



ZAMBIA
Vulnerability
Assessment Committee

2010 In-Depth Vulnerability and Needs 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
FISP	Farmer Input Support Programme
FSP	Food Security Pack
IMCI	Integrated Management of Common Childhood Illnesses
ITN	Insecticide Treated Net
MACO	Ministry of Agriculture and Cooperatives
MOE	Ministry of Education
MT	Metric Tons
NAC	National AIDS Council
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
ZMD	Zambia Meteorological Department
ZRDF	Zambia Relief Development Foundation
ZVAC	Zambia Vulnerability Assessment Committee

Executive Summary

The 2009/10 rain season was characterised by heavy rainfall in most parts of the country. The extreme southern parts of the country experienced a late start while the rest of the country experienced normal start. Overall, most parts of the country received normal to above normal rainfall which led to excessive rains that culminated into flash flood in low lying areas and water logging in plateau areas. The excessive rainfall experienced resulted into varying impacts on key sectors of the economic.

Following reports from District Disaster Management Committees (DDMCs) in seventeen (17) districts in Central, Eastern, Lusaka, North Western, Southern and Western Provinces on the negative effects the floods and/or dry spells, the Zambia Vulnerability Assessment Committee (ZVAC) undertook an in-depth assessment. The districts visited were Serenje, Mambwe, Luangwa, Kafue, Chavuma, Zambezi, Mwinilunga, Lukulu, Kaoma, Mongu, Kalabo, Shang’ombo, Senanga, Sesheke, Namwala, Gwembe, Sinazongwe and Kazungula.

The assessment employed the qualitative and quantitative approaches in the collection of data. A total of 3, 099 households in 208 Standard Enumeration Areas (SEAs) in fifteen (15) districts with an estimated population of 1.7 million people. Under the quantitative approach, structured household questionnaires were used in 208 SEAs. Under the qualitative approach, community interviews were conducted in all the 238 SEAs while one district interview was conducted in each of the district assessed. Anthropometric data was collected for under-five children in all the 208 SEAs.

Major Findings

- The assessment established that a total of 238,254 people (39,709 households) were affected by the floods and/or dry spells in one way or another.
- Production of Staple in the assessed increased compared to previous season. 80% of communities grew maize as their staple.

- The prices of maize in the surveyed area remained stable in most districts. Lukulu, Serenje and Mambwe showed a slight increase in prices.
- Livestock production was key livelihood for most of the assessed districts (Western and Southern Zambia). Cattle prices generally remained the same as last year. Increase suggest household not desperate to sell to meet food needs.
- 53,629 people in four (4) districts found to be food insecure (Luangwa, Lukulu, Namwala and Sesheke).
- The food insecurity in Luangwa, Sesheke and Lukulu is of a chronic nature and therefore may require sustainable interventions
- 50% of Households indicated having two meals a day which is normal. Few households (2%) indicated having 3 meals while only 4% indicated having only 1 meal a day.
- Common coping strategies that sampled households employed were eating of meals with vegetables (50%).
- Coping strategies relating to expenditure and income were insignificant
- No major unsustainable coping mechanisms were employed to signal stress as a result of hunger from the sampled households. This is a sign that most of these households resilience levels are progressively improving over time.
- 14% indicated having been warned about the dry spells while 22% were warned about the floods.
- Of those that indicated having received the warning, 23% indicated that they did not take any measures.
- Infrastructure sector was the worst hit. Roads, bridges and culverts were washed away by the flood waters. School infrastructure also suffered major damage (mainly damaged in Western and North-Western Provinces. A number of school and health infrastructure were also damaged.
- The SAM was established to be at 5.6% out of which 1.0 % had bilateral oedema while GAM was found to be at 10.2%.
- There was a marginal increase in diarrhoea cases mainly for the displaced. Malarial Cases were also on the increase.

- Immunization Coverage was high in the entire districts assessed Measles-86.5%, OPV3– 91.8%, DPT/HepB/Hib3 - 93.5 and BCG – 95.1%)
- The coverage for Vitamin A supplementation stood at 71% which was below the required 80% especially for Shang’ombo (31.6%) and Sesheke (46.9). This was attributed to logistical constraints faced by the districts to access some flood affected areas and also inadequate health personnel.
- About 29.2% of the sampled households indicated that they treated their drinking water
- The assessment established that only 48.6 %used soap when washing hands.
- About 95% of the households indicated that they did not have any boys and girls that dropped out of school.
- About 5.2% of children dropped out of school due mainly to reasons other than floods.Main reason for dropping out school was family could not afford fees
- Incidences of violence against women and children in the communities and camps not very common. The most common cases in order of ranking were; early marriages (23.6%), assault (19.4%), sexual exploitation (7.2%), rape (5.2%) and child defilement (9%). Perpetrators of violence mainly relatives or neighbours Attribution of these incidences to floods not very clear.
- Cases of children drowning and displaced stood at 14.5% 9.7% respectively.

CONCLUSIONS

The assessment established that a total of 238,254 people (39,709 households) were affected by the floods and/or dry spells in one way or another.

The sector specific conclusions are reflected below:

Infrastructure

The assessment established that there was significant damage done to roads, health and school infrastructure. About 344 road and drainage structures were damaged and need to be reinstated. These structures include those that were not worked on from the previous season (Refer to the technical report on the Washed away and affected Drainage

structures by 2008/9 and 2009/10 rains, RDA, July 2010. The school and health infrastructure has been covered under the respective sectors.

Agriculture and Food Security

Overall, agriculture production for the 2009/10 agriculture season has performed better than in 2008/09 season. The production of major staple food crops such as maize, sorghum, rice, groundnuts, Irish potatoes, mixes beans, sweet potatoes and cassava increased in the 2009/10 agricultural season when compared to the previous season. Maize production for instance, increased sharply by 48 percent from 1,887,010 MT in the 2008/2009 season to 2,795,483 MT in the 2009/2010 season. The increase in production has inevitably pushed down the price of most food crops especially maize, thereby improving access to the staple food for most households and communities. Maize production has increased in Serenje, Kafue, Kazungula, Sinazongwe, Kalabo, Mongu and Senanga. However maize production has decreased in other districts such as Luangwa, Namwala, Lukulu and Sesheke.

Based on maize production, the four (4) districts that experienced a reduction in the harvest of the main staple will therefore need to be targeted for intervention to sustain the livelihood of the affected communities.

Despite the increase in maize production in Mambwe, Chavuma, Gwembe, and Shang'ombo, these districts should continue to be monitored because these districts were either affected by floods or prolonged dry spells.

Nutrition

The assessment revealed that about 37.6% of the children started receiving complementary foods before the age of six months and therefore, were not exclusively breastfed in the first six months. This is a cause for concern for vulnerable households as the introduction of other foods makes the children more susceptible to illness such diarrhoea which may lead malnutrition. In addition, children in vulnerable household are

already exposed to other factors such as poor water and sanitation and inadequate access to health services that compromise their health and nutrition.

The overall vitamin A supplementation coverage of 71% for the districts assessed was below the desirable national target of 80% in particular for Shangombo (31.2%) and Sesheke (46.9%). Therefore, there is need to step up the efforts in order to increase the coverage.

The coverage of supplementary and therapeutic feeding programmes was low across the districts assessed. This is a concern as some children requiring these services do not have access to these programmes and may report late for treatment. Accessibility to these services should be increased by establishing interventions such as CTC and supplementary feeding programmes in the affected areas.

The results of the assessment revealed that stunting, wasting and underweight were co-existing in the assessed communities. The high levels of malnutrition observed in the communities assessed can be attributed to both chronic and transient factors. The observed status quo is compounded by the exposure of communities in the assessed districts to shocks such as floods and dry spells. In addition to inadequate food intake, children in these communities are also from households exposed to high poverty levels with limited access to health and education services, exacerbating an already fragile situation. There is therefore a need for the implementation of both short and long term interventions to address the prevailing situation.

Water and Sanitation

The assessment revealed that even though communities have access to protected water sources in the affected areas 56.7%, during floods, the access dropped to 43.3% and the quality of water from the protected sources within the affected areas dropped to 69.3%. It is therefore necessary to consider relocation of communities within the risk areas as a long term solution.

It is evident that communities are aware of the dangers of using unsafe water as 29.2% treat their water through. Application of chlorine, boiling and awareness needs to be created with regards to the use of soap for hand washing as only 48.6 %use soap when washing hands.

It is also clear that communities value having proper latrines as 57.7% have latrines and are only inhibited by the fact that 13.4% of these collapse during floods.

Health

The survey found that 69.2% of the under five children had suffered from fever/suspected malaria, diarrhea (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.

Education

Analysis of the report has revealed that 94.5 % of the respondents did not have any boys dropping out and 95.1% of the respondents did not have girls dropping out of school. Of the families reporting children dropping out, 3.7% reported one male child having dropped and the same percentage for female children. A fewer number of respondents equivalent to 1.3% reported 2 boys dropping out and 1% reported 2 girls dropping out. In comparison terms, there are more boys dropping out of school than girls. The main reason for boys dropping out of school was inability for the family to pay school fees (3.7%) followed by lack of interest on the part of the boy to continue school (0.6%). The boys who dropped out were later engaged in work outside the family for cash. On the part of girls' dropouts, 3.3% dropped out on account of the inability by the family to pay school fees, and 0.7% dropped out on account of early marriages.

At district level, Mambwe reported the highest number of boys dropping out at 11.8% followed by Senanga with 9.1%, Mongu at 8.6% and Kalabo at 8.2%. Kalabo district reported the highest number of girls dropping out (9.6%) of school, followed by Mongu and Kafue at 8.1% and Mambwe at 7.6%.

Social Protection

There is lack of safety awareness among the communities and as a result 24 children drowned in the affected areas. As a result, there was concern by this survey regarding cases of gender based violence and abuse as well as the plight of children in areas that experienced floods and dry spells in the seventeen (17) districts that were assessed. It was evident that due to cultural practices, people hide cases of GBV for fear of being reprimanded by their family members and the larger community. Additionally, despite the reporting mechanisms existing in the affected areas, the institutions providing the services are far away from the community and this makes it difficult for the survivors/victims to report their cases. Finally, cases of forced labour for children were reports unfortunately this is seen as child labour contribution to the household even though a number of children are pulled out of school to supplement food rations in the home

Human Habitation and Shelter

These communities need to be sensitized on the importance of having dual residence, one in the low lying areas with soils that are rich with mineral deposits and the other in higher and safer lands where they could take refuge in times of flooding. This should be done on voluntary basis and people should not be forced to migrate. The role of government would be to identify higher and safer lands where these communities can build their second homes. This should be done with the help of the local and traditional leadership. Upon identification and acquiring of such higher land for the flood prone communities, and where the concerned communities agree to build their second homes, government would facilitate the establishment of such settlements by demarcating the land into plots for each household, and also provide basic infrastructure such as access roads, water, health and education in the new settlements. This way resilience would have been created for such communities to respond to hazards such as floods on their own without or with minimum external intervention.

The state of the majority of the houses occupied by the displaced households suggest that these are communities who depend on subsistence farming and fishing and can not afford to build conventional houses, hence, they build the weak housing structures with pole mud and grass. This suggests also that, they have very low capacity to respond to hazardous situations such as floods. Government and other stakeholders should provide long term solution to the these communities who have settled in flood prone areas.

RECOMMENDATIONS

Infrastructure

- There is need to mobilize funds to rehabilitate damaged infrastructure in 66 districts.
- In the medium to long term there is need for government to invest in the construction of canal in the flood prone areas. The construction should be based on the Environmental Impact Assessment (EIA) conducted in these areas.

Agriculture and Food Security

Short-term

- Market intervention in Luangwa, Namwala, Lukulu and Sesheke (off-load commercial maize) to mitigate the food insecurity in these districts until the next harvest.
- Four districts namely Mambwe, Chavuma, Gwembe, and Shang'ombo be placed under monitoring
- Provide market support to the populations from surplus districts who may not manage to sell the surplus maize to FRA (e.g. WFP purchase for progress).

Water and Sanitation

It is worth noting that very little was done regarding the implementation of the recommendations for the 2009/10 recommendations and work plan due to budgetary constraints and therefore most of the recommendations activities identified still remain as recommendations and action plan for 2010/11

Water

Short-term

- Increase availability and affordability of chlorine at household level in all the seventeen affected districts such as : Serenje, Mambwe, Kafue, Luangwa, Chavuma, Gwembe, Kazungula, Namwala, Sinazongwe, Kalabo, Lukulu, Mongu, Senanga, Sesheke and Shangombo,
- 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 behavioral 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
- Advocate for hand washing with soap and make available soap

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 and hand washing with soap

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.

Nutrition

Short-term

- Strengthen the identification and treatment of severely malnourished children through expanded therapeutic and supplementary feeding programs provided by the Ministry of Health and NGO partners.
- Strengthen behavior change communication related to infant and young child feeding and exclusive breastfeeding for mothers (to be provided through health centres and by NGO partners).
- Intensify vitamin supplementation in areas with low coverage.
- Strengthen community involvement in prevention activities such as;

- Peer to peer learning
- Breast feeding support groups
- Promotion of balanced diet and kitchen gardens.

Long Term

- Improve access to health and nutrition services through the strengthening of the primary health care system and EPI outreach programs providing immunization, vitamin A supplementation and behavior change communication on infant and child feeding.
- Initiate/ expand programs to provide micronutrient supplementation and surveillance for micronutrient deficiency in chronic food insecure areas.

Education

Short-term

- Rehabilitation of all damaged school infrastructure (**refer to details in the action plan**)

Medium to long term

- Tents should be prepositioned to provide temporary learning facilities during the floods. This will minimize 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

There is need for the Ministry of Community Development and Social Services (MCDSS) and its partners to:

Short-term

- empower families that are keeping orphans and vulnerable children; incapacitated and low capacity households and individuals;
- provide farming inputs to vulnerable but viable farmers in disaster prone areas;
- Sensitize the communities on the dangers of gender based violence,
- Provide psycho-social support and counseling to victims / survivors of gender based violence.
- Initiate and promote family and community safety during disasters.

Medium to Long term

- Build capacities of law enforcement agencies such as the police service, immigration department and community support groups to monitor gender based violence.
- To establish well coordinated response centres (CRCs) to enhance the provision of services to survivors/ victims of violence and abuse

5.8. 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 population e.g. bee keeping.

1.0. INTRODUCTION

1.1. Background

The 2009/10 rain season was characterised by heavy rainfall in most parts of the country. The extreme southern parts of the country experienced a late start while the rest of the country experienced normal start. Overall, most parts of the country received normal to above normal rainfall which led to excessive rains that culminated into flash flood in low lying areas and water logging in plateau areas. The excessive rainfall experienced resulted into varying impacts on key sectors of the economic.

Following reports from District Disaster Management Committees (DDMCs) in seventeen (17) districts in Central, Eastern, Lusaka, North Western, Southern and Western Provinces on the negative effects the floods and/or dry spells, the Zambia Vulnerability Assessment Committee (ZVAC) undertook an in-depth assessment. The provinces and districts where the assessments were undertaken included the following:

- i. Central Province – Serenje
- ii. Eastern Province – Mambwe
- iii. Lusaka Province – Kafue and Luangwa
- iv. North-Western Province – Chavuma, Mwinilunga and Zambezi
- v. Southern Province – Kazungula, Namwala, Gwembe and Sinazongwe
- vi. Western Province – Kalabo, Lukulu, Mongu, Senanga, Shang’ombo and Sesheke

The criteria used to select the above mentioned districts for assessment was as follows:

- i. Rainfall:
 - Rainfall distribution for the months of December, January and February
 - Rainfall cumulative performance mainly decadal cumulative figures for the months of December, January and February
 - Duration of dry spells
- ii. Percentage crop and livestock damage/loss
- iii. District Production figures for the main staple compared to the previous season.

The report, therefore, presents the findings of the 2010 In-depth Vulnerability and Needs Assessment conducted to determine the extent and effects of the floods and/or dry spells on agriculture and food security, infrastructure, health and nutrition, water and sanitation, habitation and human shelter and social protection.

1.2 Objectives

1.2.1 Overall Objective

The overall objective of the assessment was to determine the impact of the adverse rainfall and/or dry spell on different sectors and recommend appropriate action for mitigation and response.

1.2.2 Specific Objectives

- i. To determine the full extent to which floods and/or dry spell impacted the following sub-sectors:
 - 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
- ii. To determine the areas as well as the population affected
- iii. To determine extent of violence against women and children in flood affected areas.
- iv. 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 ZVAC conducted the in-depth assessment in Central, Eastern, Lusaka, Northern, North Western and Western Provinces where seventeen (17) districts were adversely affected by floods and/or dry spells. The sectors impacted upon by the floods included health and nutrition, water and sanitation, education, infrastructure, human shelter and habitation, agriculture and food security and social protection.

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 last level was at the household level where a structure questionnaire was utilised to conduct the interview.

1.4 Methods and Procedures

1.4.1 Target Population

The target population is the number of people living in the districts identified to have been affected by the floods that occurred during the 2009/2010 rainy season.

1.4.2 Sampling Frame

The sampling frame used for the 2010 In-Depth Vulnerability and Assessment Survey was developed from the 2000 Census of Population and Housing. The frame is *administratively* demarcated into 9 provinces, which are divided into 72 districts. The districts are further subdivided into 150 constituencies, which are also divided into 1, 289 wards. For *statistical purposes*, the wards are divided into Census Supervisory Areas and these are in turn divided into Standard Enumeration Areas (SEAs). The SEAs are further stratified into rural and urban strata. The frame has information on the number of households and the population at SEA level. For the purposes of this survey, the SEA constituted the ultimate Primary Sampling Unit (PSU).

The survey originally targeted 17 districts² in 6 provinces. In order to have equal precision in the estimates in all the districts, the Equal Sample Allocation Method was adopted. Fourteen SEAs/PSUs were originally selected to be covered in each district.

1.4.3 Sampling Method

The 2010 In-Depth Vulnerability and Assessment Survey employed probability sampling procedures: a two-stage stratified cluster sample design was used. In the *first stage*, 14 SEAs were selected using the Probability Proportional to Estimated Size (PPES) procedure. During the *second stage*, about 15 households were randomly selected from each enumeration area. *Random* in no way implies haphazard; rather it means that each possible household had an equal chance of being selected.

² 15 districts were actually covered. Post-stratification was used to adjust for this non-coverage.

1.4.4 Sample Size

A total of 3, 099 households in 208 SEAs were covered in the 15 districts with an estimated population of 1.7 million people. The table below shows the estimated population, PSU's and the number of households actually covered.

Table 1: Estimated population of the sampled households per district

Province	District	2010 estimated population	PSU's covered	Number of households planned to be covered	Number of households actually covered
Central	Serenje	188,395	14	210	210
Eastern	Mambwe	64,851	14	210	211
Lusaka	Kafue	195,038	14	210	209
	Luangwa	27,325	14	210	209
Northwestern	Chavuma	40,461	14	210	210
Southern	Gwembe	48,663	13	210	190
	Kazungula	94,494	14	210	210
	Namwala	125,379	14	210	210
	Sinazongwe	118,113	13	210	182
Western	Kalabo	146,171	14	210	209
	Lukulu	92,235	14	210	210
	Mongu	204,324	14	210	210
	Sesheke	98,644	14	210	209
	Shangómbó	91,056	14	210	210
	Senanga	139,263	14	210	210
TOTAL		1,674,412	208	3,150	3,099

Source: Central Statistical Office, Population Projections Report (2003)

1.5 Weighting Procedure

Sampling weights were developed for the survey in order to correct for imperfections in the sample that might lead to bias and other departures between the sample and the reference population. Such imperfections included the selection of units with unequal probabilities, non-coverage of the population, and non-response. Thus sample weights act as inflation factors to represent the number of units in the survey population that are accounted for by the sample unit to which the weight is assigned. The sum of the sample weights provides an unbiased estimate of the total number of individuals in the target population.

1.5.1 Base Weights

The *base weights* for each sampled standard enumeration area were constructed in order to correct for their unequal probabilities of selection. Since a two-stage sample design was developed, the base weights were constructed to reflect the probabilities of selection at each stage.

