					

3d. What is the current livestock availability in the district compared to May 2008?

Livestock	**Number**	**Comments (Reason for change?)**
Cattle		
Goats		
Sheep		
Pigs		
Poultry		
Other Specify		

3e. How have selling prices of livestock (live weight) been in the last five months (Dec 08 – May 09)? Please use the table below;

Type of Livestock (Fully grown)	Price now	Dec 2006 (price)	Reason for price variation 1 = Livestock ban 2. Reduced demand 3. Increased demand 4. Other Specify in appropriate row
Cattle			
Goats			
Sheep			
Pigs			
Poultry			
Other			

4. Infrastructure

4a. What was the effect of floods on the following?

Infrastructure	**Level of Effects** **1 = Low** **2 =Moderate** **3 = Severe** **4 = No effect**	**Describe the current condition of the infrastructure in view of the rainfall intensity during the 2008/09 season (List affected areas by ward)**
Gravel Road		
Paved Road		
Bridges/culvert		
Houses		
Clinics		
Schools		
Markets		
Church / Community Hall		
Dip Tanks		
Boreholes		
Storage Sheds		
Others (specify)		

5a. Were there any school infrastructure affected due to floods? Please indicate in the table below

No.	Name of School	School Type 1 = Basic 2 = High 3 = Community	Number of Pupils	School Infrastructure affected															
				Classroom		Teachers Houses		Water Points		Sanitation Facilities		Other Facilities		School Furniture		School text books		Recreational Areas or Sports field	
				1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number

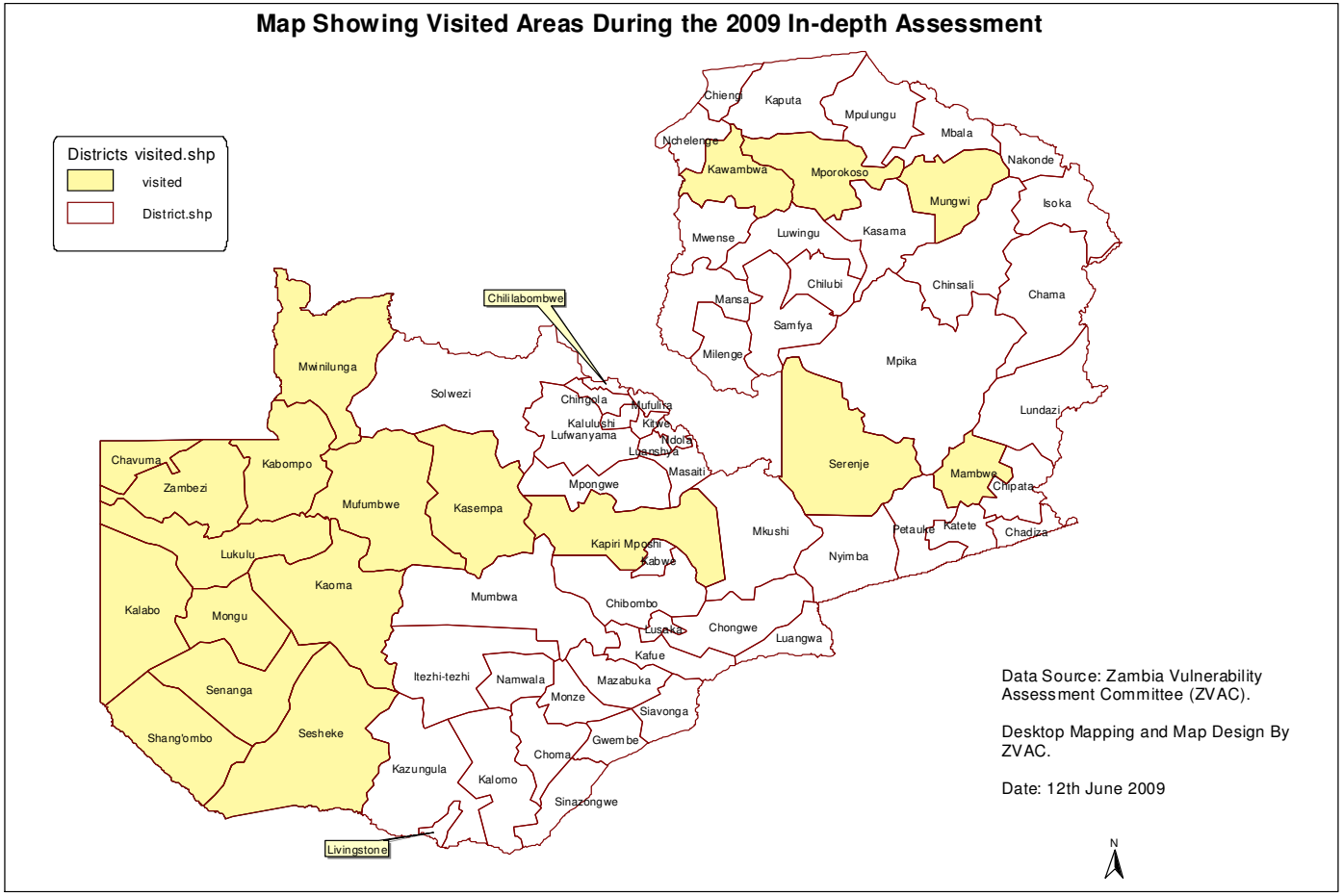
5b. Were there any clinic/rural health post infrastructure affected due to floods? Please indicate in the table below

No.	Name of Clinic/RHC	Population of the Catchment Area	Clinic/RHC Infrastructure affected													
			Maternity Wing		MCH		Disposal Facility (Incinerator)		Mothers Shelter		Laboratory		Water Points		Staff House (s)	
			1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number	1 = Yes 2 = No	Number

Please thank your respondent

Time End Interview: ____/____/

Annex 4: Map Showing the Visited Areas



Annex 5: Districts Requiring Relief Food and Those Placed Under Monitoring

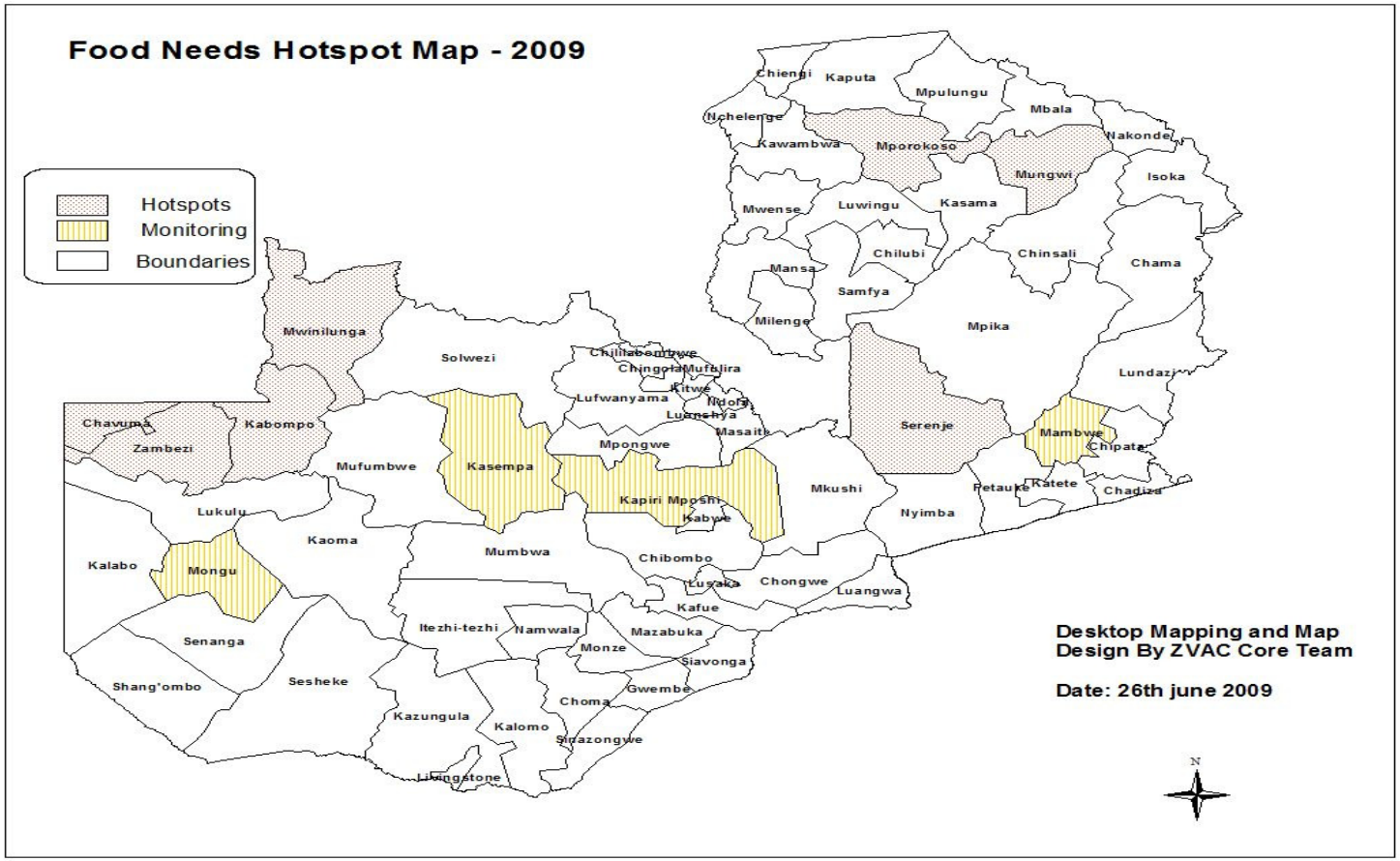


Table 7a. Break-down of Required Relief Food per District

District Name	Population Affected	Cereal Requirement for 9 Months (MT)
Chavuma	9,814	736
Kabompo	19, 753	1,481
Mporokoso	10,289	771
Mungwi	15,072	1,130
Mwinilunga	16,050	1,203
Serenje	18,174	1,363
Zambezi	21,498	1,612
TOTAL	**110,651**	**8,296**

Table 7b. Break-down of Required Relief Food per Ward

District Name	Constituency Name	Ward Names	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Zambezi	Zambezi West	Muyembe Liyoyu	13,641	7,384	554
	Zambezi West	Matondo Nyachikanji	7,225	3,911	293
	Zambezi West	Mwange Nyawanda	5,528	2,992	224
	Zambezi West	Likungu	4,171	2,258	169
	Zambezi West	Mapachi Chinyingi	9,150	4,953	371
				21,498	**1,612**

District Name	Constituency Name	Ward Names	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Serenje	Muchinga	Chisomo	28,021	10,772	808

	Chitambo	Luombwa	8,570	3,294	247
	Chitambo	Lulimala	10,686	4,108	308
				18,174	**1,363**