Given that P_i is the probability of the i^{th} SEA being selected into the sample at first stage, and $P_{j(i)}$ is the probability of selecting the j^{th} household within the selected i^{th} SEA at second stage, then the overall probability of selection P_{ij} of every household in the sample is given by

$$P_{ij} = P_i \times P_{j(i)}$$

Its base weight, which is the reciprocal of the overall probability of selection into the sample, and denoted by w_{ij} , is given by

$$w_{ij} = \frac{1}{P_{ij}}$$

1.5.2 Post Stratification Weights

The base weights were then adjusted so that they reflect the known projected (current) population totals for 2010. The *adjustment factors* were obtained by dividing the projected population for 2010 for each district by the base-weighted population. The adjustment factors so obtained were then applied on the SEAs in the districts in the sample to obtain the final adjusted weights. These adjusted weights were then used to estimate totals of primary variables collected in the survey.

The resulting estimates are internally consistent with the known projected population totals for 2010.

1.6 Reliability of Estimates

Sampling errors arose from the fact that only a sample of the affected population was surveyed. Non-sampling errors in the 2010 In-Depth Vulnerability and Assessment Survey may have arisen from many factors at all stages of data collection and processing. These include errors resulting from respondents

misunderstanding the questions or from an incorrect presentation of the questions; errors resulting from non-response; errors in data entry; errors in coding.

While the sampling errors can be estimated through the survey data, it is difficult to assess the non-sampling errors. The report therefore contains no quantitative assessments of these errors. Nevertheless, it is important to emphasize that in planning and conducting the survey, efforts were made to reduce as much as possible the number of errors, both sampling and non-sampling errors.

1.7. Estimates for Nutrition Component

1.7.1. 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 (15 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 3,570 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, 643.

1.7.2 Anthropometric measurement

Anthropometric measurements were made visa-a-vis children's weight, height/length, and assessment of 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.

1.7.3. Nutrition Cut-off points for children

Child nutrition status in the 2010 in-depth vulnerability assessment was determined according to the new 2006) WHO Child Growth Standards.³ 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 analyzed 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.

1.8. Estimating Food Production in Maize Equivalent

To estimate the production of main staples produced by the sampled households in maize equivalent for the 2009/10-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 it is widely consumed in most parts of the country. To obtain the total produced quantities of maize equivalent, each of the crops was first converted to maize kilo calorie equivalent using the formula below;

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

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 sources such as carry-over stocks, remittances and purchases.

³ The 1977 NCHS/WHO growth reference standards were used to assess child nutrition status for the 2009 in-depth VAC report.

1.9. Identifying Desperate Areas and Persons

Using the 2008/09 household production data as a base for determining the production gap, the production estimates for 2009/10 for all the visited districts were reviewed by comparing 2008/09 and 2009/10 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:

$$\text{Maize Production Gap} = [(Maize Prod 09 - Maize Prod 08)] + Maize Prod 08$$

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.

1.9.1. 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:

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

Where,

- 1 = Total maize requirements in Metric Tonnes (MT) refers to total quantity of maize required in the affected district
- 2 = Standard ration = 250grammes per person per day
- 3 = Number of months = duration of the food assistance

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 generalizations 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.

2.0. CONTEXT

2.1. The Economy

In the last few years, Zambia has realized continued economic growth as measured by the real gross domestic product (real GDP), with the exception of the year 2008 when the economy contracted due to the effects of the global financial crisis. In 2009, the economy in Zambia started on a slow path to recovery from the financial crisis experienced in 2008. In 2009, the economy grew by 6.3%, an 8 % increase in comparison to the 5.8% growth achieved in 2008. The economic performance was largely driven by growth in the mining, agriculture and construction sectors. The mining sector had a projected growth of 13.1% in 2009, driven by improved copper prices, a more conducive business environment, and the commencement of production at Lumwana Copper Mine. However, poor performance in the tourism sector, as well as the slowdown in the manufacturing sector in the same period contracted overall growth. The manufacturing sector was affected by low demand and the rise in the costs of imported inputs, with growth in the sector declining to 1.0 percent in 2009 from the 1.8% outturn in 2008. The tourism sector was also adversely affected by the global economic crisis, as there was a sharp fall in tourist visits to the country.

Government policy as articulated under the FNDP is to achieve and sustain single digit inflation rates. Although the 2008 year end inflation rate rose to 16.6% which was fuelled by increases in food prices as well as increases in energy and transportation costs, the rate of inflation declined to 9.9 % by December 2009. Food inflation particularly declined significantly from 20.5 percent at the end of 2008 to 8.0 percent at the end of 2009. The decline was a result of reductions in the prices of fresh vegetables and fruits, as well as oils and fats. However, increases were recorded in the cost of mealie meal, maize grain and cereal products.

In the first half of 2009, the exchange rate of the Kwacha depreciated against major international currencies, largely on account of the continuing adverse effects arising from the global financial crisis in 2008. However, in the second half of the year, the currency began to appreciate building on improving investor confidence in the Zambian economy. The average exchange rate of the Kwacha against the U.S dollar closed at K4, 580 in December 2009 compared with K4, 883 in December 2008, representing an appreciation of 6.0 percent. As a result of the inflationary environment which prevailed in part of 2008 and 2009, interest rates have been increasing. Commercial bank lending rates increased from 26.8 percent

in 2008 to 29.6 percent in September 2009. However, interest rates on government securities remained stable during this time.

Preliminary estimates indicate that the agriculture sector grew by 7.1% in 2009 compared to a 2.6% increase in 2008. The improvement has been largely attributed to the increase in the maize harvest in the 2008/09 agricultural season of 1.9 million metric tonnes, compared with the 1.5 million metric tonnes produced in 2008. The 2008/09 production season was characterized by average to above average rainfall across the country, resulting in an increase in maize production by 26.7% compared to the 2007/08 agricultural season. Although the increased production resulted in increased supply on the market, maize prices remained abnormally high in 2009, as a result of high input, power and fuel costs. However, with the large production from the 2009/10 season, adequate national stocks are available to meet national demand, while keeping the local market well supplied and ensuring reduced staple food prices for consumers as compared to last year.

2.2. Agriculture and Food Security

2.2.1 Input Distribution

2.2.1.1 Farmer Input Support Programme (FISP)

In the last agricultural season, Government and other agencies continued to implement input support programs, with the aim of increasing small-scale farmer access to inputs for increased production and productivity. The major input programme during the 2009/10 agricultural season was the GRZ Farmer Input Support Programme (FISP) which was launched by Government at the start of the season to replace the Fertilizer Support Programme (FSP), which had been running since the 2002/2003 season. The main objective of the FISP is to increase efficiency and effectiveness of farmers' use of inputs, and improve the beneficiaries' potential of contributing to increased food security and incomes.

The Farmer Input Support Programme reduced the size of the input pack, but increased the number of beneficiaries to 500,000 from the 200,000 that was covered in the last season. The reduction of the size of the pack from one hectare to half a hectare is to enable more efficient and effective management of maize fields by beneficiaries, resulting in increased productivity. In addition to the increased number of beneficiaries and overall improvements in the input distribution, the FISP has also improved on the targeting of beneficiaries by involving the community through the Camp Agriculture Committees in

selecting beneficiaries of the input packs. The above changes have led to reduced program leakage and incidences of farmers selling-off inputs. Table 1 below shows the performance of the FSP/FISP to date.

Table 2: Performance of FSP/FISP since Inception (2002-2010)

Item	Input Distribution by Agricultural Season							
	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Number of beneficiaries	305,924	336,000	134,000	186,000	263,292	131,000	200,000	500,000
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	100,000

Source: MACO

2.2.1.2 Food Security Pack Programme (FSP)

The FSP programme is meant “to improve crop productivity and household food security among targeted vulnerable and viable households and thereby contribute to poverty reduction”.

During the period under review, the programme received a total of K10 billion from Government which supported 9,000 beneficiaries. Additionally, there was funding from the Africa Development Bank (ADB) amounting to K14.5 billion which supported 17,227. Below is the tabulation showing total number of beneficiaries by Province.

Table 3: Inputs Distribution (ADB Funding)

Province	Beneficiaries	Medium Maturing Maize (10kg)	Early Maturing Maize (10kg)	Sorghum (2kg)	Pearl Millet (1kg)	Rice (15kg)	Beans (7.5kg)	C/Peas (2.5kg)	S/beans (12.5kg)	G/Nuts (10kg)	Comp D (50kg)	Urea (50kg)
Eastern	1,920	720	800	350		50	576	400	368	576	1,570	1,870
Western	1,680	1,240	90	0	0	350	490	350	336	504	1,680	1,330
Southern	2,600	520	1,360	370	350	0	242	1,060	506	792	1,880	2,250
Lusaka	960	600	230	80	50	0	248	240	184	288	830	910
Central	1,440	1,020	420	0	0	0	432	336	240	432	1,440	1,440
North Western	1,680	1,200	0	0	0	480	490	350	350	490	1,680	1,200
Copper Belt	2,400	2,400	0	0	0	0	720	500	460	720	2,400	2,400
Northern	2,873	2,813	0	0	0	60	1,270	140	599	864	2,873	2,813
Luapula	1,674	1,614	0	0	0	60	700	70	402	502	1,674	1,614
Total	17,227	12,127	2,900	800	400	1,000	5,168	3,446	3,445	5,168	16,027	15,827
Total Mt		121	29	2	0.4	15	39	9	43	52	801	791

All the inputs were distributed according the planned schedule, though with minor losses were recorded that occurred during transportation.

The Department procured and distributed the following farm inputs as shown in Table 2 (b) below;

Table 4: Inputs Distribution (GRZ Funded)

Province	Beneficiaries	Medium Maturing Maize (10kg)	Early Maturing Maize (10kg)	Sorghum (2kg)	Pearl Millet (1kg)	Rice (15kg)	Beans (7.5kg)	C/Peas (2.5kg)	S/beans (12.5kg)	G/Nuts (10kg)	Comp D (50kg)	Urea (50kg)
Eastern	420	320	30	30	45	0	125	85	85	125	350	400
Western	360	360	10	0	0	0	110	70	70	110	370	370
Central	370	370	10	0	0	0	110	75	75	110	380	380
North Western	350	350	0	0	0	0	105	70	70	105	350	350
Copperbelt	500	500	0	0	0	0	150	100	100	150	500	500
Northern	600	600	0	0	0	0	180	120	120	180	600	600
Total	2,600	2,500	50	30	45	0	780	520	520	780	2,550	2,600
Total Mt		25	0.5	0.1	0.05	-	5.85	1.3	6.5	7.8	127.50	130.00

2.2.1.3 Alternative Livelihood Interventions

This intervention is a component of the Food Security Pack Programme where beneficiaries are assisted with small livestock such as goats and chickens in areas where conditions do not favour crop farming. For the 2008/09 Season, the Programme was implemented in 25 districts. A total of 500 goats and 1,000 village chickens were procured and distributed by district Committees. Each beneficiary received a she-goat or two hens. As a result of this programme, beneficiaries have come to realize the commercial importance of livestock and poultry. Farmers have adopted the concept of crop and livestock integration i.e. they use the proceeds from livestock to boost up crop enterprises from season to season and vice versa hence there is that interdependence of the enterprises. The Programme also has business and marketing training modules that have been conducted in Central and Southern provinces where livestock marketing

centers have been constructed. Table 3 below shows the distribution of poultry and livestock in target provinces.

Table 5: Distribution of livestock and poultry during 2008/2009 season

Province	Targeted Beneficiaries	
	Goats	Chickens
Central	120	120
North Western	140	140
Northern	240	240
Total	500	500

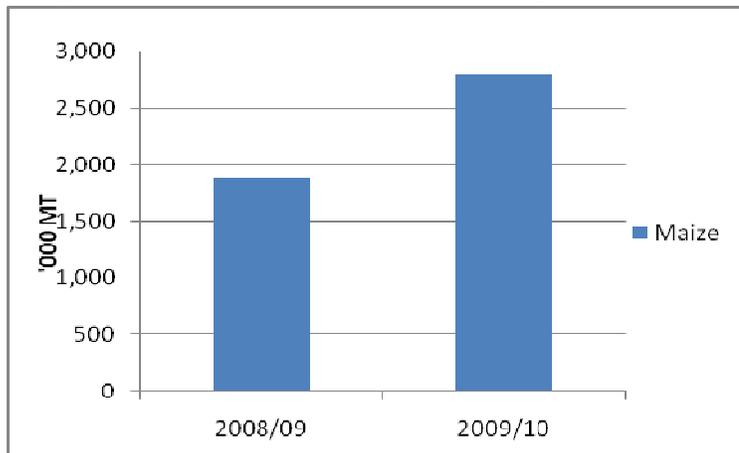
Source: MCDSS

The expected recoveries from the 2008/2009 farming season were projected to be approximately 10,125 x 50kg bags of maize weighing 506.25 metric tonnes. However the actual recoveries were 7,925 x 50kg bags of weighing 396.25 metric tonnes. This represents about 78 percent of the expected recovery. About 22 percent constituted losses in the recoveries through defaulting by beneficiaries. Most of the maize recoveries were kept in grain banks for future use. These grain banks act as a revolving avenue for others who might not have benefited in the past. Furthermore, these grain banks are used for household food security during times of climatic shocks.

2.2.2. Crop Production, Food Supply and Access

According to MACO estimates, the production of major staple food crops such as maize, sorghum, rice, groundnuts, Irish potatoes, mixed beans, sweet potatoes and cassava increased in the 2009/10 agricultural season when compared to the previous season. Total maize production in the 2009/10 agricultural season increased by 48 percent (908,473 MT), from 1,887,010 MT in the 2008/2009 season to 2,795,483 MT in the 2009/2010 season.

The growth in maize production achieved in the 2010/09 agricultural season can be attributed to significant increases in both total area planted, as well as the average national maize yield. Based on data



from MACO, both these factors rose sharply compared to last season. The average yield for maize in the 2009/2010 agricultural season increased significantly by approximately 34 percent to 2.2 MT per hectare from 1.7 per hectare in the 2008/2009 agricultural season. The area planted to maize also increased by 14 percent from 1,125,466 hectares in 2008/2009

season to 1,242,268 hectares in 2009/2010 agricultural season. Further, the relatively attractive price

Figure 1: Maize Production Comparison between 2008/09 and 2009/10 Season

offered to farmers in the last marketing season may also have resulted in a positive response

effect and contributed to the increase in production this season.

In addition, more farmers reported using hybrid seed compared to using recycled or local seed this season in comparison to the 2008/2009 agricultural season. Also, a number of government programmes and interventions such as the promotion of conservation farming, improved extension delivery to the farmers and the improved Farmer Input Support Programme (FISP), among others, may have contributed to the increase in maize production.

The 2009/10 agricultural season crop estimates released by MACO also established that production of major crops has generally increased compared to the 2008/09 production season (Table 6). Among the major monitored crops, millet, sunflower, soya beans, cotton, cowpeas, paprika and wheat registered production decreases, while production increased for the remainder of the monitored crops. This suggests that diversification was not well practiced during the 2009/10 agricultural season, where the increase in the production of maize may have been done at the expense of the other crops. Overall, crop production output in 2009/10 agricultural season increased compared to the 2008/09 agricultural season. Table 6 below shows the production of the monitored crops in 2009/10 compared to the 2008/09 agricultural season, showing the percentage changes by crop.

Table 6: Expected Production based on the 2009/2010 Crop Forecast Survey

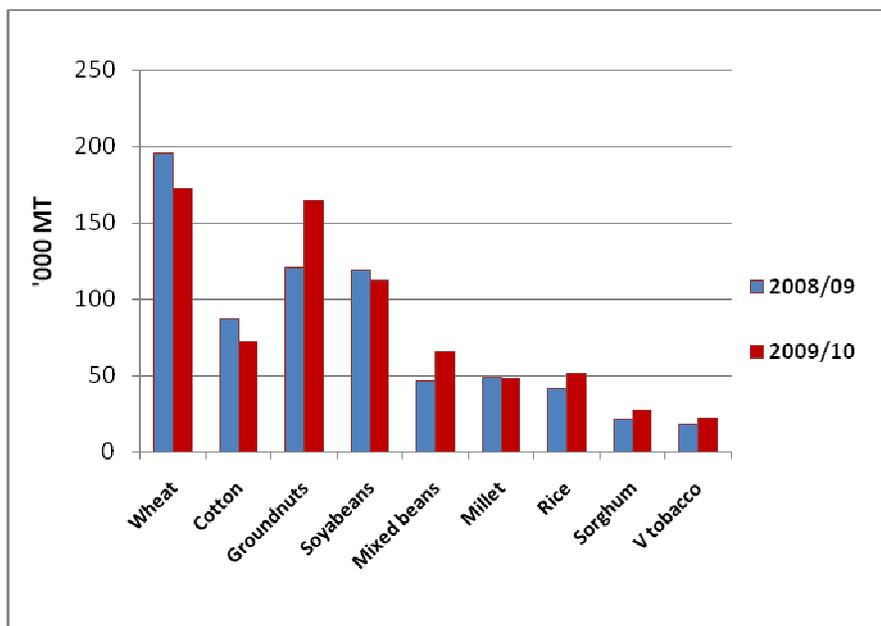
CROP	Expected Production (Mt)		
	2009	2010	% change
Maize	1,887,010	2,795,483	48
Sorghum	21,829	27,732	27
Rice	41,929	51,656	23
Millet	48,967	47,997	(2)
Sunflower	33,653	26,420	(21)
Groundnuts	120,564	164,602	37
Soya beans	118,794	111,888	(6)
Cotton	87,018	72,482	(17)
Irish potatoes	21,285	22,940	8
Virginia tobacco	18,487	22,074	19
Burley tobacco	8,758	9,809	12
Mixed beans	46,729	65,265	40
Cowpeas	7,462	2,722	(64)
Sweet potatoes	200,450	252,867	26
Paprika	1,020	533	(48)
Wheat	195,456	172,256	(12)
Barley	**	1,089	
Popcorn	**	7,846	

MACO, 2010

** Data not available; not collected

MACO crop estimates however revealed a reduction in the production of small grains in the 2009/10 agricultural season. The production of wheat which had increased by 72% in the 2008/09 season decrease by 12% in the 2009/10 agriculture season, from 195,456MT to 172,256MT (wheat is planted in May and harvested in August/September). The decrease in production was largely a result of lowered demand for local wheat by private sector which alternatively sought to import cheaper wheat flour from South Africa in the 2008/09 season. A substantial amount of the local wheat produced in the 2008/09 season therefore remained unsold several months after the harvest, and was carried over into the 2009/10 marketing season. There was however a 27% increase in the quantity of sorghum produced, from 21,829MT in the 2008/09 season to 27,732MT in the 2009/10 season (Table 6).

Figure 2: Comparison of Small Grains and Cash Crop Production Levels between the 2008/09 and 2009/10 Season



Overall cash crop production also declined in the 2009/10 agricultural season. While there was a substantial increase in the production of groundnuts (37%) and also an increase in the production of Virginia tobacco (19%), there was a significant decrease in the production of cotton from 87,018MT in 2008/09 to 72,482MT in the 2009/10 season, a 17% decrease.

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

Zambia has, at the national level, produced adequate maize to meet the country’s consumption requirements for the 2010/11 marketing season. This implies that no maize imports will be required for commercial or relief purposes. Optimum annual maize requirements for all uses including human consumption and industrial use as well as unofficial cross-border trade and national strategic grain reserves for the 2010/2011 marketing year (1st May 2010 to 30th April 2011) are estimated at 2,008,455 Mt. When requirements are netted out of availability, the total maize supply is estimated to exceed domestic requirement by 1,085,709 Mt (Table 5), an exportable surplus which is all non-GMO.

Similar to past years, sorghum, millet and cassava production are adequately available to meet domestic requirements this year (Table 7). An estimated 10, 352 MT of rice will be required to meet the shortfall in line with previous years.