District Name	Constituency Name	Ward Name	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Mwinilunga	Mwinilunga East	Kamapanda	12,323	2,245	168
	Mwinilunga West	Kanongesha	13,081	2,383	179
	Mwinilunga East	Ntambu	24,907	4,538	340
	Mwinilunga East	Samuteba	21,282	3,877	291
	Mwinilunga East	Kakoma	9,954	1,814	136
	Mwinilunga East	Kasampula	6,547	1,193	89
				16,050	**1,203**

District Name	Constituency Name	Ward Names	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Mungwi	Malole	Chambeshi	13,928	2,976	223
	Malole	Mfinshe	8,683	1,856	139
	Malole	Ngulula	4,162	889	67
	Malole	Kalungu	17,831	3,811	286
	Malole	Lubala	25,923	5,540	415
				15,072	**1,130**

District Name	Constituency Name	Ward Names	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Mporokoso	Mporokoso	Lumangwe	10,800	5,134	385
	Mporokoso	Mumbuluma	3,068	1,458	109

	Lunte	Lunte	5,745	2,731	205
	Mporokoso	Mutotoshi	2,031	965	72
				10,289	**771**

District Name	Constituency Name	Ward Names	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Kabompo	Kabompo East	Loloma	2,385	1,511	113
	Kabompo West	Kabulamena	3,303	2,093	157
	Kabompo West	Kamafwafwa	1,227	778	58
	Kabompo East	Dihamba	7,296	4,622	347
	Kabompo East	Kashinakaji	16,968	10,750	806
				19,753	**1,481**

District Name	Affected Wards	2009 Projected Ward Population	Ward Affected Population	Food Needs (Aug 09 – Apr 2010)
Chavuma	Nyantanda Nyambongila	14,971	5,149	386
	Nguvu	4,643	1,597	120
	Kanyinda Likundu	4,930	1,696	127
	Kambuya Mukelangombe	3,990	1,372	103
			9,814	**736**

Annex 8: Water and Sanitation Needs

AFFECTED HOUSEHOLDS BY DISTRICT						
			Recurrent	Capital	Capital	
District	TOTAL Population	Affected population	Chlorine (200ml x 3/month/HH)	Granular Chlorine (HtH) (50kg/month/500 HH)	Boreholes	Affected population
Itezhitezhi	9,328	4,477	13,432	9	107	3,265
Kalomo		14,787	44,361	30	355	10,782
Kazungula		7,091	21,273	14	170	5,171
Mazabuka		19,959	59,877	40	479	14,553
Monze	29,377	14,101	42,303	28	338	10,282
Namwala	14,016	6,728	20,183	13	161	4,906
Siavonga	11,197	5,375	16,124	11	129	3,919
Sinazongwe	15,524	7,452	22,355	15	179	5,433
Kalabo	27,705	13,298	39,895	27	319	9,697
Kaoma	34,513	16,566	49,699	33	398	12,080
Lukulu	16,035	7,697	23,090	15	185	5,612
Mongu	37,413	17,958	53,875	36	431	13,095
Senanga	24,282	11,655	34,966	23	280	8,499
Sesheke	19,013	9,126	27,379	18	219	6,655
Shang'ombo	16,147	7,751	23,252	16	186	5,651
	1,044,702	**501,457**	**1,504,371**	**1,003**	**12,035**	**365,646**

Annex 9: Seasonal Calendar

Food Source/Income Activity		Activity	Who?	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Rainfall		[redacted]	[redacted]												
Main Crops for Consumption	Maize	Land Preparation	Both												
		Planting	Both												
		Weeding	Both												
		Consumption Fresh	Both												
		Harvesting	Both												
Main Crops for Consumption	Cassava	Land Preparation	Both												
		Planting	Both												
		Weeding	Both												
		Consumption Fresh	Both												
		Harvesting	Both												
Main Crops for Sale	Groundnuts	Land Preparation	Both												
		Planting	Both												
		Weeding	Both												
		Consumption Fresh	Both												
		Harvesting	Both												
Livestock:															
Milk Production		[redacted]	Male												
Livestock Sales			Both												
Employment:															
Local Labour (e.g. Farms)		[redacted]	Both												
Off Farm Empowerment (e.g. Brick Making)			Both												
Access to Wild Foods/Game		[redacted]	Both												
Fishing			Male												
Food Purchases			Both												
Annual Hunger Season			Both												

Annex 10: Districts to be Assessed and Team Composition

Total No of Districts: 20

Team	Province	No. of Districts	No. of Days	Team Composition
1	Eastern	Mambwe	7	**Team leader** Ms Juliet Mumba **Team Members:** Mr Lyson Mbewe Mr Michael Kabaghe Ms. Idah Mulenga
2	North-Western	Mufumbwe, Kasempa and Mwinilunga	18	**Team Leader** Mr Victor Bupe **Team Members:** Mr Chiiya Nchimunya Ms Mulele Namasiku Ms Francisca Mubamba (N) **Mr. H. Mweetwa, Regional Coordinator**
3	North-Western	Kabompo, Zambezi and Chavuma	20	**Team Leader** Mr Fanwell Haamusonde **Team Members:** Mr Vincent Mungalu Mr Ryan Mwape Ms Sharon Shebo (N)
4	Western	Lukulu and Kaoma	15	**Team Leader** Mr Tipo Ntini **Team Members:** Mr Robby Mtonga Mr Brian Bwalya Mr Alex Zimba (N)

Team	Province	No. of Districts	No. of Days	Team Composition
5	Western	Kalabo, Mongu and Senanga	20	**Team Leader** Mr Bwendo Kabanda **Team Members:** Mr Trust Hamaleka Mr Mwauluka Lubinda Ms Brenda Sinonge (N) **Mr. P. Mubita, Regional Coordinator**
6	Western	Sesheke and Shang'ombo	13	**Team Leader** Mr Meetwell Cheelo **Team Members:** Mr Martin Chifuna Ms Diana Hambote Ms Betty Siakwale **Mr. R. Miyanda, Regional Coordinador**
7	Northern	Mporokoso, Mungwi and Mpika	20	**Team Leader** Mr Bupe Bwalya **Team Members:** Mr Tresford Kalasa Ms Juliet Nyirenda Ms Mercy Mbewe
8	Central and Luapula	Kawambwa, Kapiri Mposhi and Serenje	20	**Team Leader** Mr Chris Chansa **Team Members:** Mr Elvis Silwimba Ms Emmy McMillan Ms Joyce Mbewe (N)

Note: Each Team to be joined by Two (2) district staff

Annex 11: Scenario Building

West Bank Livelihood Zone (Chavuma West, Zambezi West, Lukulu West, Kalabo, Senanga West and Shang'ombo)