Table 7: National Cereal and Cassava Balance Situation 2010/11 Marketing Season

Item	Maize (MT)	Rice (MT)	Wheat (MT)	Sorghum & Millet (MT)	Cassava Flour (MT)
Opening Stocks (May1,2010)	298,681	1,151	53,097	2,610	0
Gross Production	2,795,483	52,937	172,256	75,729	1,179,657
Total Availability	3,094,164	54,088	225,352	78,339	1,179,657
Human Consumption	1,318,681	60,682	206,387	74,553	614,576
Strategic Grain Reserves	200,000	0	0	0	0
Industrial Requirements	230,000	0	0	0	0
Seed	40,000	0	0	0	0
Losses	139,774	2,647	8,613	3,786	58,983
Informal Cross Border Trade	80,000	0	0	0	0
Total Requirement	2,008,455	63,328	215,000	78,339	673,559
Surplus/Deficit	1,085,709	-9,240	10,352	0	506,098

Source: MACO

In the past, during seasons of staple food deficits, Zambia has restricted the export of maize grain and maize meal. Following a significant increase in maize output during the 2009/10 agricultural season, Government has this year, without compromising national food security, encouraged maize exports, targeting both the regional market and beyond. Also, in order to stabilize the price of local maize, government is exploring ways of ensuring that FRA is sufficiently funded so as to increase its participation in the market.

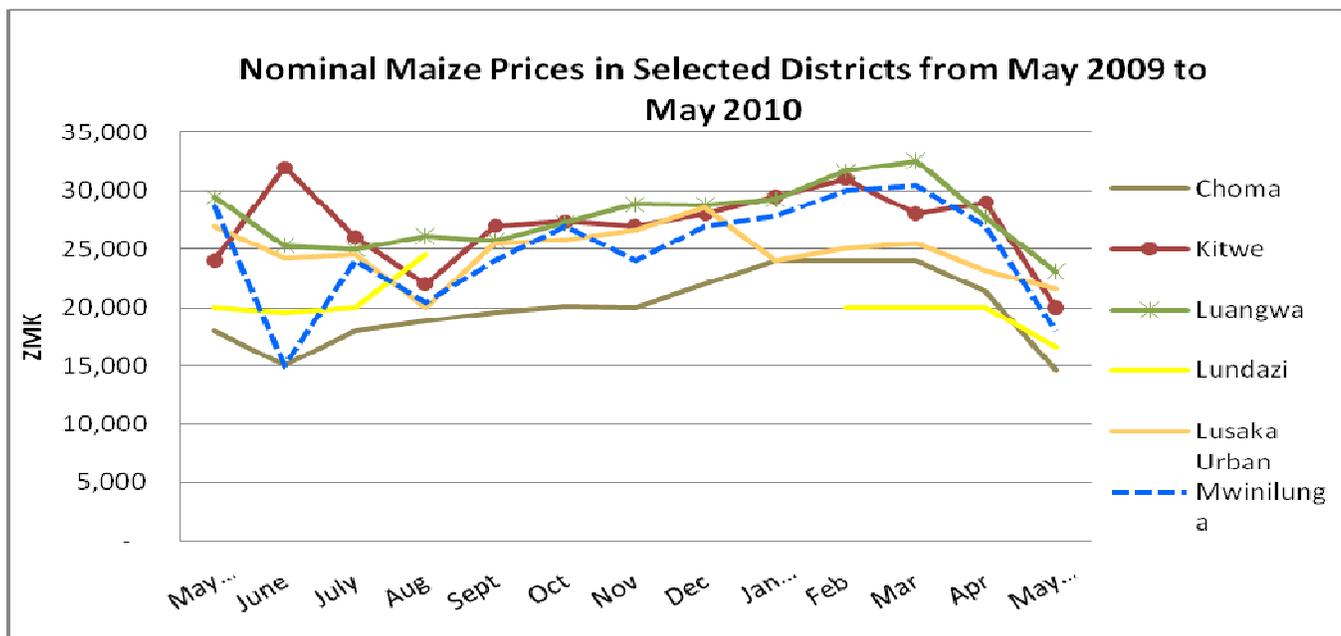
In view of the increased local maize supply, informal exports to neighbouring DRC are expected to significantly rise above the levels that prevailed during the previous marketing season.

Although at national level, the food supply situation has improved, there are areas in some of the monitored districts which will require some intervention. Based on the findings from the district staff, excessive rainfall and in some cases prolonged dry spells resulted in reduced production in these areas.

2.2.4 Food Access

Following the increased supply of the major food crops such as maize, sorghum and cassava on the market and the reported surpluses in all these crops, combined with falling prices of the commodities, many households and communities are guaranteed of improved access to food. With the new harvest reaching the market and increasing the already good supply levels, supply has surpassed demand forcing prices to fall substantially. Localized areas which may have had reduced harvests will be able to adequately source staple food from neighbouring communities and consumers will benefit from the expected lower prices. The Food Reserve Agency has announced an indicative minimum maize price of ZMK1, 300/Kg, though it is highly unlikely that this price will hold (especially with the private buyers) in the midst of a large maize production. The maize prices are more likely to reflect the supply/demand situation as the market will become a buyer's market this season. While maize meal prices are decreasing, falling maize grain prices will inevitably lower meal prices within the next few months.

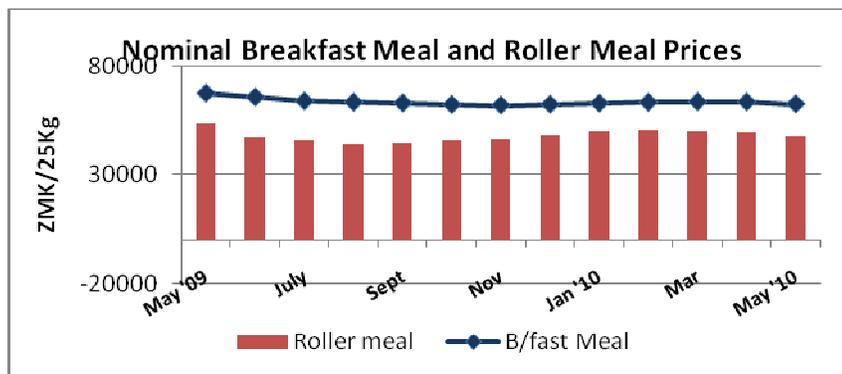
Figure 3: Nominal Maize Prices in selected Districts



Generally prices for maize grain are coming down in all the districts owing to increases in supply. The price for the maize grain ranges between ZmK 600 and ZmK 2, 000. On the other hand, Breakfast and roller meal prices remained high in the 2009/10 consumption season. Mealie-meal prices followed seasonal trends, decreasing in the period after harvest (June to August 2009) and increasing in the lean

period from December 2009 to March 2010. By May 2010 however mealie meal prices had started to decrease in response to increased market supply after the harvest.

Figure 4: Nominal Breakfast Meal and Roller Meal Prices



The Food Reserve Agency (FRA) has made plans to purchase a minimum of 300, 000 MT, at a price of ZMK 65,000/50 kg. The amount of maize to be purchased is more than double the amount purchased last season, increasing by 173% from 110,000MT to 300,000MT this marketing season. The FRA purchase price remains the same as for last season.

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 at 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. Producers will therefore earn less per unit with respect to the previous season. However, they will have higher retention for their own consumption.

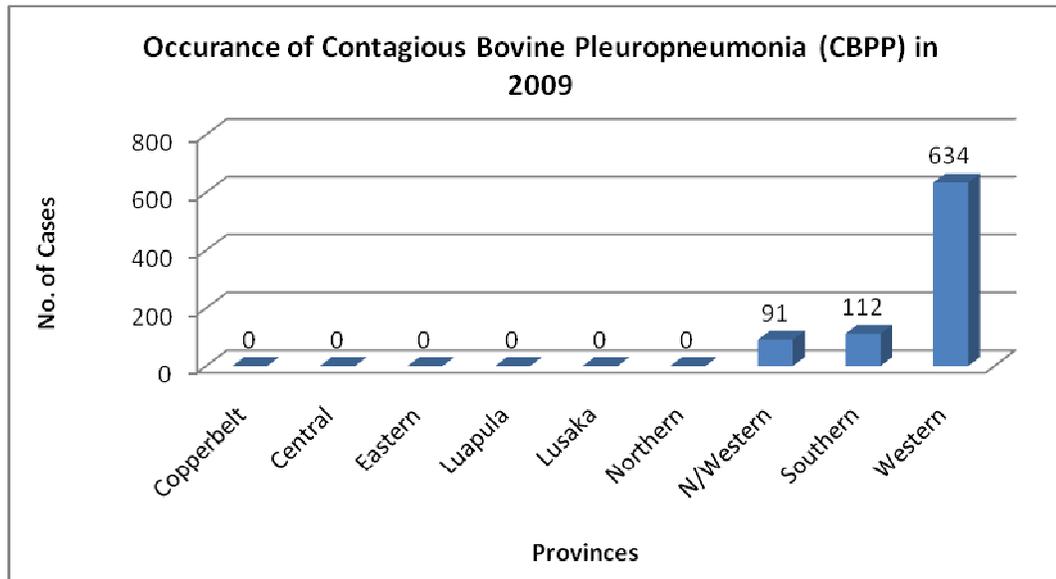
2.2.5 Livestock Situation

Livestock production continues to be a major livelihood activity among small scale farmers in the country. According to statistics obtained from the Ministry of Livestock and Fisheries, 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%).

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.

Figure 5: Occurrence of Contagious Bovine Pleuro Pneumonia



Most of the areas affected by these diseases are also prone to drought and occasionally floods. Livestock movement bans associated with control measures often disrupts 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.

2.3 Water and Sanitation

The Water and Sanitation sector comprises two sub sectors, Water Resources Management and Development (WRMD), and Water Supply and Sanitation (WSS). These sub-sectors are critical to the protection of natural resources and contribution to the continued development of the nation. In order to ensure good health for all levels in society, water and sanitation plays a critical role in national

development. All sectors, amongst others, agriculture, mining, industry, housing and energy require access to adequate water and sanitation services for their development.

To implement the sub sector activities, the government continues to implement the National Rural Water Supply and Sanitation Programme (NRWSSP) and the National Urban Water Supply and Sanitation Programme 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 and urban population and contribute to achievement of the Millennium Development Goals (MDGs) for water and sanitation.

Other programmes that the Government continues to implement are the National Solid Waste management Programme whose objective is to facilitate improved environmental management and reduce sanitation diseases through collection and management of solid waste and construction of toilets; the Water Resources Action Programme (WRAP) whose overall objective is to ensure that Zambia's water resources are managed and utilised for maximum social and economic benefit in an equitable and sustainable manner with strong stakeholder participation; and the National Water Supply and Sanitation Council (NWASCO), a regulatory body for urban WSS that also issues licenses to all urban water supply and sanitation service providers in Zambia. The Department of Water Affairs, which is being reformed by the WRAP process, carries out water assessment 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 through the Integrated Water Resource Management Plan (IWRMP).

As at 2006 about 41 percent of Zambians did not have access to safe, reliable and convenient quantities of water and adequate sanitation. The major challenges faced by the sector are the growing demand for water and sanitation services. Poor integrated water resources management is also a major challenge in the sector.

In order to address the challenges in the sector, focus has been primarily on increasing access to safe water and improved sanitation. This will be achieved through effective integrated water resources management and investment in water and sanitation infrastructure.

The sector particularly registered improvement in the percentage of the population with access to safe water and adequate sanitation. Coverage for 2006 was at 58 per cent from 37 per cent in 2004 while access to sanitation declined from 70 per cent in 2004 to 64 per cent in 2006.

The performance of the sector has been moderate towards achieving its goals. While there has been some progress made in programmes, a number of challenges are being faced during implementation including seasonal droughts and floods arising from varying rainfall amounts and patterns. 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.

Currently, the 2010 Water Policy and the Decentralization Implementation Plan have been approved by Cabinet. These guide the effective implementation of the water and sanitation programmes.

2.4 Health

The critical impact of health on national development cannot be overstated and therefore health care delivery remains a top priority of the Zambian government. According to the 2008 Ministry of Health Annual Report, the Ministry of Health recorded several achievements in its quest to ensure equity of access to cost-effective quality health care services as close to the family as possible. However, the country still had some disease burden to deal with.

The top ten causes of health facility visitation for all age groups in the annual health statistical bulletin of 2008 were the same as those recorded in 2007. These were malaria (252/1000), respiratory Infection (non pneumonia) (198/1000), diarrhoea (non bloody) (69/1000), trauma (47/1000), skin Infections (38/1000), muscular skeletal and connective tissue, eye infection (31/1000) respiratory infections (pneumonia) (30.8), skin infection (30.5/1000) and ear, nose /throat infection (27/1000).

Progress was made in the area of disease prevention and mitigation with a reduction in the nationwide malaria parasite prevalence from 22% in 2006 to 10% in 2008. The National Malaria Control Centre continued to scale-up Malaria interventions through:

- i. Prevention of malaria in pregnancy by distributing Insecticide Treated Nets(ITNs) to ante-natal mothers (874,293) national wide
- ii. Scale up of Indoor Residual Household Spray(IRHS) to 36 districts

- iii. Conducting of entomological and parasitological surveys in the 10 sentinel survey districts
- iv. And strengthening of case management, improved availability of anti-malaria drugs and diagnostic facilities with emphasis on Rapid Diagnostic Testing Kits (RDTs).

The 2008 Malaria Indicator Survey (MIS) results showed ITN coverage as follows:

Table 8: 2008 MIS Results: ITN coverage

Indicator	Coverage
Percentage of children 0-59 months that slept under an ITN	38 %
Percentage of pregnant women that slept under an ITN	40 %
Percentage of households that slept under an ITN	60 %

Child health programmes also progressed well with the percentage of fully immunized children under the age of one increasing from 86% in 2007 to 90% in 2008. Health worker training in Integrated Management of Childhood Illnesses (IMCI) was also scaled up. Increase was also noted in ARV uptake by HIV infected infants from 17% in 2007 to 29% in 2008. Pediatric Anti- Retro Viral Therapy (ART) uptake increased from a cumulative total of 12,000 to 18,040.

Under the Emergency Obstetric and Newborn Care plan (EmONC), 18 districts will be strengthened each year. The plan also involves staff training, infrastructure maintenance and provision of equipment. Currently EmONC has been scaled up in at least two districts in all the nine provinces of Zambia.

The continued scale-up of Highly Active Anti-Retro Viral Therapy (HAART) provision has resulted in the number of ART centres increasing from 197 in 2007 to 419 in 2008. In addition to the ART centres, there are a number of VCT centres run by NGOs and faith based organization. These two factors contributed to the observed increase in the number of clients accessing ART from 156,783 in 2007 to 219,576 in 2008. With the continued integration of Prevention of Mother to Child Transmission(PMTCT) programs into routine reproductive health services the number of HIV positive mothers accessing PMTCT services rose from 58,577 in 2007 to 69 963 in 2008.

Drug availability like is an important component in the delivery of good and quality health services. The demand for provision of quality health services is determined by among other factors, availability of essential drugs, qualified medical personnel, supplies and equipment.

The Ministry of Health Annual Report for 2008 shows that there was a slight decline in the percentage of drug availability in health centres from 70 % in 2007 to 69 % in 2008, while the percentage of availability of drug in hospitals declined from 84 % in 2007 to 77 % in 2008. The drug kit utilization for all the provinces however showed an increase from 0.75 in 2007 to 0.95 in 2008. Regardless of these fluctuations in the availability and utilization of drugs in the health sector the Ministry of Health has not relented in the continued procurement and supply of essential drugs, health centre kits and community health worker kits to all the districts in the country.

2.5. Nutrition

More than a third of deaths of children under the age of five years and disability-adjusted life years worldwide can be attributed to under nutrition, making it the largest risk factor in any age group for global burden of disease (Black et.al, 2008). Under nutrition encompasses stunting, wasting, underweight and deficiencies of essential vitamins and minerals (micronutrients). Stunting, severe wasting and intra uterine growth restrictions are together estimated to be responsible for 2.2 million deaths and 21% of the Disability - Adjusted Life - Years (DALYs) for children under five years (Ibid.). Deficiencies of vitamin A and zinc were estimated to be responsible for 0.6 million and 0.4 million deaths respectively and a combined 9% global childhood DALYs worldwide. Furthermore, sub-optimal breastfeeding was estimated to be responsible for 1.4 million child deaths and 10% of DALYs in children under five years (Ibid.). Therefore, good nutrition is a prerequisite for economic development (Victoria et.al, 2008). Furthermore, undernourished children are more likely to be stunted into adulthood, have lower educational achievements and give birth to smaller infants. Maternal and child under nutrition are also associated with lower economic status with effects that spill over to future generations. It is also worth noting that the time from pregnancy to 24 months of age presents a crucial window of opportunity for reducing under nutrition and its adverse effects” (Bryce J. et. al. 2008). Programme efforts should therefore focus on this segment of continuum of care.

In Zambia, despite improvements in the levels of stunting and underweight from 47% and 28% in 2001 to 45% and 15% in 2007 respectively (CSO, 2009), under nutrition remains a serious public health concern. 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 (Ibid.). Stunting signifies long term deprivation of adequate nutrition and may be coupled with recurrent and chronic illnesses. Acute malnutrition (wasting) levels,

however, have remained the same (5%). Wasting reflects current inadequate food intake and/or current illness, while underweight is a composite of both short and long term nutritional inadequacies.

Micronutrient malnutrition arising from the deficiencies of vitamin A, iodine, iron and zinc are most likely to co-exist with other forms of under nutrition discussed above. According to the NFNC, 54% of all children fewer than five years were vitamin A deficient, whereas 53% were iron deficient in 2003 (NFNC, 2003). These prevalences are of public health concern as they are well above the WHO cut-off points of 10%. For vitamin A deficiency, this can largely be attributed to inadequate dietary intake of the micronutrient. Iron deficiency on the other hand, is a result of inadequate dietary intake as well as public health problems such as, high malaria incidence, worm infestations and bilharzia. The government of Zambia has put in place interventions including vitamin A and iron supplementation programmes for vulnerable groups to include children and women of reproductive age group to alleviate the problem.

Breastfeeding, in particular exclusive breastfeeding for the first six months of a child's life, is one of the key strategies for child survival both in the general population as well as in the context of HIV. There has been an improvement in the rate of exclusive breastfeeding in the general population from 41% in 2002 to 61% in 2007 (CSO, 2009). Following exclusive breastfeeding, the timely introduction of adequate complementary foods with continued breastfeeding up to 24 months or beyond is cardinal for continued proper growth, development and child survival. There has been an increase in the proportion of mothers who introduce complementary foods to their infants aged between 6 and 9 months of age from 87% in 2001/2 to 93.7% in 2009 (CSO, 2003/9).

The prevalence of the afore-mentioned forms of under nutrition are likely to be more pronounced in emergency and disaster situations where household livelihoods are disrupted, There is therefore a need for interventions and social safety nets to alleviate the negative consequences for vulnerable disaster affected populations.

2.6. Education

Although Education has always been considered as a factor of personal and national development, over the last 15 years education in Zambia has exhibited fairly low growth. This is manifested in low progression rate, high dropout 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 vision of the policy has been translated into strategies which are being implemented through the National implementation Framework (NIF) for education covering spells of 5 years, the first being 2005 to 2010 and the current covering 2010 to 2015 under the bigger national plan of the Fifth National Development (FNDP) plan and the sixth National Development plans.

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 cater 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 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% (Education Statistics, 2007). 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 (Education Statistics, 2007). 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.

Under the National Implementation Framework(NIF) of the FNDP, the Ministry of education in the year 2008 commenced the construction of an average of 1700 classrooms at basic school level annually until the year 2015 and 100 high schools (600 pupils capacity) to reduce the deficit in the numbers of classrooms and both levels.

The Ministry has started to partner with the private sector and other organizations in the provision of infrastructure at all the levels of education provision i.e. Early Childhood Care and Education Development (ECCED), Basic School, High School and Tertiary levels.

2.7. Social Protection

The Social Protection Sector aims to protect and promote the livelihoods and welfare of the critically poor and of people with the greatest vulnerability to adverse impact of risks and shocks so that they have sufficient livelihood security to meet their basic needs.

Among other things, vulnerability can be characterized as lacking human capital, or lacking productive capital. Social protection activities often address the lack of productive capital by targeting people who lack human capital as well as productive assets. Since most households that have deficits in human capital are often marginalized from development opportunities, social protection therefore provides for deficits in basic needs, and build appropriate and sustainable coping strategies and livelihood mechanisms. Social protection activities may seek to assist such households to cope at a 'crisis point', or may alternatively intervene strategically to prevent or mitigate the impacts of risk, shock and shifting vulnerabilities. In addition, related cause and effects to vulnerability include; gender based violence, human trafficking and forced labour which has risen in the recent past.