Basic description of affected area and population	
Name and location of area selected	Parts of Western and North Western Provinces - The Zambezi West Bank livelihood zone stretches from Chavuma District in the west, dissects Zambezi and Lukulu Districts, includes part of Kalabo and Senanga Districts, and finally ends up in Shang'ombo District. The area is prone to periodic hazards namely floods and cattle diseases. The zone is mostly rural and inaccessible due to poor infrastructure arising from the nature of the terrain and its remoteness. It has no passable all year road network and hence it is one of the most inaccessible parts of the country. Livelihoods are based on small scale subsistence agriculture, livestock rearing and fishing. The main food crops are Cassava Maize, rice and Millet which are mainly grown for own consumption with very little traded. The main livestock kept are cattle goats and chicken. Cattle production is threatened by CBPP disease which is endemic in the area. The disease incidence has caused loss of draught power, loss of manure and loss of cattle sales income Accessibility to infrastructure (transport, communication, Markets, education, health etc) decreases as you move away from the river front. The zone has limited passable all year road networks due to terrain and remoteness
Characteristics of wealth groups	The major determinant of wealth in the livelihood zone is cattle ownership. Apart from draught power and cash income, the manure produced from cattle is used to fertilize farmlands and has a significant contribution to crop production in the zone. Generally there are three major wealth groups: better off, middle and poor. Wealth status has huge implications in terms of access to food and income. Better off households are able to cultivate larger areas of land and employ labour. As a result, they produce more food and earn more income. Their livestock also act as a direct source of income through sales. Poor households, in contrast, usually access plough oxen through an exchange for their labour and this generally means that they cultivate only small areas and plant late. The poor in this zone typically have no livestock at all, and even rarely own chickens. The middle households have 1 to 10 cattle. Better-off households own 10 to 30 cattle, 5 to 7 goats and about 2 oxen. The better off households also typically own at least one ox-cart, which is a major means for transporting goods like the dried fish and *kakeya*[1]. They also earn cash income by hiring out ox-carts. They draw labour from the poor in exchange for plough oxen. *The better off have a relatively larger household size (10) than the middle (8) and the poor (7). This is mainly due to internal mobility of people – from poor to better-off households or relatives – to overcome household level food shortages, usually on permanent basis.*

[1] *Kakeya* are small fish that are obtained in the floodplain after the floods recede.

Important linkages between wealth groups or other population groups within the Zambezi West Bank Zone	The poor households sell their labour to the better off in exchange for food and cash. They exchange their labour for the use of oxen to till their land from the better-off and middle-income households.
Important linkages between wealth groups from the affected area with populations in locations outside the Zambezi West Bank Zone	Poor and middle income households in the West bank (especially western areas of Zambezi and Chavuma districts) barter fish for maize and cassava with households in the Zambezi East Bank (Eastern areas of Zambezi and Chavuma Districts).
Important market linkages with other locations	Fish and kakeya (small Fish) are exported from this zone to the Copperbelt and Lusaka especially during the main fishing period from March to August. These are significant sources of income for all households in the livelihood zone. Income from fish and kakeya increases when the volume of floods increases. Market accessibility becomes difficult as you move further away from the river. Road infrastructure is the most limiting factor for accessibility of both imports into and exports from the zone. The Zambezi River is crossed by the pontoon or small boats. Farmers use these to cross the river when they go to Zambezi or Chavuma town markets. Cattle, rice and forest products are also exported out of the zone. The zone is a maize deficit zone, so maize and maize meal are amongst the most important imports.
Other Linkages	Labour migration outside the zone is not common. Occasional livestock sales to neighboring areas in Angola

NORMAL AND CURRENT CONDITIONS SUMMARY SECTION:

NOTE: This table roughly corresponds to the output from Steps 1 – 5 of the "Steps to Scenario Development." It covers these 5 steps but includes only the initial responses (e.g., wealthier households respond by decreasing the wage rate for casual day labor, traders begin to source commodities in different locations).

Category	Variable	Normal condition	Current condition	Source of information
Season	Precipitation	Northwestern areas are high annual rainfall areas (more than 1000mm), in the central parts (region II) it ranges between 800 – 1000mm (but soils are sandy) while the southern areas are drier (less than 800 mm) and are considered marginal for maize production. Rainy season starts late October and ends in April.	Above normal rains (above last 30 year average) received. Rains started timely, in most areas, temporal distribution was good, but southern half (Shangombo) experienced temporary dryness in February. Excessive rains received in March led to flooding and water logging along main rivers and the flood plains. Floods were worsened due to heavy March rains upstream (Zambezi) in Angola	Dept of Meteorology, USGS, Rapid VAC assessment (March), 2009 Zambia VAC report, and ZVAC baseline data