In view of the above, social protection programmes are targeted to reach priority groups exposed to key risks, shocks and shifting vulnerabilities. Whether aimed at promotion or prevention, social protection is always specifically targeted at key vulnerable groups, forming *part* of the poverty reduction process, and complementing broad based National programmes.

The apparent need for social protection in Zambia is clear: there are high levels of extreme poverty and vulnerability, which are maintained through the multiple effects of HIV and AIDS, poverty, unemployment and repeated natural calamities such as drought and floods. The HIV and AIDS rates are more prevalent among women compared to men. This feminization of the HIV and AIDS prevalent rate has been among others perpetuated by gender based violence, failure to negotiate condom use and limited economic opportunities for women. As a result, grandparents have become major care givers for Orphans and Vulnerable Children, experiencing increasing challenges in raising income and providing care as they grow older. In an emergency situation, the risks and shocks or forces caused by natural calamities tend to worsen the vulnerability of individuals and communities since the resources, assets or support mechanisms they depend on are affected by these disasters. Furthermore, many able bodied men and women of working age are left without jobs, and thereby competing with people from low capacity households for marginal income opportunities, public works and charity.

Some of the Social Protection Interventions in Zambia include the following:-

- i. **Food Security Pack:** Under this programme farming inputs shall be provided to vulnerable but viable farmers at household level to enhance food security through crop diversification, conservation farming, promotion of micro credit facilities, and alternative livelihoods. This will greatly contribute to increased productivity of crop yields, livestock and household assets for people in disaster prone areas.
- ii. **Public Welfare Assistance Scheme (PWAS):** This is government's major social assistance programme aimed at assisting the incapacitated households in order to reduce hunger, extreme poverty and destitution. Under PWAS beneficiaries will be assisted with education, health and social support. The PWAS programme is unique because it uses a community based approach when targeting and implementing the scheme. A system which other programmes both locally and regionally have adopted and implemented.
- iii. **Social Cash Transfers:** The Social Cash Transfers (SCT) are regular non-contributory payments or money provided to incapacitated and extremely poor individuals or households in a given community. This scheme is an efficient and cost effective mechanism for assisting incapacitated households and strengthening communities' resistance to vulnerability as beneficiaries use the cash for nutrition, access to services, savings and small investments. Additionally, the SCT scheme has a multiplier effect on the community as there is direct investment in the local economies as the beneficiaries spend the money procuring goods from the local environment there by promoting local enterprise. Results under this scheme show that individuals and households accessing SCTs have seen notable improvements in their livelihoods, increased consumption levels in terms of food, investment in education, health as well as reduced destitution.
- iv. **Child Protection;** is aimed at addressing the plight of children including those found on the street by providing adequate legal and social protection such as shelter, education, food etc to these children living in difficult circumstances or in need of care. Further, Government will construct state owned and state-run children homes. In terms of implementation there is an urgent need for coordination and collaboration among all stakeholders involved in child protection programmes for effective rehabilitation and reintegration of children in need of care.

The Ministry of Community Development and Social Services (MCDSS) will continue with the mandate of managing and coordinating all official social protection activities within the country in collaboration with its stakeholders. The Government recognizes that more needs to be done; to support the effective implementation of social protection strategies and a number of key policy and institutional reforms will be put in place.

2.8. Human Habitation and Shelter

Shelter is a basic need for all as it provides personal security and protection from adverse climatic conditions and enhances resistance to disease and ill health. About 65% of Zambian households occupy traditional housing units (LCMS, 2004). In Zambia, 73% of the population is poor or extremely poor while in the rural areas, 71% of people live in extreme poverty, twice as many as in urban areas (SARPN, 2008). In rural Zambia, 91% of the households occupy traditional houses while in urban areas this stands at 22%.

Human settlements and shelter get affected by hazards of various kinds and at times destroyed depending on the severity of the hazard. The vulnerability of the settlements and shelter, human life, property and infrastructure to flood disasters is worse in rural areas due to the poor, inappropriate and weak building materials (mainly pole, mud and grass) used in building traditional houses.

Whenever floods occur, an average of 10% of the affected, require relocation and/or resettling as their settlements and shelter get damaged and in some cases they are completely destroyed. These are mostly in rural areas, where poverty levels are higher and communities are less resilient to effects of floods. The government would do well to implement a fast track transmigration programme where communities settled in flood prone areas would voluntarily be resettled to higher and safer lands to avoid the repeated experience of some communities being affected each time floods occur. This would lessen vulnerability and enhance improved living conditions of vulnerable communities, as well as reduce pressure on government emergency response, rescue and support.

The rationale for the implementation of the transmigration programme needs to be based on the benefits of long term prevention mechanism as opposed to short-term solutions to immediate needs of flood disaster victims.

2.9. Infrastructure

The Six National Development Plan places infrastructure development as one of the key sectors apart from Agriculture that would drive the Zambian Economy to meet the vision 2030. Development of infrastructure is also one of the key poverty reduction mechanisms that the government has put in place to contribute towards improving the living conditions of the poor and vulnerable communities. Most of Zambia's major road infrastructure was constructed in the 1970s. The age of the drainage facilities (culverts & bridges) coupled with vandalism (mostly on corrugated metal ARMCO pipes) effects have resulted in considerable damage from inclement weather. The condition of roads, bridges and culverts have become generally bad. The country has for the past three consecutive seasons experienced floods which have had an impact on infrastructure.

The country depends mainly on gravel and feeder roads connecting districts and wards to each other especially in rural areas. This is a vital and strategic link for the supply of goods and services to the communities in various parts of the country. Government has encouraged the establishment of schools and health centers in the rural areas through community development programmes such as rehabilitation of existing infrastructure. According to the LCMS (2004), the most widespread infrastructure projects in the rural areas are rehabilitation/resurfacing of roads, provision and improvement of education infrastructure and health facilities. However despite all this, most of the infrastructure especially in the educational sector remains in a poor state as most community schools are built from pole and mud.

3.0. FINDINGS

3.1. General Demographics

The survey showed that eighty seven percent (87%) of the area in the fifteen (15) districts were rural. Most of the households in these districts were male headed and fell in the age group of 19 to 37 years (56 %). Female headed households made up 23% of the number of households in the seventeen districts while child headed households made up a meager 0.8%. The age range for the child headed households was between 11 and 18 years. Households that were managed by elderly people above the age of 57 years made up 19% of the population in the 15 districts.

The survey further established that most of the household heads in the surveyed districts had at least primary education or better. Those that indicated to have primary education made up 52% of the population while 38% indicated to have attained secondary education. A further 6% indicated to have attained tertiary education while the remainder had never been to school.

It was also established that 73.1% of the household heads were married while 10.5% indicated as being widowed. A small number (3%) indicated having been separated. The survey further established that the average family size for the surveyed area was six which was in line with the findings of some of the national surveys such as the Living Conditions Monitoring Survey (LCMS, 2004).

The In-depth assessment survey conducted in fifteen (15) districts established that a total of 238,258 people (39,710 households) were negatively impacted upon by the 2009/10 flood situation. It should be emphasized that this figure represents the total number of people and households affected in one way or the other and does not in any way represent any sector based population.

3.2. Preparedness Measures

The assessment established that 22% of the households in the assessed districts were warned about the dry spell and flooding. The majority of households (87.9%) indicated that the early warning messages were received from radio. These messages were mainly prepared and transmitted through electronic media by the Zambia Meteorological Department (42%). Other institutions that transmitted warning messages through the radio were the District Disaster Management Committee with about 32% of the households indicating having gotten messages through this source.

From the number of households receiving early warning messages, it would be important to revamp the early warning systems and also find an effective way of passing such information to the public. It will be imperative to raise the number of people getting early warning messages.

When asked what the households that had received the early warning messages had done to prepare for the hazard, 34% indicated having stocked up food in preparation for the eventuality. A further 26% indicated that they had relocated to another area after receiving flood warnings.

3.3. Livelihoods, Incomes, Expenditure Patterns and Asset Ownership

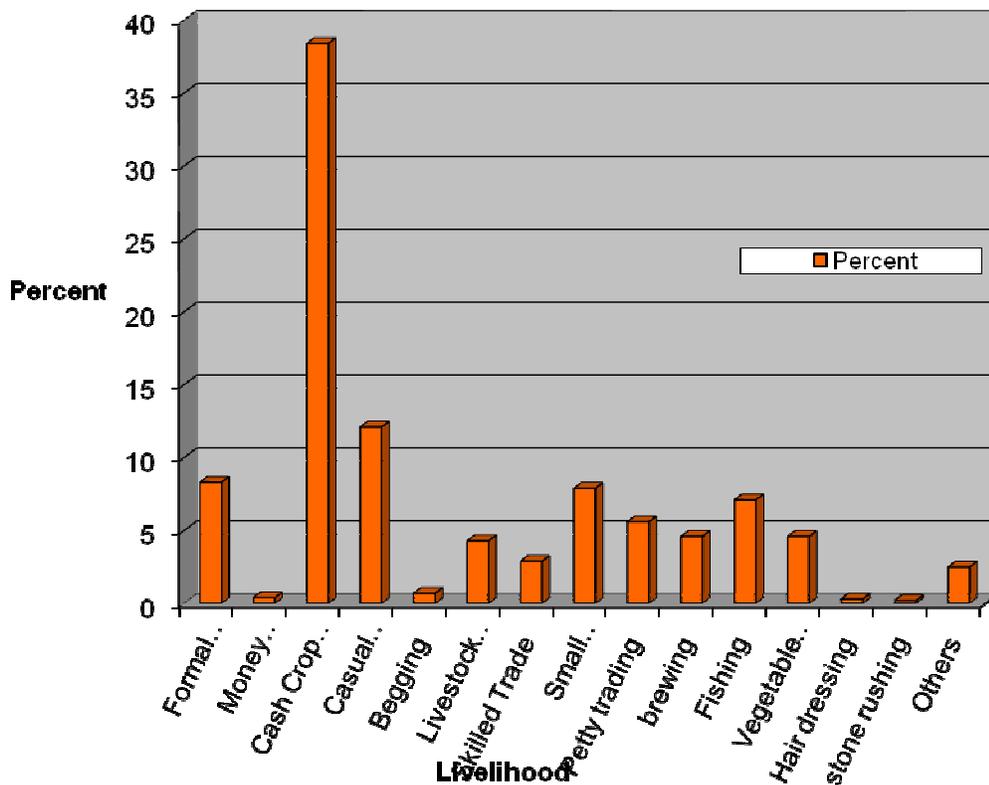
3.3.1. Livelihoods

The main livelihood that the households in the survey districts engage in was determined to be agriculture with 84% indicating to be involved in the sector. About 38% of the households indicated that they were involved in cash crop production. Other households indicated engaging into the provision of casual labour (12%) as their mainstay. These provided labour to more well-off households. A further 7% indicated that they were fisher folks.

Owing to the fact that the majority of households are involved in activities that rely on weather, the floods and dry spells that were experienced did impact their sectors negatively. Agricultural production, for instance, recorded average crop losses at 30%.

Other livelihoods that the households indicated as being involved in included formal salary (8%) and trading mainly involving small businesses (8%). The table below (Figure 6) shows the livelihoods which the households were involved in.

Figure 6: Household Main Livelihood Sources



The above picture relating to livelihoods in the surveyed districts is similar for fifteen (15) districts where households indicated being involved in agriculture. However, Kafue was different from the rest in that most of the households (44%) were salaried implying formal employment. In view of this finding one, would therefore expect the people in Kafue to be a lot more resilient than those majority farming households in the other districts.

3.3.2. Income Sources

The main income source for the households in the seventeen districts was found to be cash/food crop production which stood at 51%. The second most important income source for the households was indicated as being formal employment which stood at 14% followed by casual labour which stood at 7%. Other sources of income were brewing, vegetable production, small business, livestock sales and skilled trade.

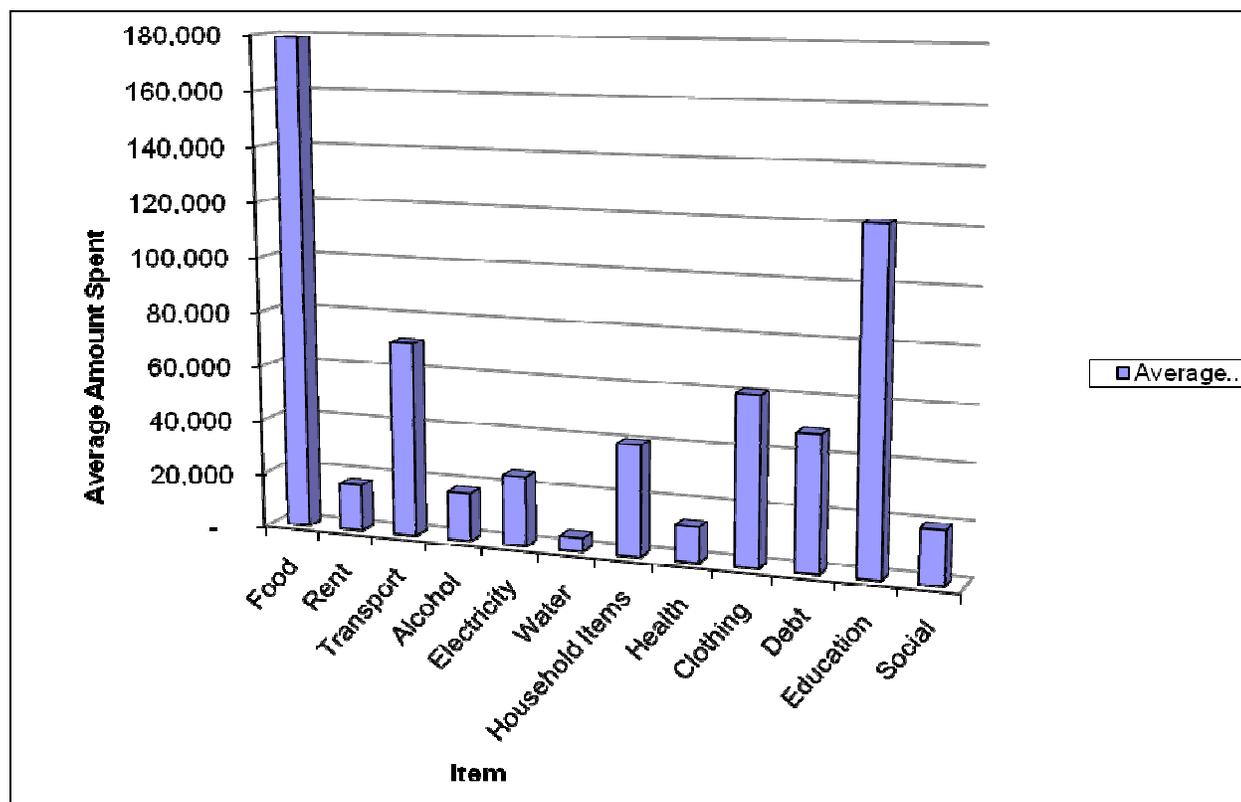
An analysis was done to see if the floods that these districts experienced had changed their income sources. It was discovered that there was no significant change in income sources when a comparison was

done between the 2009/2010 agricultural season to the previous season. This implies a stability in the income source and hence no exits from one livelihood to the other.

3.3.3. Expenditure Patterns

The sampled households spent their money on Food, rent, Transport, Alcohol, water, electricity, household item, health, clothing, debt social activities and education. However 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. The average amount of money spent on food was about K179, 000 per month followed by education (K121, 000), Transport (K71, 000) and clothing (K61, 000). Less was spent on water, rent and health as shown in Figure 7 below.

Figure 7: Average Expenditure for Households on Various Items



3.3.4. Asset Ownership

Since most of the households in the surveyed districts were agricultural, 92% of the households owned hoes, 20% had ploughs and 5.5% ox-carts. The numbers of these implements per household had grown over the past year signifying that households were not about to migrate from the agricultural sector. The

other productive assets owned by households included fishing nets (12.7%) and canoes (11%). The survey also showed that the households did not off – load their household items as a mechanism to fill their daily requirements.

Furthermore, most of the households in the surveyed districts are traditional livestock keepers. The kinds of livestock kept included cattle with 24.8% of households indicating owning some, goats owned by 13.4% of households, sheep (0.5%) and pigs (7.4%). The most commonly owned livestock was poultry where 54.5% of households indicated having some kind of poultry. These kinds of livestock could serve as insurance for these households when things become difficult.

3.4. Coping Strategies

The assessment of coping strategies was done from the consumption, expenditure and incomes perspective.

The assessment revealed that there was no significant change in the number of meals taken per day by the households in the assessment area. About 51% of the households indicated taking two (2) meals a day which is the number of meals taken normally (Figure 9). A small percentage of households (1%) indicated that they had more than three (3) meals a day. It can therefore be deduced that the communities are taking the normal number of meals and are therefore not under any stress.

Figure 8: Graph Showing Number of Meals Taken the Previous Day

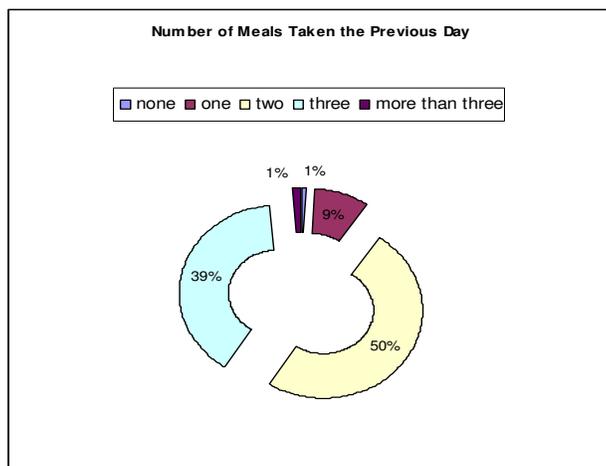
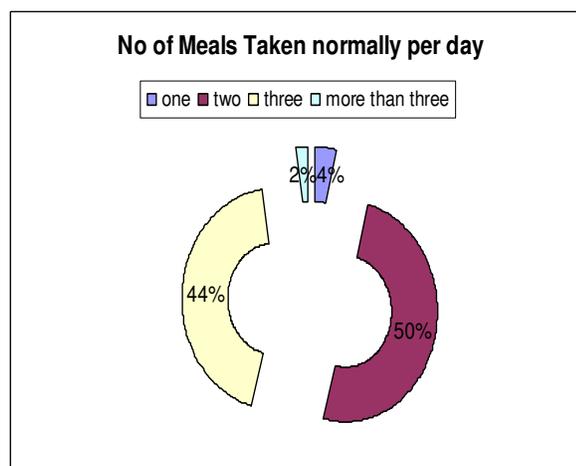


Figure 9: Graph Showing Number of Meals Taken Normally Per Day



3.3. Agriculture and Food Security

3.3.1 Household Food Security

In all the seventeen districts surveyed, 84% of households continued to depend on farming activities as their mainstay for food security. The survey showed that the production of all the major staple food crops such as maize, sorghum, millet, rice and cassava generally continued to expand in most of these districts. Of these staple crops grown, maize was the most commonly grown with 76.7 percent of the households reporting growing the crop. The other staples grown included rice which stood at 10.6 %, followed by millet (8.9 %) and sorghum (6.9 %). Cassava was not widely grown in most of the districts.

3.3.2 Access to Arable Land

Approximately 84 % of the households in the assessed districts indicated that they had access to arable land. Of these households, 28% indicated that they had access to more than 2 hectares of land while a similar proportion (27%) had access to between 0.5 to 1 hectares of land.

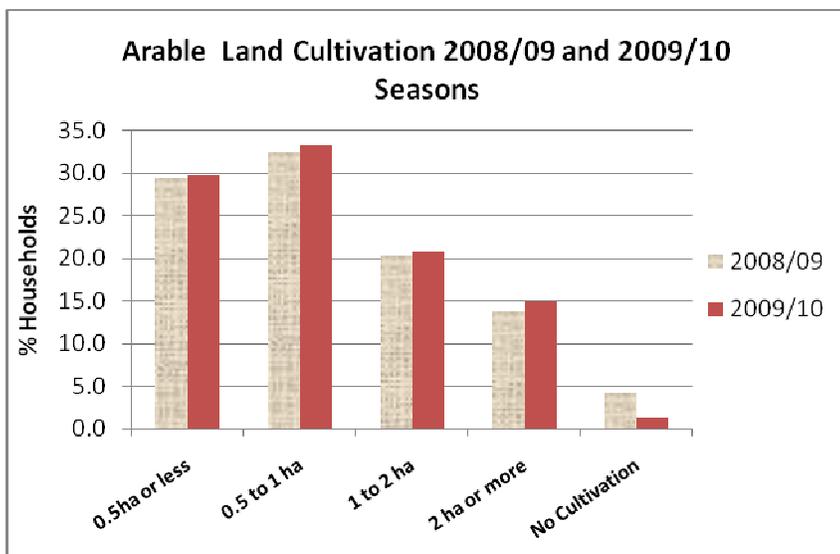
Table 9: Percentage Household Accessing Land by District and Size of Land in Hectares

District	0.5ha or Less	0.5 to 1 ha	1 to 2 ha	2 ha or More	None
Serenje	9.3	27	26.5	37.3	0
Mambwe	35.4	24	25.5	15.1	0
Kafue	12.6	22.5	40.5	24.3	0
Luangwa	37	27.2	23.5	12.3	0
Chavuma	27.9	27.4	29.3	14.9	0.5
Gwembe	11.5	35.9	32.7	19.9	0
Kazungula	9.2	20.7	19	51.1	0
Namwala	5.5	17.1	15.1	62.3	0
Sinazongwe	8.6	39.6	29.5	22.3	0
Kalabo	28.2	26.2	23.6	22.1	0
Lukulu	21.1	32.2	27.6	19.1	0
Mongu	19.4	32.3	19.4	29	0
Senanga	16.9	22.5	22.5	38	0
Sesheke	27.1	29.2	25.5	18.2	0
Shang'ombo	29.1	28.6	18.4	24	0

The majority of respondents in Serenje (37%), Kazungula (51%), Namwala (62%) and Senanga (38%) had access to more than 2 hectares of agricultural land. However, in Mambwe (35.4%), Luangwa (37%),

Kalabo (28.2%) and Shang’ombo (29%), the majority of respondents only had access to 0.5ha land or less (See Table 9 above).

Figure 10: Comparison of Arable Land Cultivation for 2008/09 and 2009/10 Seasons

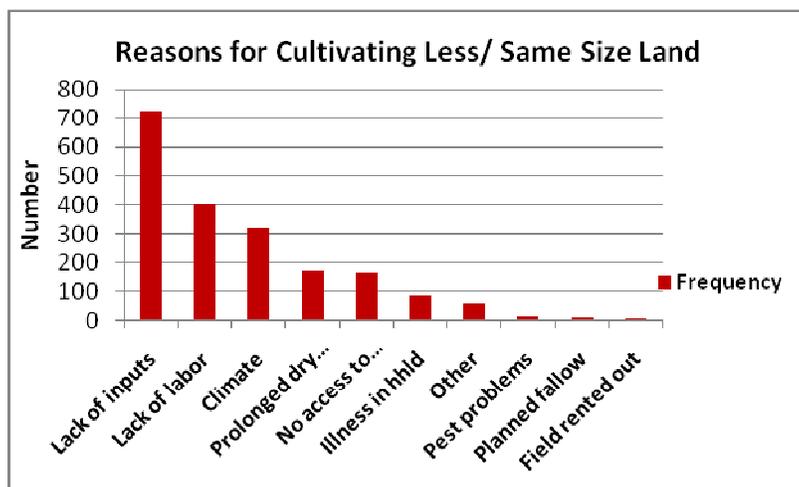


There was no major difference in the quantity of land cultivated by the assessed households in the 15 districts in the 2008/09 and 2009/10 agricultural seasons (Figure 10). The majority of households assessed (53%) reported cultivating the same quantity of land in 2009/10 as they did in the previous season, 27% reported cultivating more land, while 19% reported cultivating less.

The results however show that the proportion of households that cultivated more land in the 2009/10 agricultural season was higher than the previous season.

For households that cultivated less or the same quantity of land in the 2009/10 agriculture season as compared to the 2008/09 season, lack of inputs, lack of labour, response to climate (poor and adverse rainfall) were cited as the major reasons (see Figure 11).

Figure 11: Reasons for Cultivating Less/Same Size of Land

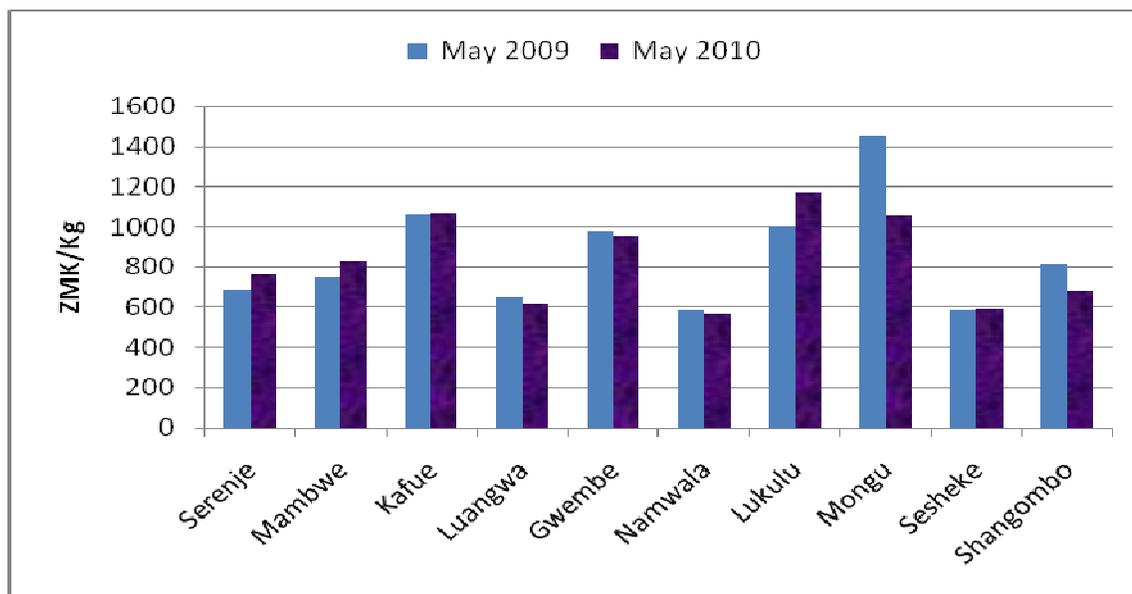


Approximately 12 % of the households assessed in the survey reported practicing winter maize growing. 76% of these respondents reported growing winter maize in the 2008/09 season; and, 82% intended to plant winter maize in the 2009/10 season. However, the level of production was low, with an average harvest of 4 bags per household in the 2008/09 season.

3.3.2. Market Situation

The results of the assessment indicate that maize prices in 6 of the assessed districts remained stable or decreased in May 2010, as compared to the situation in May 2009 (Figure 12). The highest price decreases were observed in Mongu and Shang’ombo districts, where maize prices decreased by 27% and 16% respectively. Price levels remained stable in Kafue and Sesheke districts in the same reference period. However, in Lukulu observed maize prices in May 2010 were 17% higher than prices in May 2009, while prices in Serenje and Mambwe districts were 10% higher than the previous season’s prices. This may be attributed to the fact that although a significant maize surplus was realized in the last 2008/09 agriculture season, maize prices remained exceptionally high in the 2009/10 consumption season. Furthermore, price increases were observed in the lean season from November, 2009 to January, 2010. The May 2010 maize prices reported therefore best reflect the end of the previous market stocks on the market and partly the extent to which the households are accessing food from own production in the assessed districts.

Figure 12: Maize Prices in Affected Districts - May 2009 versus May 2010

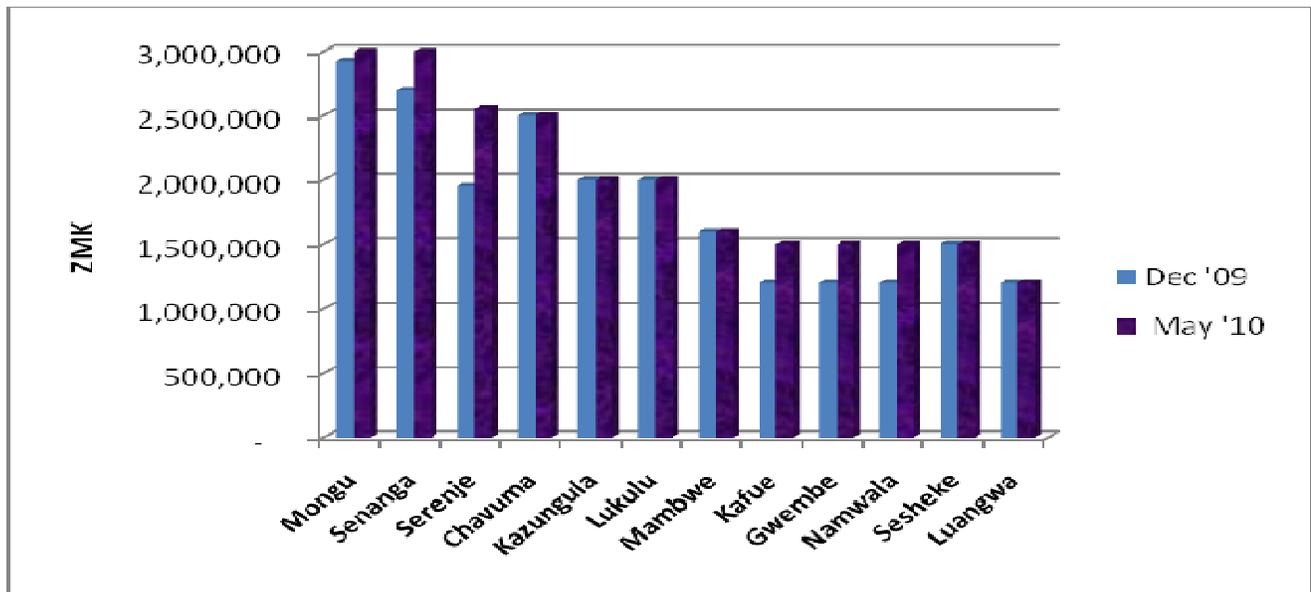


The period from April to June is a time when household dependency on the market starts to reduce due to availability of own harvest. Maize prices are therefore expected to have further decline in June and July, when the benefits of the current exceptional food harvests are more likely to be seen.

Livestock production, in particular cattle rearing, is a key livelihood for most of the assessed districts in Western and Southern Zambia. In 6 of the 15 assessed districts, cattle prices were higher in May 2010

than they were in December 2009. The highest increase was seen in Serenje district where prices increased by approximately 31% from ZMK1, 950,000 per animal in December 2009 to ZMK 2,550,000 in May 2010. Cattle prices in Kafue, Gwembe and Namwala districts also increased by 25% in the same time period. The increase in cattle prices during this time period suggests that in May 2010, most farmers in these areas were able to negotiate higher cattle prices and were not desperate to sell their cattle to meet food or other pressing needs.

Figure 13: Cattle Prices in Affected Districts



In Mambwe, Luangwa, Chavuma, Kazungula, Lukulu and Sesheke the prices of cattle remained stable. It is important to note that in three of these six districts (Luangwa, Namwala and Sesheke) which are also key cattle producing areas, crop production in the 2009/10 season was also lower than in the 2008/09 season. These areas also had some of the lowest cattle prices, with prices ranging from ZMK1, 200,000 per animal in Luangwa to ZMK1, 500,000 in Sesheke and Namwala. These low livestock prices in these traditional cattle rearing districts are likely to have a negative bearing on the household incomes and therefore food security for those keeping cattle. The livestock prices especially for Western Province were further suppressed owing to a ban on livestock movement put in place to contain disease out-breaks.

At the time of the assessment, the maize and livestock prices did not reflect a desperate situation in the assessed areas, this being immediately after harvesting period. It is not expected that the situation will change in the short to medium term post harvest period. However, the relatively low prices of livestock in Western Province and low crop productivity in some of the assessed areas warrant that the situation in

these areas be monitored in the latter months of the year when, household food stocks decline and households turn to the markets for food purchases.

3.4. Water and Sanitation

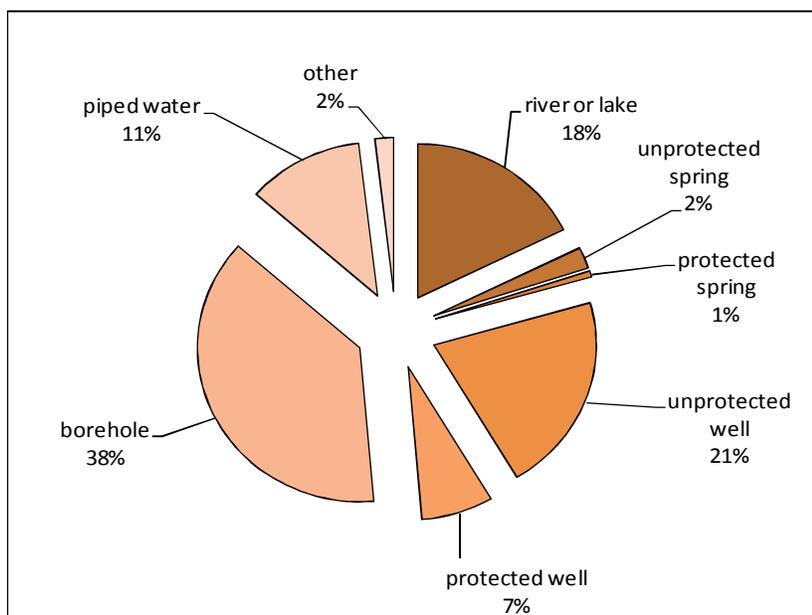
3.4.1 Water

3.4.1.1 Drinking Water at Household

The following districts were sampled to arrive at the conclusion and recommendations made for mitigation of the drought effects during the 2009/10 drought season; Serenje, Mambwe, Kafue, Luangwa, Chavuma, Gwembe, Kazungula, Namwala, Sinazongwe, Kalabo, Lukulu, Mongu, Senanga, Sesheke and Shangombo.

A total of 3,065 water sources were surveyed of which a huge portion, 43% (1,328) was found to be unsafe.

Figure 14: Main Source of Drinking Water



The most commonly used water source for domestic purposes is the borehole with hand pump at 37.5% and 13.4 % of these were affected by the flood indicating a drop in communities with access to safe water sources. Nevertheless it is revealed that these water sources are within 100-150m distance to the households and therefore are accessible when not affected by the flooding.

The quality of water among the sources most used for domestic purposes is 69.8% good and for the sources affected by floods, drops to 29.4%. Floods have a negative effect on the quality of water even

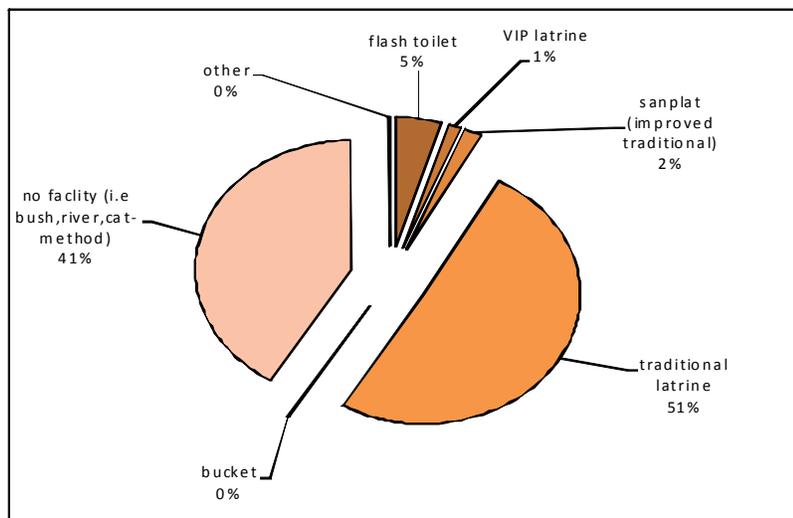
though the source is protected. For these communities affected by floods, 51.6% had no alternative source and the communities with an alternative source had the majority of them collecting water from unprotected wells. The effect of the floods therefore is to force communities to draw water from unprotected water sources and for others without an alternative source, to use the affected source whose quality of water drops drastically.

The survey also revealed that 29.2 % of the communities treat their water. The methods of treatment are distributed as follows; by use of chlorine (24.2%), boiling (6.6%) and filtering (0.2%). This implies that a large proportion of the affected communities at 70.8 %, use potentially unsafe water. This is also compounded by the fact that among the communities without access to safe water due to floods, only 57.7 % have access to sanitary facilities as 40.4% of the facilities collapse due to the floods. Furthermore, only 47.6% of the communities use soap when washing hands which is proven as a effective intervention in the spread of water borne diseases.

3.4.2. Sanitation

It is estimated that 41.2% of the sampled communities did not dispose of their faecal waste in a safe manner and that the most common sanitary facilities for excreta disposal amongst the sampled households was the traditional pit latrine at 50.7%, flush toilets at 4.8%, VIP Latrine 1.3%, sanplat at 1.8%.

Figure 15: Main Sanitary Facility Used by Sampled Households



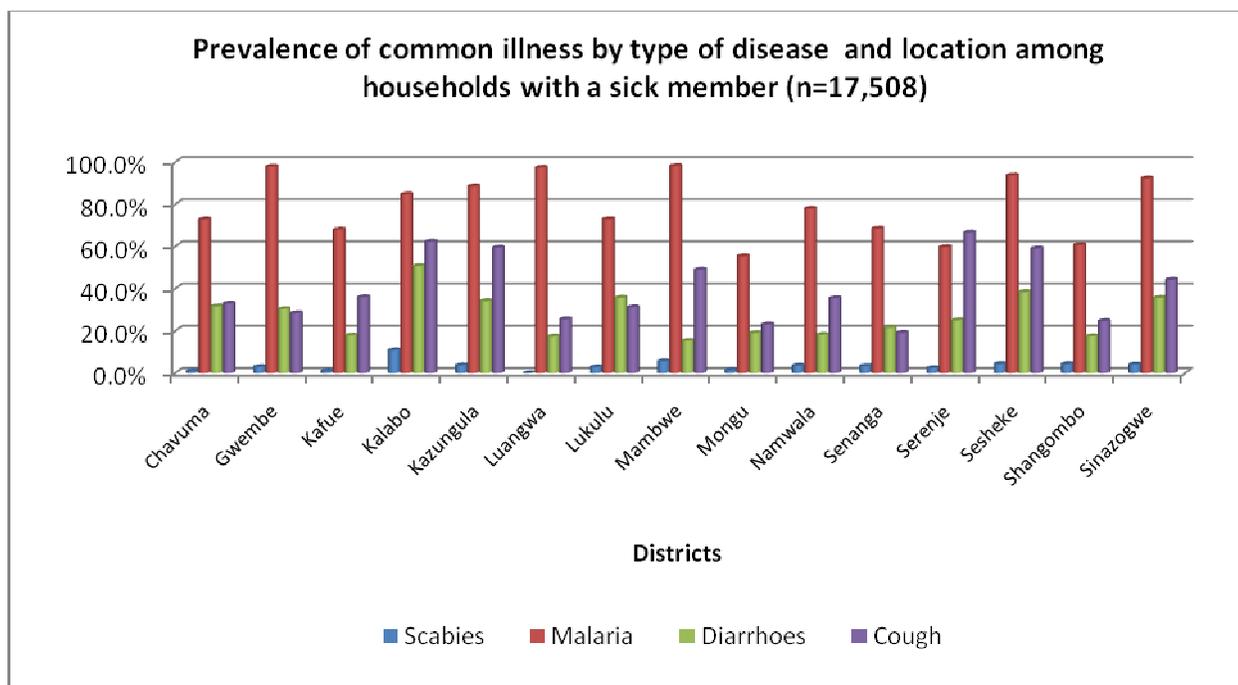
About 40.6% of the latrines collapsed due to the effect of the floods and 47.3% of the community does not wash their hand and of the 51.9% that do wash their hands, only 47.6% use soap.