Category	Variable	Normal condition	Current condition	Source of information
Production	Food crops	The main food crops cultivated by all wealth groups are cassava, maize, rice and millet. These crops are mainly grown for household consumption, while only a little is traded. Due to the type of soils in the plain, only small quantities of sweet potatoes, groundnuts and beans are cultivated and these do not form a major source of food. ** Updated 2007/08 data on crop production unavailable	Kalabo - Maize – 3891MT; sorghum – 632 MT; cassava – MT some communities lost 90 % of maize and sorghum crops Lukhulu – Maize – 5335 MT; Sorghum – 150 MT; cassava – 12,643 MT 85% loss in rice, 80% loss in maize and 65% loss in cassava Zambezi - Maize – 4882 MT; Sorghum – 2 MT; cassava – 15,423 MT most maize and Cassava submerged Chavuma – Maize – 3232 MT; sorghum 0MT; cassava - 7,757 MT 80% of maize affected, 50% cassava and < 20% Rice. Along the River 100% crop failure Senanga – Maize – 3563 MT; Sorghum – 387 Mt cassava – 26,858 MT maize 55% loss, cassava – 5%; and rice 90% Shangombo- Maize – 5643 MT; sorghum – 443 MT; cassava - ; maize severe losses from submerging	Ministry of Agriculture crop estimates – NEWU 2009 crop estimates data
	Cash crop	Rice is the main source of cash income from crops, while cassava is also becoming an important cash crop. ** Updated 2007/08 data on crop production unavailable	See above reference to losses in rice production 2009 PRODUCTION: Kalabo: 858 MT Lukhulu: 163 MT Senanga: 1009 MT Chavuma: 349 MT Zambezi: 27 MT Shangombo: 43 MT	Ministry of Agriculture crop estimates
	Livestock	Livestock is kept mainly by the middle and better off households. These include cattle, goats and chickens. The poor typically have no livestock, at times not even chickens. CBPP is endemic in the area. Other	Lukhulu – reported incidences of CBPP in cattle Shangombo -foot rot, and skin disease(lumpy skin) Zambezi- death from foot and mouth, CBPP, goats had skin and diarrhea resulting in some deaths,	ZVAC livelihood profiles, 2004 Ministry of Agriculture

Category	Variable	Normal condition	Current condition	Source of information
		common disease outbreaks include foot and mouth and lumpy skin (cattle), skin and diarrhea diseases (goats) and new castle (chickens)	chicken exp new castle Chavuma – some deaths of cattle, goats and chickens resulting from black foot (cattle), new castle (chicken), and skin and diarrhea like diseases (goats) Forecasted sales:	ZVAC May 2009 in-depth assessment
Income sources	Livestock sales	Livestock sales is a major source of income for middle and better off wealth groups	Increased livestock sales in Senanga to purchase cereal. Elsewhere – normal	Livelihoods profiles (for normal) ZVAC May 2009 assessment
	Crop sales	Crop sales are a significant source of income for better off wealth groups LAST year forecasted sales: Maize: Chavuma – 1640Mt; Zambezi – 2958MT; Kalabo – 3341MT; Lukhulu – 1555 MT; Senanga – 6065MT; Shangomo – 5734MT Sorghum: Kalabo -144MT; Lukhulu – 45MT; Chavuma – 0; Senanga – 204MT; Shangombo – 671MT; Zambezi – 44MT Rice: Chavuma – 45MT; Zambezi – X; Kalabo – 368MT; Lukhulu – 114MT; Senanga – 1635MT; Shangombo – 39MT	Sales likely to decline due to reduced production Forecasted sales: Maize: Kalabo – 454MT; Lukhulu – 638 MT; Senanga – 60MT; Shangombo – 381 MT; Zambezi – 523 MT; Chavuma – 1179MT Rice: Chavuma – 47 MT; Zambezi – 18MT; Kalabo-269MT; Lukhulu – 74MT; Senanga – 216 MT; Shangombo – 1.3 MT Sorghum: Zambezi – 2MT; Chavuma – 0; Kalabo – 0; Lukhulu – 22 MT; Senanga – 20 MT; Shangambo – 58 MT	MACO crop forecasts; 2008 and 2009
	Fish sales	For all wealth groups - local sales and exports of fish and kakeya to the Copper belt and Lusaka are a significant source of income	Fish sales – no noticeable change from normal; but with water receding likely to increase . At assessment time there no noticeable change in fish catches (sales) levels due to high water levels. However, they are expected to increase as water recedes.	ZVAC May 2009 assessment
	Self-employment	Self-employment; which includes sales of grass, fibers, mats/reeds, timber, poles, and brewing and brick making is a major source of income for the poorer households. Honey sales and beer brewing is	No noticeable change; but likely to increase to compensate for loss of food from own production	Livelihoods profiles (for typical) 2009 VAC assessment