Therefore, it is assumed because of the insanitary conditions created by the floods, the water borne disease patterns have increased and caused hardship for the affected communities

3.5. Health

The survey revealed that 81.3 % reported a household member being taken ill during the period January – March 2010. The assessment further revealed that gender was insignificant in one being sick during the same period. It was observed that in all districts affected by floods, over 60% reported a household member having Clinical Malaria. The table below shows the prevalence of common illnesses by type of disease and location among households that had at least one sick member.

Figure 16: Prevalence of common illnesses by type of disease and location

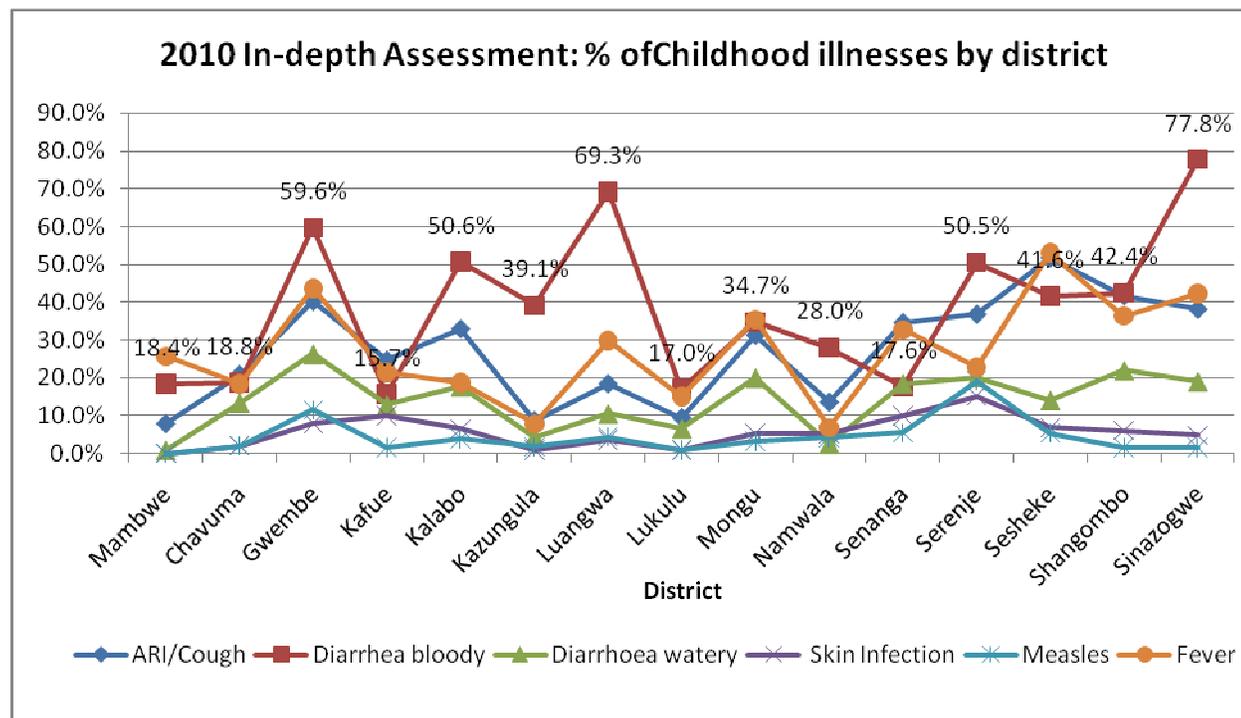


3.5.1 Children aged 6-59 months

The assessment revealed that 74.5 % and 24.4 % of the households in the survey had one or two children aged 6-59 months respectively while the households with more than two children accounted for 1.2 %. The households that had children aged 6-59 months reported symptoms of Fever/malaria (27.9%), ARI/Cough (27.8%) diarrhoea (13.6%) in the last 2 weeks prior to the survey, while skin infection and measles represented 5.7 and 4.5 % respectively.

The prevalence of these diseases by location is shown in the figure below.

Figure 17: Percentage of Childhood Illness by District



3.5.2 Immunization

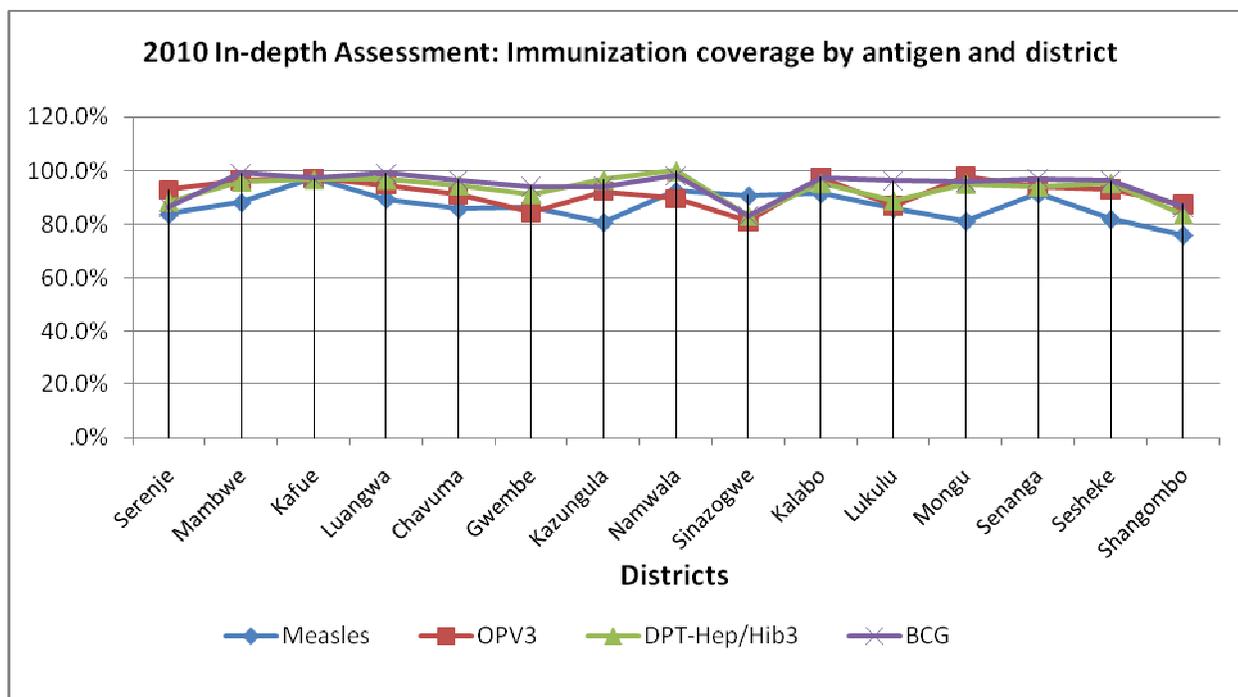
Overall Immunization coverage by antigen in the assessment showed excellent results as per table below:

Table 10: Immunization Coverage by Antigen

Antigen	% Coverage
Measles	86.5
OPV 3	91.8
DPT /HepB/Hib3	93.5
BCG	95.1

However measles coverage levels were below 90% in Kazungula (80.8%), Mongu (81.3%), Sesheke (82.0%) and Shang’ombo (76 %). The coverage rate per district is further demonstrated in the figure below.

Figure 18: Immunization Coverage by Antigen and District



3.5.3 Preference of Health seeking patterns

Of all the households reporting sickness in the last two weeks prior to the survey, 53.8% sought formal care and 5.2% reported going to traditional healers while private care, pharmacy or taking own medication accounted for less than 1 percent. Those who did not seek any care cited among other reasons no transport (4.8 %), poor quality service (2.7%) and no money (2.6 %).

3.5.4 Health infrastructure

Health infrastructure was not spared from the effect of the floods. Fifteen health centers in 9 districts experienced some degree of damage which is summarized in the table below:

Table 11: Damage to Health Infrastructure

DISTRICT NAME	HEALTH FACILITY	H/C DAMAGED	MATERNITY	MCH	INCINERATOR	MOTHER SHELTER	LAB	WATER POINTS	STAFF HOUSES
Serenje	Mpelembe	1	0	0	0	0	0	0	0
	Muchinka	1	0	0	0	0	0	0	0
Chavuma	Nyantanda Health Post	1	0	0	1	1	1	1	1
Gwembe	Choboboma	1	0	0	0	0	0	0	0
Kazungula	Simango	1	0	0	0	0	0	0	0
Namwala	Namachila	1	0	0	0	0	0	0	0
Kalabo	Nagole RH Post	1	0	0	0	0	0	0	0
Lukulu	Mbanga RHC	1	1	0	0	0	0	0	0
	Lupui	1	0	0	0	0	0	0	0
Mongu	Liyolelo RHC	1	1	1	0	0	1	1	1
	Nomitume	1	0	0	0	0	0	0	1
Senanga	Nambwae Upper PHC	1	1	0	0	0	0	0	0
	Kataba	1	1	1	1	1	1	1	1
	Luiwanyau	1	1	1	1	1	1	1	1
	Nanjaka RHC	1	1	1	1	1	1	1	1
Total		15	6	4	4	4	5	5	6

3.7. Nutrition

3.7.1. Socio-demographic characteristics of children included in the sample

Of the children assessed, the majority were in the range of 12 to 23 months age group (29.8%). With regard to sex, there was an even distribution in the sample (Table 12).

Table 12: Socio-demographic characteristics of the children in the study

Variable	N (%)
Children's age in months	
6-11	182 (11.1)
12-23	489 (29.8)
24-35	413 (25.1)
36-47	366 (22.3)
48-59	193 (11.7)
Total	1643 (100.0)
Children's sex	
Male	814 (49.7)
Female	829 (51.3)
Total	1643 (100)

3.7.2. Infant and Young Child Feeding Practices

Breastfeeding Status

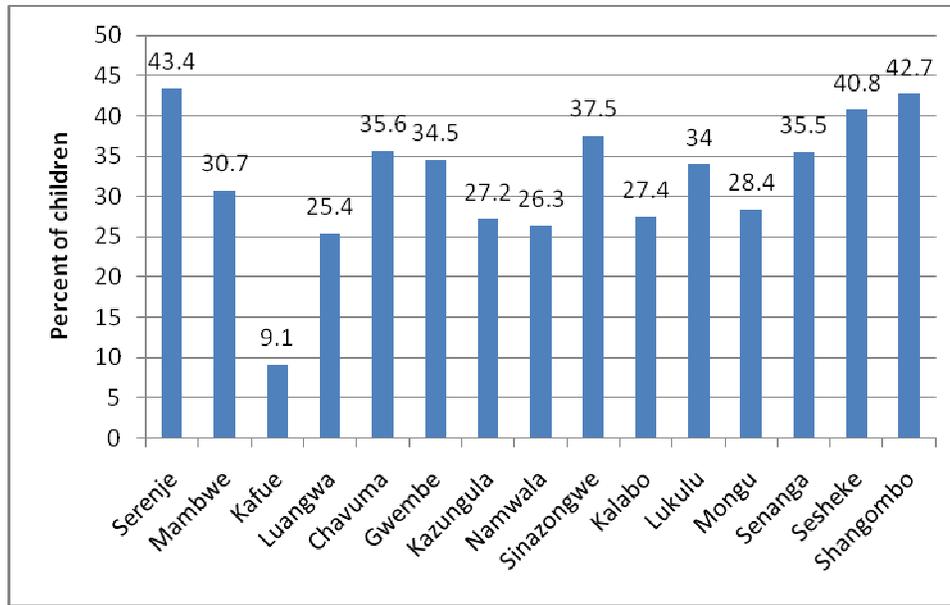
The government policy is that all lactating mothers should be encouraged and supported to exclusively breast their infants for the first six months of their life. Complementary foods should be introduced thereafter and breastfeeding continued up to 2 years or beyond if possible. About 33.5% (n=548) were breastfeeding at the time of the survey. Results also showed that more children in the rural areas (34.1%) were still breastfeeding at the time of the survey compared to those from urban areas. Furthermore, they were more children breastfeeding in the range of 12 to 23 months age group (Table 13).

Table 13: Breastfeeding Status by Location

Age group	Rural	Urban
	Yes N(%)	Yes N (%)
6-11	147 (86.0)	9 (90.0)
12-23	275 (63.5)	31 (59.6)
24-35	43 (11.7)	3 (7.5)
36-47	24 (8.2)	1 (2.9)
48-59	10 (6.0)	1 (4.2)
Total	502 (34.1)	45 (28.1)

Serenje had the highest (43.4%) breastfeeding rates for children between 6 to 59 months while Kafue had the lowest (9.1%) (Figure 19).

Figure 19: Percent of children still breastfeeding at the time of survey by district



Complementary feeding

The government policy is that all children should be introduced to other foods in addition to breastmilk at the age of 6 months. Results showed that 62.4% (n=967) of the children were introduced to solid foods after the age of six months while 37.6% (n=583) started receiving complementary foods before the age of six months.

Vitamin A supplementation and Deworming

The majority of the children assessed in the 6 to 59 months age group (71.3%) had received vitamin A supplements in the last six months preceding the survey. The results also showed that 58.5% of the children were dewormed in the reference period (Table 14).

Table 14: Percentage of children who received vitamin A capsule supplement in the last six months

Received vitamin A capsule supplement	N (%)
Yes	1120 (71.3)
No	451 (28.7)
Total	1571 (100.0)
Deworming status	N (%)
Yes	918 (58.5)
No	651 (41.5)
Total	1569 (100.0)

Vitamin A supplementation was highest in Luangwa (94.4%) and Kafue (92.5%) districts, while lowest in Shangombo (31.2%) and Sesheke districts (46.9%). In terms of deworming, the highest coverage among the assessed populations was found in Luangwa (86.9%) and Kafue (83.6%) districts. The coverage rates

for deworming were also low in Sesheke (41.2%) and Shangombo (24%) districts; the same districts with the lowest vitamin A coverage (Table 15).

Table 15: Percentage of children who received vitamin A supplementation and deworming treatment in the last six months by District

	Vitamin A	Deworming
District	%	%
Serenje	80.2	58.9
Mambwe	85.7	77.7
Kafue	92.5	83.6
Luangwa	94.4	86.9
Chavuma	64.9	38.9
Gwembe	83.5	73.8
Kazungula	73.9	56.4
Namwala	64.3	58.6
Sinazongwe	86.2	81.0
Kalabo	79.5	67.5
Lukulu	61.0	49.5
Mongu	81.9	62.8
Senanga	80.6	59.3
Sesheke	46.9	41.2
Shang'ombo	31.2	24.0

Feeding programmes

In the three months preceding the survey only 6.6% (n=109) of the children assessed received therapeutic feeding; 2.2% (n=35) received supplementary feeding and 1.5% (n=24) were currently on a therapeutic feeding programme.

3.7.3 Nutritional status

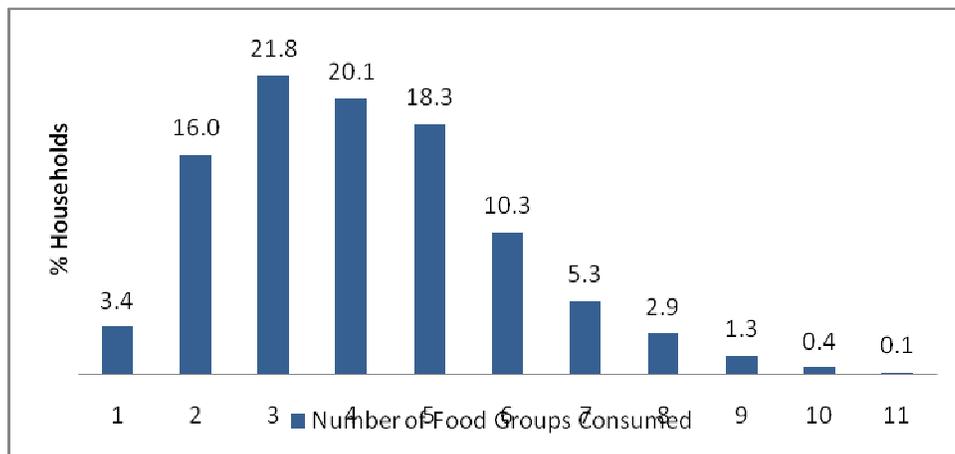
Children were assessed for stunting, wasting and underweight. In addition, they were also assessed for the presence of bilateral oedema. Only 1.1%(n=17) of the children were found to have bilateral oedema.

Food security

Household dietary diversity information on 11 food groups: cereals; white tubers; yellow, orange and green vegetables; fruits; meats; eggs; fish; legumes; milk and milk products; oils and fats; and, sugary foods was collected through a 7-day recall in the assessment. Approximately 61.4 % of the assessed

households reported having consumed up to four food groups in the 7 days preceding the survey, while 38.7% consumed five or more food groups.

Figure 20 : Household Dietary Diversity Index Score



In Gwembe, Shangombo, Kalabo and Lukulu districts households had low dietary diversity. About 22.2% of the households in Gwembe reported consuming 1 food group most often, while in Shangombo 37.2% of the households were consuming 2 food groups on average. Households in Kafue and Serenje districts however had more diverse diets with 32.9% and 24.0% of them consuming 7 or more food groups respectively.

Table 16: Household Dietary Diversity Score by District

District	1	2	3	4	5	6	7 or more
Serenje	2.9	8.6	16.0	16.6	18.3	13.7	24.0
Mambwe	1.3	11.3	16.6	25.2	27.8	11.9	6.0
Kafue	1.9	4.5	11.6	13.5	16.1	19.4	32.9
Luangwa	0.5	7.3	20.9	28.6	26.2	9.2	7.3
Chavuma	2.7	16.0	21.8	19.7	22.9	8.0	9.0
Gwembe	22.2	11.1	22.2	0.0	0.0	11.1	33.3
Kazungula	1.4	20.6	31.1	23.9	13.4	6.2	3.3
Namwala	2.3	14.3	25.1	17.7	20.0	13.1	7.4
Sinazongwe	7.4	11.0	25.0	11.8	18.4	12.5	14.0
Kalabo	5.1	23.0	19.4	18.4	21.4	10.2	2.6
Lukulu	6.0	25.1	29.1	14.6	12.6	6.0	6.5
Mongu	6.0	9.9	17.9	26.5	20.5	9.9	9.3
Senanga	2.0	12.7	17.3	24.4	18.3	13.7	11.7
Sesheke	2.6	14.5	22.8	22.8	13.5	11.4	12.4
Shangombo	5.8	37.2	25.6	16.4	10.1	3.4	1.4

Nutritional status

Child nutrition status is a proxy of the nutrition status within a population. The WHO classification for global acute malnutrition is provided in the table below:-

Table 17: WHO Crisis Classification using rates of Global Acute Malnutrition (GAM)

Severity	Prevalence of Global Acute Malnutrition
Acceptable	< 5 %
Poor	5-9%
Serious	10-14%
Critical	>15%

From WHO, 2003, "The Management of Nutrition in Major Emergencies"

The nutrition status of 1,643 children was assessed in the 15 districts. Approximately 40.3% of the children assessed were stunted; 9.2% wasted; 16.5% underweight (Table 18). The prevalence of severe stunting in the sample was 22.3%, while the prevalence of severe wasting and underweight were 5.6% and 6.6% respectively.

Table 18: Child Nutrition Status

	(N)	Moderate (-3 to <-2 SD Z-score)	(N)	Severe (<-3 SD Z-score)	Total Malnourished	Total Number of Children
Stunting	211	18.0	262	22.3	40.3	1174
Wasting	40	3.6	62	5.6	9.2	1108
Underweight	126	9.9	84	6.6	16.5	1270

Mid-upper arm circumference (MUAC) was measured for 1,502 children in the 15 districts. Approximately 4.8 % of the children assessed were wasted, with 1.1% of them severely wasted. A total number of 1,253 mothers were assessed for wasting using the mid- upper arm circumference (MUAC) measure. Of the women assessed only 0.7% had acute malnutrition.

The results of the assessment indicated a prevalence of wasting of 9.2% among the children assessed. The prevalence of severe wasting was high in the sample at 5.6%. Bilateral oedema was however low, with 1.0% of the children being affected. The results of the assessment therefore indicate a global acute malnutrition rate of 10.2% for the children assessed. It should be noted that some of the observed increases in

severe malnutrition can be partially attributed to the change from the 1977 NCHS growth reference to the new WHO (2006) growth standards in the determination of child nutrition status⁴.

Table 19: Global Acute Malnutrition Rates

	Moderate		Severe		Total
	(N)	(%)	(N)	(%)	(%)
Wasting	40	3.6	62	5.6	9.2
Bilateral oedema			17	1.0	1
MUAC	56	3.7	16	1.1	4.8
GAM					10.2

The prevalence of stunting was highest for children aged 36-47 months (49.6%) and lowest for those aged 6-11 months (15.3%). Wasting levels were most elevated for children aged 12-23 months (12.3%), while lowest in the group (5.9%). There were more underweight children in the the 36-47 month age group (21.4%), and lowest in the 6-11 month age group (11.1%). There was a noticeable trend in the progression of malnutrition within the different age groups. The rates of stunting and underweight increased with an increase in age, while wasting rates tended to decrease with increase in age.

Table 20: Child Malnutrition by Age Group

Age in months	Stunting		Wasting		Underweight	
	Moderate (N)	Severe (N)	Moderate (N)	Severe (N)	Moderate (N)	Severe (N)
6-11	4.8 (6)	10.5 (13)	3.4 (4)	8.5 (10)	10.9 (15)	2.2 (3)
12-23	17.0 (60)	22.9 (81)	5.4 (18)	6.9 (23)	7.6 (29)	3.4 (13)
24-35	21.6 (63)	21.6 (63)	3.3 (9)	5.5 (15)	12.2 (39)	6.3 (20)
36-47	22.0 (59)	27.6 (74)	1.2 (3)	4.7 (12)	9.9 (29)	11.6 (34)
48-59	16.8 (23)	22.6 (31)	4.7 (6)	1.6 (2)	10.1 (14)	10.1 (14)

The prevalence of stunting in the assessed districts was higher than WHO cut-off point of 20%, signifying a public health problem, with the exception of Namwala district which had a stunting prevalence of 17.5%. Stunting rates were highest for Serenje (64.5%), Sinazongwe (58.7%) and Kafue (58.6%) districts. The highest rates of wasting were in Namwala (28.7%), Kazungula (17.5%) and Serenje(10.0%). The underweight children was highest in Mambwe (23.6%), Serenje(21.3%), Shangombo(19.2%) and Kalabo(18.2%) districts (Table 21)

⁴ The shift from NCHS growth standards to the new WHO growth standards in the calculation of nutrition indices may result in increased estimated prevalence of malnutrition and severe malnutrition in particular: http://www.unicef.org/nutrition/files/stmt_child_growth_sam_final.pdf

Table 21: Child Malnutrition by District

Districts	Stunting (<-2 SD Z-score)		Wasting (<-2 SD Z-score)		Underweight (<-2 SD Z-Score)	
	(N)	%	(N)	%	(N)	%
Serenje	49	64.5	7	10.0	19	21.3
Mambwe	44	52.4	6	7.6	21	23.6
Kafue	34	58.6	4	7.7	9	15.0
Luangwa	33	34.0	8	8.7	16	16.3
Chavuma	30	44.1	1	1.6	9	10.7
Gwembe	37	43.5	4	5.0	14	16.1
Kazungula	26	30.6	14	17.5	17	16.2
Namwala	17	17.5	27	28.7	16	15.4
Sinazongwe	27	58.7	4	9.5	8	15.7
Kalabo	33	51.6	5	8.5	12	18.2
Lukulu	16	42.1	0	0.0	5	13.2
Mongu	20	30.3	5	7.8	12	14.3
Senanga	34	35.1	8	8.7	13	13.1
Sesheke	38	33.3	3	2.8	19	17.0
Shang'ombo	35	35.4	6	6.2	20	19.2

3.8. Education

The survey showed that cases of dropping out of school due to floods were very minimal. Only 5.2% of households in the surveyed districts indicated having children that had dropped out of school. However the main reason attributed to this was that the parents could not afford to pay the school fees.

Of the households reporting children dropping out of school for reasons other than school fees, over 3.7% reported having at least one child dropping out. The number of males dropping out of school was slightly higher than that for females.

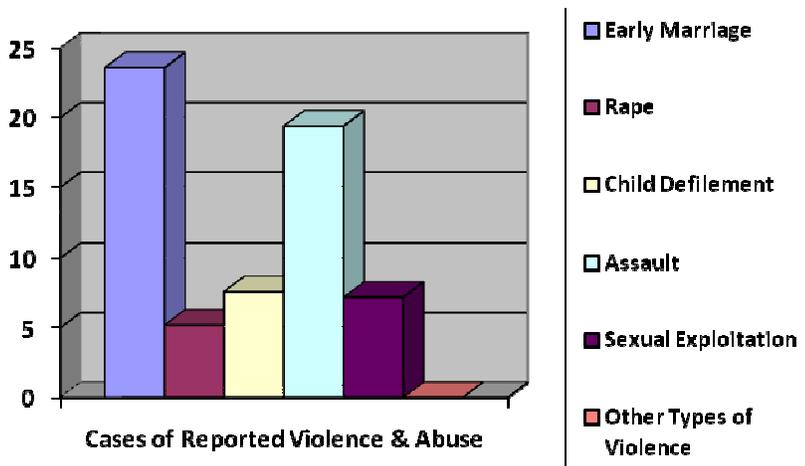
The other reason on the part of boys is that they were not just interested in education (0.6%) while 0.7% indicated that girls dropped out due to early marriages.

The assessment established that 32 schools in 12 districts were damaged in one way or another and will require rehabilitation.

3.8. Social Protection

The social protection issues considered in the assessed districts were violence and abuse, Child welfare and HIV prevalence. The most common cases of violence and abuse in order of ranking were: early marriages (23.6%), assault (19.4%), child defilement (7.6%), sexual exploitation (7.2%) and rape (5.2%) while there were no reported cases of other types of violence in the surveyed districts (Figure 21).

Figure 21: Cases of Abuse in the Surveyed Districts



It was found that the main perpetrators of these violence and abuse such as early marriages, rape and child defilement were relatives or neighbors in these districts.

The in-depth assessment also highlighted a serious increase in the number of child welfare cases in the districts that experienced flooding and subsequently displacements. The cases of child welfare included children drowning which stood at 14.5% and children displaced (9.7%). The cases of children who drowned were reported from the nine assessed districts shown in Table 22 below mainly from Western Province.

Table 22: Number of Children who Drowned by District.

District	No. of Children Drowned
Kalabo	5
Senanga	5
Shang'ombo	4
Serenje	2
Mongu	1
Chavuma	2
Lukulu	1
Kafue	3
Gwembe	1
Total	24

The findings of the survey as relates to orphan-hood indicated that the number of single orphaned children was high (54.8 %) compared to those who had lost both parents (18%) in the assessed districts.

As regards the reporting mechanisms for these vices, the assessment revealed that there were reporting mechanisms in place in all the districts. Most of the cases were reported to the police (73.2%). The other places where people reported were local authorities, the local health clinics and humanitarian organizations in order of importance.

3.9. Human Habitation and Shelter

The assessment revealed that out of all the flood affected households, only 5.6% (176) households were displaced. This translates to about 1,056 people.

All the districts that were surveyed indicated having some households displaced from their dwellings; Senanga and Serenje were the worsed affected each reporting about 11.9% of households as having displaced. The other badly affected districts included Mambwe (9.7%) and Lukulu (9.1%). The breakdown per district is presented in table 23 below.

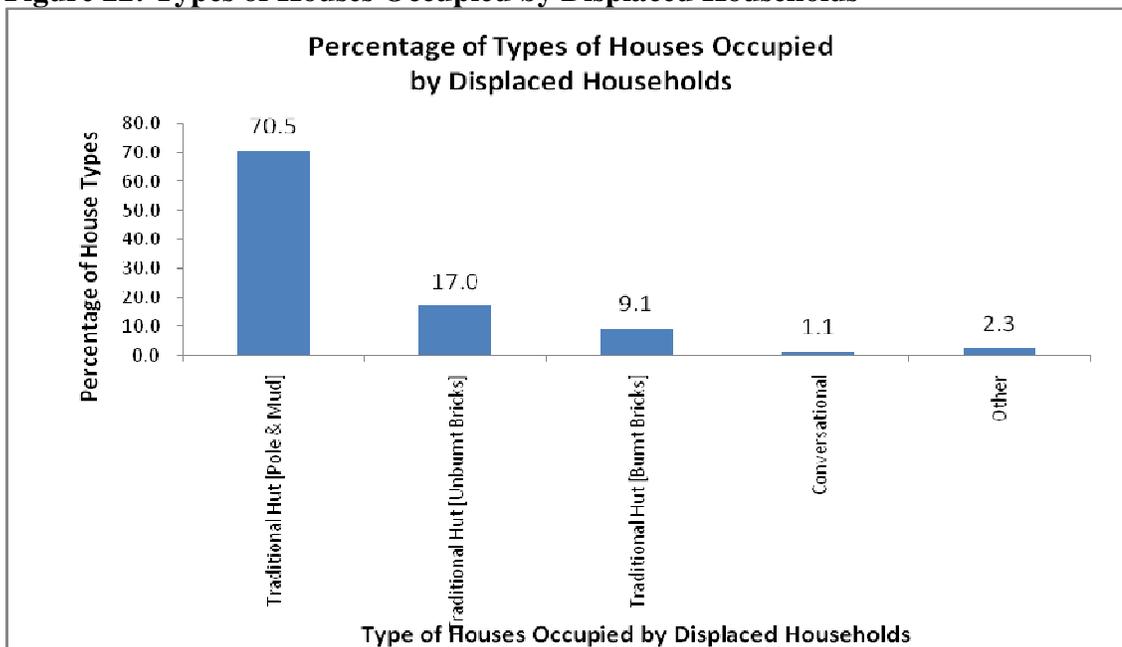
Table 23: Table showing Number of Displaced Households by District

Province	District	Number of Displaced Households
Central	Serenje	21
Eastern	Mambwe	17
Lusaka	Kafue	9
	Luangwa	1
North Western	Chavuma	10

Province	District	Number of Displaced Households
Southern	Gwembe	1
	Kazungula	1
	Namwala	2
	Sinazongwe	11
Western	Kalabo	13
	Lukulu	16
	Mongu	19
	Senanga	21
	Shang'ombo	22
	Sesheke	12

Over 70% of the displaced households owned and lived in traditional type of houses which are basically made of pole, mud and grass. This category was the most affected and these house types were prevalent in Shang'ombo, Senanga, Mongu and Lukulu. The next most affected households lived in improved traditional houses made of un-burnt bricks and grass. This category was prevalent in Serenje, Kafue, and Mambwe and Sinazongwe districts and accounted for 17% of the displaced households. This was followed by improved traditional houses that were made of burnt bricks. The figure below illustrates in percentages the types of houses occupied by displaced houses.

Figure 22: Types of Houses Occupied by Displaced Households



The main sources of livelihood for the displaced households included farming (50%), fishing (11%), formal employment (11%) and small businesses (6, 3%). Some of the farming and fishing communities were in low lying areas thus making them particularly vulnerable to these floods.

4. CONCLUSIONS

The assessment established that a total of 238,258 people (39,710 households) were affected by the 2009/10 floods. It should be emphasized that this figure represents the total number of people and households affected in one way or the other and does not in any way represent any sector based population.

The sector specific conclusions are as follows:-

4.1. Infrastructure

The assessment established that there was significant damage done to roads, health and school infrastructure. About 344 road and drainage structures were damaged and need to be reinstated. These structures include those that were not worked on from the previous season (Refer to the RDA technical report on the Washed away and affected Drainage structures by 2008/9 and 2009/10 rains). The school and health infrastructure has been covered under the respective sectors.

4.2. Agriculture and Food Security

Overall, agriculture production for the 2009/10 agriculture season has performed better than in 2008/09 season. The production of major staple food crops such as maize, sorghum, rice, groundnuts, Irish potatoes, mixes beans, sweet potatoes and cassava increased in the 2009/10 agricultural season when compared to the previous season. Maize production for instance, increased sharply by 48 percent from 1,887,010 MT in the 2008/2009 season to 2,795,483 MT in the 2009/2010 season. The increase in production has inevitably pushed down the price of most food crops especially maize, thereby improving access to the staple food for most households and communities. Maize production has increased in Serenje, Kafue, Kazungula, Sinazongwe, Kalabo, Mongu and Senanga. However maize production has decreased in other districts such as Luangwa, Namwala, Lukulu and Sesheke.

Based on maize production, the four (4) districts that experienced a reduction in the harvest of the main staple will therefore need to be targeted for intervention to sustain the livelihood of the affected communities.

Despite the increase in maize production in Mambwe, Chavuma, Gwembe, and Shang'ombo, these districts should continue to be monitored because these districts were either affected by floods or prolonged dry spells.

4.3. Nutrition

The assessment revealed that about 37.6% of the children started receiving complementary foods before the age of six months and therefore, were not exclusively breastfed in the first six months. This is a cause for concern for vulnerable households as the introduction of other foods makes the children more susceptible to illness such as diarrhoea which may lead to malnutrition. In addition, children in vulnerable households are already exposed to other factors such as poor water and sanitation and inadequate access to health services that compromise their health and nutrition.

The overall vitamin A supplementation coverage of 71% for the districts assessed was below the desirable national target of 80% in particular for Shangombo (31.2%) and Sesheke (46.9%). Therefore, there is a need to step up the efforts in order to increase the coverage.

The coverage of supplementary and therapeutic feeding programmes was low across the districts assessed. This is a concern as some children requiring these services do not have access to these programmes and may report late for treatment. Accessibility to these services should be increased by establishing interventions such as Community Based Therapeutic Care (CTC) and supplementary feeding programmes in the affected areas.

The results of the assessment revealed that stunting, wasting and underweight were co-existing in the assessed communities. The high levels of malnutrition observed in the communities assessed can be attributed to both chronic and transient factors. The observed status quo is compounded by the exposure of communities in the assessed districts to shocks such as floods and dry spells. In addition to inadequate food intake, children in these communities are also from households exposed to high poverty levels with limited access to health and education services, exacerbating an already fragile situation. There is therefore a need for the implementation of both short and long term interventions to address the prevailing situation.

4.4. Water and Sanitation

The assessment revealed that even though communities have access to protected water sources in the affected areas 56.7%, during floods, the access drops to 43.3% and the quality of water from the protected sources within the affected areas drops to 69.3 %. It is therefore necessary to consider relocation of communities within the risk areas as a long term solution.

It is evident that communities are aware of the dangers of using unsafe water as 29.2% treat their water through. Application of chlorine, boiling and awareness needs to be created with regards to the use of soap for hand washing as only 48.6 %use soap when washing hands.

It is also clear that communities' value having proper latrines as 57.7% have latrines and are only inhibited by the fact that 13.4% of these collapse during floods.

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. Fifteen health centers in 9 districts were damaged.

4.6. Education

Analysis of the report has revealed that 94.5 % of the respondents did not have any boys dropping out and 95.1% of the respondents did not have girls dropping out of school. Of the families reporting children dropping out, 3.7% reported one male child having dropped and the same percentage for female children. A fewer number of respondents equivalent to 1.3% reported 2 boys dropping out and 1% reported 2 girls dropping out. In comparison terms, there are more boys dropping out of school than girls. The main reason for boys dropping out of school was inability for the family to pay school fees (3.7%) followed by lack of interest on the part of the boy to continue school (0.6%). The boys who dropped out were later engaged in work outside the family for cash. On the part of girls' dropouts, 3.3% dropped out on account of the inability by the family to pay school fees, and 0.7% dropped out on account of early marriages.

At district level, Mambwe reported the highest number of boys dropping out at 11.8% followed by Senanga with 9.1%, Mongu at 8.6% and Kalabo at 8.2%. Kalabo district reported the highest number of girls dropping out (9.6%) of school, followed by Mongu and Kafue at 8.1% and Mambwe at 7.6%.

About 32 schools in 12 districts were damaged in one way or another and will require rehabilitation.

4.7. Social Protection

The cases of gender based violence and abuse as well as the plight of children in areas that experienced floods and dry spells in the fifteen (15) districts that were assessed is an issue of concern. There is lack of safety awareness among the communities and as result children drowned in the affected areas. Finally, despite the reporting mechanisms existing in the affected areas, the institutions providing the services are far away from the community and this makes it difficult for the survivors/victims to report their cases.

4.8. Human Habitation and Shelter

These communities need to be sensitized on the importance of having dual residence, one in the low lying areas with soils that are rich in mineral deposits and the other in higher and safer lands where they could take refuge in times of flooding. This should be done on voluntary basis and people should not be forced to migrate. The role of government would be to identify higher and safer lands where these communities can build their second homes. This should be done with the help of the local and traditional leadership. Upon identification and acquiring of such higher land for the flood prone communities, and where the concerned communities agree to build their second homes, government would facilitate the establishment of such settlements by demarcating the land into plots for each household, and also provide basic infrastructure such as access roads, water, health and education in the new settlements. This way resilience would have been created for such communities to respond to hazards such as floods on their own without or with minimum external intervention.

The state of the majority of the houses occupied by the displaced households suggest that these are communities who depend on subsistence farming and fishing and can not afford to build conventional houses, hence, they build the weak housing structures with pole mud and grass. This suggests also that, they have very low capacity to respond to hazardous situations such as floods. Government and other stakeholders should provide long term solution to the these communities who have settled in flood prone areas.

5. RECOMMENDATIONS

5.1. Infrastructure

- There is need to mobilize funds to rehabilitate damaged infrastructure in 66 districts.
- In the medium to long term there is need for government to invest in the construction of canal in the flood prone areas. The construction should be based on the Environmental Impact Assessment (EIA) conducted in these areas.

5.2. Agriculture and Food Security

Short-term

- Market intervention in Luangwa, Namwala, Lukulu and Sesheke (off-load commercial maize) to mitigate the food insecurity in these districts until the next harvest.
- Four districts namely Mambwe, Chavuma, Gwembe, and Shang'ombo be placed under monitoring
- Provide market support to the populations from surplus districts who may not manage to sell the surplus maize to FRA (e.g. WFP purchase for progress).

5.3. Water and Sanitation

It is worth noting that very little was done regarding the implementation of the recommendations for the 2009/10 recommendations and work plan due to budgetary constraints and therefore most of the recommendations activities identified still remain as recommendations and action plan for 2010/11

5.3.1. Water

Short-term

- Increase availability and affordability of chlorine at household level in all the fifteen affected districts such as : Serenje, Mambwe, Kafue, Luangwa, Chavuma, Gwembe, Kazungula, Namwala, Sinazongwe, Kalabo, Lukulu, Mongu, Senanga, Sesheke and Shangombo,
- 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.

5.3.2. 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
- Advocate for hand washing with soap and make available soap

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 and hand washing with soap

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.

5.5. Nutrition

Short-term

- Strengthen the identification and treatment of severely malnourished children through expanded therapeutic and supplementary feeding programs provided by the Ministry of Health and NGO partners.
- Strengthen behavior change communication related to infant and young child feeding and exclusive breastfeeding for mothers (to be provided through health centres and by NGO partners).
- Intensify vitamin supplementation in areas with low coverage.
- Strengthen community involvement in prevention activities such as;
 - Peer to peer learning
 - Breast feeding support groups
 - Promotion of balanced diet and kitchen gardens.

Long Term

- Improve access to health and nutrition services through the strengthening of the primary health care system and Expanded Programme on Immunisation (EPI) outreach programs providing immunization, vitamin A supplementation and behavior change communication on infant and child feeding.
- Initiate/ expand programs to provide micronutrient supplementation and surveillance for micronutrient deficiency in chronic food insecure areas.

5.6. Education

Short-term

- Rehabilitation of all damaged school infrastructure (**refer to details in the action plan**)

Medium to long term

- Tents should be prepositioned to provide temporary learning facilities during the floods. This will minimize 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.

5.7. Social Protection

There is need for the Ministry of Community Development and Social Services (MCDSS) and its partners to:

Short-term

- empower families that are keeping orphans and vulnerable children; incapacitated and low capacity households and individuals;
- provide farming inputs to vulnerable but viable farmers in disaster prone areas;
- Sensitize the communities on the dangers of gender based violence,
- Provide psycho-social support and counseling to victims/survivors of gender based violence.
- Initiate and promote family and community safety during disasters.