Category	Variable	Normal condition	Current condition	Source of information
		a significant source of income for the middle, while the better off also get some income from honey sales.		
Food sources	Own crops	Better off (20% of hh in the livelihood zone) get over 95% of food from own crops, the middle (30% of HH in the zone) get 60-70% aof food from own crops and the poor about (50% of HH in this zone) get 45 -50% of their food from own production About 29% of households in the affected areas own food normally last up to 12 months (mostly the better off) About 37% of households in the affected districts own food normally last 4-6 months (Middle Group) About 26% of households in the affected districts own food normally last 7-9 months (Middle income) About 9% of households in the affected districts own food normally last 1-3 months (Mostly Poor household)	For the current year 57% of affected households own will last about 1-3 months 23 % of acted households own food will last between 4 – 6 months	Livelihoods profiles (for typical) Ministry of Agriculture crop estimates; ZVAC May 2009
	Barter/Purchase	Contributes between 10 -20% for all wealth groups	Opportunities exist - especially for kakeya barter for cereals from the East Bank	Livelihoods profiles (for typical) VAC assessment for current
	Labour exchange	Contribute about 20% for the poor and about 10% for the middle Households	In affected areas, opportunities will decrease, as cereal production is low (less available to exchange for labor)	Livelihoods profiles (for typical) VAC assessment for current
	Other sources	Wild foods are an important food source for the poor and middle while fish is equally as important for the poor.	In general, likely to remain the same, contribution from fish may increase.	Livelihoods profiles (for typical)

Category	Variable	Normal condition	Current condition	Source of information
Chronic factors	Chronic malnutrition	Stunting: Western 30.7%, North Western 38.8%. (National 39.2%; threshold 20%) WHO 2005: standards – W -36.3% NW 43.6%	Current national stunting status at 45.5% , Within normal national levels	2009 VAC Nutrition Assessment
	Patterns of acute malnutrition	GAM-Weight for height (wasting) – western 8.5% NW 7.1% (national 4.7% ; threshold 5%) SAM – W: 2.4% ; NW: 1.1% WHO 2005: GAM W 10.6% ; NW 7.6% SAM: W 5.5; NW 2.5%	Current national wasting is moderate at 3.6% Current national Underweight at 15.2%	2009 VAC Nutrition Assessment Demographic Health Survey
	Sanitation	In general, majority use pit latrines, the rest use the bush and few have access to VIP toilets. Chavuma- 80% pit latrine, 15% use bush and the rest use VIP toilets Zambezi – Majority use pit latrines and the bush Senanga , Kalabo , Lukulu and Shangombo – normally use of the bush for waste disposal.	Chavuma – 100 % of pit latrines affected, some VIP toilets have collapsed. Access to proper sanitation seriously affected. Zambezi – most latrines flooded, resorting to use of the bush Chavuma, Senanga , Kalabo , Lukhulu and Shangombo – High risk of water contamination due to flooded latrines and use of the bush.	Ministry or district offices Previous NGO assessments 2009 VAC assessment
	Potable water access	Chavuma and Zambezi - 80% of population fetch water from shallow unprotected wells. Very few with access to borehole water. 95% of HHs do not treat their drinking water The majority of HH in other affected areas also rely on the shallow unprotected sources of water	Chavuma and Zambezi -More than 80% of the water sources were affected limiting access to clean water. HH were unable to treat water due to lack of chlorine, and majority do not boil or filter drinking water.	Ministry or district offices 2009 VAC assessment
	Health (i.e. malaria, HIV/AIDS, respiratory infection)	Lukulu & Senanga - are areas that are malaria prone	Reported malaria incidences on the decrease due to on-going spraying programs Lukhulu & Shangombo - diarrhea reported as result of contaminated water Diarrhea reported in Lukhulu and Shangombo	UNICEF and WHO assessments 2009 VAC assessment
Markets	Availability	Readily available at harvest	At the time of the assessments most households (75%) reported non availability of staple foods on	2009 VAC assessment -

Category	Variable	Normal condition	Current condition	Source of information
			the market within their communities	
	Sources of supply	These are normally deficit areas (subsistence farming). Main sources of food are from neighboring communities/ districts	Most food crops are sourced from outside each of these affected districts	2009 VAC assessment
	Price behavior – food crops	Maize prices follow normal seasonal price trends (low just after harvest (June –August) and at peak during the hunger season (February/March)	Prices of cereal are higher than during reference year, in affected areas. Maize prices in all districts except Zambezi and Chavuma were reported to be higher than last year (ranging from 50-71% above last year). Rice are higher everywhere except in Chavuma, while cassava were also higher in Lukhulu and Kalabo, did not change in Zambezi and Chavuma, while they dropped in Senanga. Overall prices likely to rise earlier than normal. If the sufficient grain moves from the east bank or neighboring districts into the affected west that may temper the prices.	2009 VAC assessment Community Interviews Ministry of Agriculture
	Price behavior - livestock	Livestock prices generally stable	Livestock prices are generally stable; cattle prices are up (range from 15-60% up) in Shangombo, Senanga, and Kalabo. Elsewhere no changes registered. For goats, prices are up in Shangombo, Senanga, Lukhulu and Kalabo (14-33%), no change in Zambezi, but are down in Chavuma? For poultry prices are up in all except Zambezi and Senanga where they remain unchanged.	Community Interviews 2009 VAC assessment
	Stocks (food crops)	Stocks last for 5-6 months for the poor, 8 months for the middle group and the whole consumption year for the better off.	Current harvests will last shorter for affected areas for all wealth groups. SEE RESULTS	Community interviews 2009 VAC assessment
	Market conduct	Government annual maize purchase by the FRA (June to September)	Expected to run again this year esp. as national production is high.	Food Reserve Agency 2009 VAC assessment - market section
Programs/ Policy	Safety Net	DMMU		Government
	Emergency	DMMU?/WFP	WFP PRROs???	Government

Category	Variable	Normal condition	Current condition	Source of information
	Other programs	INPUT PROGRAMMES, CASSAVA IMPROVEMENT, FAO Regional trans-boundary livestock surveillance (Zambia, Angola, Botswana, and Namibia) using digital pen MOA:	Fertilizer support programmes by Government EU food security programmes	Government EU
	Policy/ regulations	Fish ban enforced December to March annually. Livestock movement RESTRICTED to control diseases. Cordon line with Angola to restrict cross country livestock movement.	National maize export ban likely to be lifted, could affect internal maize flows esp. to remote areas of the west bank	Ministry of Agriculture and Cooperatives Representative of strategic grain reserve Others working on policy, commerce and agriculture development
Response	Household response	Typical HH responses in an emergency include: -reducing household expenditures on non-essentials toward food;. -Unsustainable sale of livestock -Excessive exploitation of forest resources, -Collection of wild foods - Increased search for casual labour within the zone -Increased migration to fishing camps -Dependency on food aid	Currently there are less coping strategies/ responses being employed as this are the harvest period. Most HH households in all six districts are having 2 meals a day (41-80%). Those with one meal range between (12-41%), the rest reported having three meals. A few HH reported having to do additional casual labor to earn income for food	Livelihoods profiles (for typical) 2009 VAC assessment for current condition Interviews with local agencies and NGOs working in the area
	External response	-Distribution of food assistance -Increased input support for off-season production (winter production)	Some HH reported to have received assistance in the past 6 months (about 10%).	Livelihood profiles (for typical) 2009 VAC Assessment
	Market response	Market response is very weak as there is no incentive to trade also poor infrastructure discourages existence of more vibrant trading	No noticeable differences from normal for this time of year	Interviews with market participants

Category	Variable	Normal condition	Current condition	Source of information
				2009 VAC assessment - market section Others working in market development and commercialization in the area
	Program/ policy response	Govt tends to ban exports when national crop production has been affected by hazards like floods and droughts	No response yet, export ban is still on, but likely to be lifted because a national surplus is projected	Ministry of Agriculture and Cooperatives
Populations	Affected		Kalabo – 28,846 people (**20%** of district pop) Lukhulu – 14,360 people (**16%** of district pop) Senanga – 24,106 people (18% of district pop) Shang'ombo – 18,469 people (**20%** of district pop) Zambezi – 13,719 people (**15%** of district pop) Chavuma – 6919 people (**17%** of district pop) Total affected – 499,359 people (**18%** of total no pop. in all affected districts)	2009 VAC assessment Other assessments
	At risk of food insecurity			VAC assessment Other assessments NGOs working in the area
	Special populations			Livelihoods profiles (for typical) VAC assessment Other assessments Interviews with others working with special populations

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