Medium to Long term

- Build capacities of law enforcement agencies such as the police service, immigration department and community support groups to monitor gender based violence.
- To establish well coordinated response centres (CRCs) to enhance the provision of services to survivors/ victims of violence and abuse

5.8. 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 e.g bee keeping

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ANNEXES

Annex 1: Household Questionnaire - 2010

STRICTLY CONFIDENTIAL



Republic of Zambia



DISASTER MANAGEMENT AND MITIGATION UNIT (SECRETARIAT)

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**ZVAC In-depth Vulnerability and Needs Multi-Sectoral Assessment (May 2010)
Household Questionnaire**

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	
Serial Number From Household Roster For The Respondent __ __	
Total Number Of Persons Who Live In This Household (Include Usual Members Absent) __ __	

SECTION 1: HOUSEHOLD ROSTER

SERIAL NUMBER OF HOUSEHOLD MEMBER S (PID)	NAME	1 How old is.....now? RECORD EXACT AGE IN COMPLETED YEARS FOR THOSE 1 YEAR AND ABOVE, 0 FOR THOSE LESS THAN 12 MONTHS. YEAR OF BIRTH AGE	2 Indicate the sex of the individual members of the household 1 = MALE 2 = FEMALE	3 What is the relationship of to the head of the household? 1 = HEAD 2 SPOUSE 3 = OWN CHILD 4 = STEP CHILD 5 = GRAND CHILD 6 = BROTHER/SISTER 7 = NIECE/NEPHEW 8 = BROTHER/SISTER- IN LAW 9 = PARENT 10 = PARENT-IN-LAW 11 = COUSIN 12 = OTHER RELATIVE 13 = MAID/NANNY/HOUSE-SERVANT 14 NON-RELATIVE	4 What is the education level of? 0 = Never Been to School 1 = Primary 2 = Secondary 3 = Tertiary 4 = Other, specify (In appropriate space)	5 FOR THOSE AGED 12 YEARS AND ABOVE ONLY What is the marital status of? 1 = Single 2 = Married 3 = Separated 4 = Divorced 5 = Widowed 6 = Minor 7 = Other, specify.....	6 Orphan hood of Household members for those aged 0 – 18 Years. 1 = Both Parents Alive 2 = Father alive & Mother dead 3 = Mother alive & Father dead 4 = Father alive & living elsewhere 5 = Mother Alive & living elsewhere 6 = Both parents dead
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SECTION 1: HOUSEHOLD ROSTER (CONTINUED)

INTRODUCTION: I would like to start the interview by asking you questions about yourself and other usual members of the household

SERIAL NUMBER OF HOUSEHOLD MEMBER S (PID)	NAME	<p align="center">1</p> How old is.....now? RECORD EXACT AGE IN COMPLETED YEARS FOR THOSE 1 YEAR AND ABOVE, 0 FOR THOSE LESS THAN 12 MONTHS. YEAR OF BIRTH AGE	<p align="center">2</p> Indicate the sex of the individual members of the household 1 = Male 2 = Female	<p align="center">3</p> What is the relationship ofto the head of the household? 1 = Head 2 Spouse 3 = Own Child 4 = Step Child 5 = Grand Child 6 = Brother/Sister 7 = Niece/Nephew 8 = Brother/Sister-In Law 9 = Parent 10 = Parent-In-Law 11 = Cousin 12 = Other Relative 13 = Maid/Nanny/House-Servant 14 NON-RELATIVE	<p align="center">4</p> What is the education level of? 0 = Never Been to School 1 = Primary 2 = Secondary 3 = Tertiary 4 = Other, specify (In appropriate space)	<p align="center">5</p> FOR THOSE AGED 12 YEARS AND ABOVE ONLY What is the marital status of? 1 = Single 2 = Married 3 = Separated 4 = Divorced 5 = Widowed 6 = Other, specify.....	<p align="center">6</p> Orphan hood of Household members for those aged 0 – 18 Years. 1 = Both Parents Alive 2 = Father alive & living in Hhld 3 = Mother alive & living in Hhld 4 = Father alive & living elsewhere 5 = Mother Alive & living elsewhere 6 = Both parents dead
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SECTION 1: HOUSEHOLD ROSTER (CONTINUED)

INTRODUCTION: I would like to start the interview by asking you questions about yourself and other usual members of the household

SERIAL NUMBER OF HOUSEHOLD MEMBERS (PID)	NAME	7 What is the employment status of the individual.....?? 1= Formal(e.g. wages) 2= Informal (e.g. Self employed) 3= Unemployed 4= Other, Specify	8 Chronically unable to work for health reasons? 1 = Yes 2 = No	9 Chronically unable to work for disability reasons? 1 = Yes 2 = No	10 What is the individual's current status? 1 = Alive & living in the house 2 = Alive & living elsewhere 3 = Died 4 = Don't know	11 State the month when the individual died or left the household to live elsewhere?	12 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_	13 Was the individual that died chronically ill for 3+ months? 1 = Yes 2 = No _____ _____ _____
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SECTION 1: HOUSEHOLD ROSTER (CONTINUED)

INTRODUCTION: I would like to start the interview by asking you questions about yourself and other usual members of the household

SERIAL NUMBER OF HOUSEHOLD MEMBERS (PID)	NAME	7 What is the employment status of the individual.....? 1= Formal(e.g. wages) 2= Informal (e.g. Self employed) 3= Unemployed 4= Other, Specify	8 Chronically unable to work for health reasons? 1 = Yes 2 = No	9 Chronically unable to work for disability reasons? 1 = Yes 2 = No	10 What is the individual's current status? 1 = Alive & living in the house 2 = Alive & living elsewhere 3 = Died 4 = Don't know	11 State the month when the individual died or left the household to live elsewhere?	12 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 _____	13 Was the individual that died chronically ill for 3+ months? 1 = Yes 2 = No
<input type="text"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Newborn					<i>Current Status (as above)</i>	<i>If died, or left, when? (Month)</i>	<i>Cause of death (as above)</i>	<i>Chronically ill?</i>
<input type="text"/>					<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>					<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

14	Has your household been displaced between December 2009 and March 2010 due to floods?	1 = Yes 2 = No	<input type="checkbox"/>
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B. EDUCATION

15	Number of school children who dropped out of school in the last 6 months <i>go to question 11 if no child(ren) dropped out</i>	9a – males _ _	9b females _ _
16	<p>10a. Three main reasons for dropping out of school for boys</p> <p>(Please indicate <input type="checkbox"/> where appropriate)</p> <p>1= Family can't afford fees/costs _ </p> <p>2= Work outside home for food or cash _ </p> <p>3= Help with household activities _ </p> <p>4= Care for sick family member _ </p> <p>5= Hunger _ </p> <p>6= Not interested/Bad pupil _ </p> <p>7= Damaged Roads/Bridges _ </p> <p>8= Collapsed School Buildings _ </p> <p>9= Early Marriage _ </p> <p>10= Other :specify.</p>	<p>10b. Three main reasons for dropping out of school for girls</p> <p>(Please indicate with <input type="checkbox"/> where appropriate)</p> <p>1= Family can't afford fees/costs _ </p> <p>2= Work outside home for food or cash _ </p> <p>3= Help with household activities _ </p> <p>4= Care for sick family member _ </p> <p>5= Hunger _ </p> <p>6= Not interested/Bad pupil _ </p> <p>7= Damaged Roads/Bridges _ </p> <p>8= Collapsed School Buildings _ </p> <p>9 = Pregnancy _ </p> <p>10 = Early Marriage _ </p> <p>11= Other; specify_____</p>	

C. HOUSEHOLD AMENITIES

17	Main type of cooking fuel used by the household.	1 = Electricity 2 = Fire wood 3 = Charcoal 4 = Kerosene <input type="checkbox"/> 5 = Gas 6 = Kraal manure 7 = Other, specify _____	
18	Main type of lighting used by the household	1 = Electricity 2 = Fire wood 3 = candle 4 = Kerosene <input type="checkbox"/> 5 = Gas 6 = Kraal manure 7 = Other, specify _____	
19	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 _____	<input type="checkbox"/>
20	What material is the roof made of?	1 = Asbestos sheets 2 = Corrugated Iron sheets 3 = Thatch 4 = Other, specify _____	<input type="checkbox"/>

D. PRODUCTIVE ASSETS OWNERSHIP

21	<p>How many of the following productive assets are owned by your household?</p> <p><i>Please do not leave any cell blank, and indicate actual number of assets in the appropriate column</i></p>	<p>21a. Reason for change</p> <p>1=Sale 2=Purchase 3=Gift 4=Damaged 5=Stolen 6= No change 7=Other, specify</p>																																																					
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%; padding: 5px;"> Type of Asset Indicate 1 = Yes 2 = No </th> <th style="width: 20%; padding: 5px;"> Number of Assets Owned Now (May 10) </th> <th style="width: 20%; padding: 5px;"> Number of Assets Owned same time last year (May 09) </th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Hoe _ </td> <td style="padding: 5px;">14a _ _ </td> <td style="padding: 5px;">14a1 _ _ </td> <td style="padding: 5px;">15a _ 15a1 _ _ </td> </tr> <tr> <td style="padding: 5px;">Plough _ </td> <td style="padding: 5px;">14b _ _ </td> <td style="padding: 5px;">14b1 _ _ </td> <td style="padding: 5px;">15b _ 15b1 _ _ </td> </tr> <tr> <td style="padding: 5px;">Canoe/Boat _ </td> <td style="padding: 5px;">14c _ _ </td> <td style="padding: 5px;">14c1 _ _ </td> <td style="padding: 5px;">15c _ 15c1 _ _ </td> </tr> <tr> <td style="padding: 5px;">Bicycle _ </td> <td style="padding: 5px;">14d _ _ </td> <td style="padding: 5px;">14d1 _ _ </td> <td style="padding: 5px;">15d _ 15d1 _ </td> </tr> <tr> <td style="padding: 5px;">Ox Cart _ </td> <td style="padding: 5px;">14e _ _ </td> <td style="padding: 5px;">14e1 _ _ </td> <td style="padding: 5px;">15e _ 15e1 _ </td> </tr> <tr> <td style="padding: 5px;">Fishing Net _ </td> <td style="padding: 5px;">14f _ _ </td> <td style="padding: 5px;">14f1 _ _ </td> <td style="padding: 5px;">15f _ _ 15f1 _ _ </td> </tr> <tr> <td style="padding: 5px;">Sewing Machine _ </td> <td style="padding: 5px;">14g _ _ </td> <td style="padding: 5px;">14g1 _ _ </td> <td style="padding: 5px;">15g _ 15g1 _ </td> </tr> <tr> <td style="padding: 5px;">Hair drier _ </td> <td style="padding: 5px;">14h _ _ </td> <td style="padding: 5px;">14h1 _ _ </td> <td style="padding: 5px;">15h _ 15h1 _ </td> </tr> <tr> <td style="padding: 5px;">Popcorn machine _ </td> <td style="padding: 5px;">14i _ _ </td> <td style="padding: 5px;">14i1 _ _ </td> <td style="padding: 5px;">15i _ 15i1 _ _ </td> </tr> <tr> <td style="padding: 5px;">Telephone Booth _ </td> <td style="padding: 5px;">14j _ _ </td> <td style="padding: 5px;">14j1 _ _ </td> <td style="padding: 5px;">15j _ 15j1 _ </td> </tr> <tr> <td style="padding: 5px;">Hammer mill _ </td> <td style="padding: 5px;">14k _ _ </td> <td style="padding: 5px;">14k1 _ _ </td> <td style="padding: 5px;">15k _ 15k1 _ </td> </tr> <tr> <td style="padding: 5px;">Hand mill _ </td> <td style="padding: 5px;">14l _ _ </td> <td style="padding: 5px;">14l1 _ _ </td> <td style="padding: 5px;">15l _ 15l1 _ </td> </tr> </tbody> </table>	Type of Asset Indicate 1 = Yes 2 = No	Number of Assets Owned Now (May 10)	Number of Assets Owned same time last year (May 09)		Hoe _ 	14a _ _	14a1 _ _	15a _ 15a1 _ _	Plough _ 	14b _ _	14b1 _ _	15b _ 15b1 _ _	Canoe/Boat _ 	14c _ _	14c1 _ _	15c _ 15c1 _ _	Bicycle _ 	14d _ _	14d1 _ _	15d _ 15d1 _	Ox Cart _ 	14e _ _	14e1 _ _	15e _ 15e1 _	Fishing Net _ 	14f _ _	14f1 _ _	15f _ _ 15f1 _ _	Sewing Machine _ 	14g _ _	14g1 _ _	15g _ 15g1 _	Hair drier _ 	14h _ _	14h1 _ _	15h _ 15h1 _	Popcorn machine _ 	14i _ _	14i1 _ _	15i _ 15i1 _ _	Telephone Booth _ 	14j _ _	14j1 _ _	15j _ 15j1 _	Hammer mill _ 	14k _ _	14k1 _ _	15k _ 15k1 _	Hand mill _ 	14l _ _	14l1 _ _	15l _ 15l1 _		
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Hand mill _ 	14l _ _	14l1 _ _	15l _ 15l1 _																																																				

	Cell phone __	14m __	14m1 __	15m __ 15m1 __
	Hair cutter (Barber Shop) __	14n __	14n1 __	15n __ 15n1 __
	Other Assets	14o __	14o1 __	15o __ 15o1 __
22	Does your household own any livestock?		1 = Yes 2 = No to Q 25	__ If no go
23	Indicate the number of livestock that household owns?			
		Number of livestock Owned Now (May 2010)	Number of livestock Owned same time last year (May 2009)	24. State reason(s) for change 1=Sale 2=Purchased 3=Gift Given 4=Stolen 5=Died 6=Reproduction 7=Consumption 8=Other, specify
	Cattle	_ _ _ _	_ _ _ _	24a __ 24a1 __ 24a2 __
	Goats	_ _ _ _	_ _ _ _	24b __ 24b1 __ 24b2 __
	Sheep	_ _ _ _	_ _ _ _	24c __ 24c1 __ 24c2 __
	Donkeys	_ _ _ _	_ _ _ _	24d __ 24d1 __ 24d2 __
	Poultry	_ _ _ _	_ _ _ _	24e __ 24e1 __ 24e2 __
	Pigs	_ _ _ _	_ _ _ _	24f __ 24f1 __ 24f2 __
	Other, Specify	_ _ _ _	_ _ _ _	24g __ 24fg __ 24g2 __

E. HOUSEHOLD LIVELIHOODS & EXPENDITURE PATTERNS: – 2009/10 Season

25	What are the three main livelihoods for your household?	25.1 __ __ <i>first</i>	25.2 __ __ <i>Second</i>	25.3 __ __ <i>Third</i>	
26.	What is the percentage contribution of each of the identified livelihoods to total household income? (<i>Use proportional pilling to derive the % estimates</i>)	26.1 __ __ __ <i>first</i>	26.2 __ __ __ <i>Second</i>	26.3 __ __ __ <i>Third</i>	100% Total
27	What are your household three (3) most important income sources (2009/10 season)?	27.1 First	__ __		
		27.2 Second	__ __		
		27.3 Third	__ __		
28	What were your household's three (3) most important income sources last year (2008/09 season)?	28.1 First	__ __		
		28.2 Second	__ __		
		28.3 Third	__ __		
Livelihood codes: <i>1 = formal employment</i> <i>2 = Money lending</i> <i>3 = cash crop production(Field crops)</i> <i>4 = casual labour</i> <i>5 = begging</i>		<i>6 = livestock production</i> <i>7 = skilled trade/artisan</i> <i>8 = small business(cross border, Kantemba, etc)</i> <i>9 = petty trading (sale of clothes, charcoal, etc.)</i> <i>10 = brewing</i>	<i>11 = fishing</i> <i>12 = Gardening(vegetable production)</i> <i>13 = Hair dressing</i> <i>14 = Stone crushing</i> <i>15. Other,</i> <i>specify_____</i>		

29	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 cost _ _ _ _ _ _ _ _ _ _ 7. Household items (soap, etc.) _ _ _ _ _ _ _ _ _ _ 8. Medical expenses/health care _ _ _ _ _ _ _ _ _ _ 9. Clothing, shoes _ _ _ _ _ _ _ _ _ _ 10. Debt repayment _ _ _ _ _ _ _ _ _ _ 11. Education, fees, uniforms _ _ _ _ _ _ _ _ _ _ 12. Celebrations, funerals, social _ _ _ _ _ _ _ _ _ _
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F. AGRICULTURAL PRODUCTION AND HOUSEHOLD FOOD SECURITY

Cereal Production – Last Year’s Harvest 2008/09 (WET SEASON)

Use this Conversion Table

1 lima = 0.25 ha 4 limas = 1 ha 1 acre = 0.405 ha 2.5 acres = 1 ha
1 lima = 2225m2 1 acre = 4900m2 1 Ha = 10, 000m2

30a	State whether this is farming household or not?	1. Farming 2. Non Farming - if no go to Q 40 _
30b	Does your household have access to any arable land (backyard or field)	1 = Yes 2 = No – go to Q40 _

30c.	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 <input type="checkbox"/>
31	If the household has access to arable land, how much of it was cultivated during the 2009/10 agricultural season?	1 =<0.5 ha 2 = 0.5 to <1 ha 3 = 1 to 2 ha 4 = > 2 ha 5 = None <input type="checkbox"/>
32	What amount of arable land 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 <input type="checkbox"/>
33	Compared to last season (2008/09), how much of this arable land has been cultivated this season (2009/10)?	1 = Less , 2 = Same, 3 = Larger <input type="checkbox"/>
33a	If response to Q 24 is “ Less or Same ”, what was the main reason for not cultivating part and/or the whole field? <i>Please make sure you Indicate ✓ where appropriate</i>	1. Planned Fallow <input type="checkbox"/> 2. Lack of labour <input type="checkbox"/> 3. Pest problems <input type="checkbox"/> 4. Illness in the household <input type="checkbox"/> 5. Lack of inputs (fertilizer and seed) <input type="checkbox"/> 6. Could not access land <input type="checkbox"/> 7. Climate related causes <input type="checkbox"/> 8. Prolonged dry spell <input type="checkbox"/> 9. Field rented out <input type="checkbox"/> 10. Other, specify _____

34	Did you grow any of the following staple crops during the 2008/09 rainy season? <i>Indicate (√) in the boxes provided</i>		
	Type of crop	Produced (2009)	Quantity Sold (2009)
	Maize <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kgs bags	<input type="text"/> . <input type="text"/> 50kgs bags
	Sorghum <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kgs bags	<input type="text"/> . <input type="text"/> 50kgs bags
	Millet <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kgs bags	<input type="text"/> . <input type="text"/> 50kgs bags
	Rice(<input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kgs bags	<input type="text"/> . <input type="text"/> 50kgs bags
	Cassava (chips) <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kgs bags	<input type="text"/> . <input type="text"/> 50kgs bags
Winter (Dry Season) Harvest 2009			
35	Does your household practice winter maize growing?	1= Yes 2= No – go to Q36	<input type="checkbox"/>
35 a	Did you cultivate any winter (dry season) MAIZE crop during 2009?	1= Yes 2= No – go to Q35b	<input type="checkbox"/>
35 b	If yes, what was your TOTAL MAIZE harvest during last year's dry season?	<input type="text"/> . <input type="text"/> 50kgs bags	
35 c	Do you intend to engage in winter maize production during 2010 dry season?	1 = Yes – Go to Q 36 2 = No <input type="checkbox"/>	
35 d	If response to question 35c is "No", state the reason why and go to Question 36	1 = Insufficient Moisture <input type="checkbox"/> 2 = Lack of money to buy inputs <input type="checkbox"/> 3 = Limited wet land/Dambo areas <input type="checkbox"/> 4 = Non availability of seeds from the market <input type="checkbox"/> 5 = Other (specify) _____	
35 e	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 <input type="checkbox"/> 4 = > 2 ha	
35 f	Do you intend to engage in dry season vegetables production?	1 = Yes – Go to Q35h 2 = No	<input type="checkbox"/>
35 g	If response to question 35f is "No", state the reason why and after go to Question 36	1 = Insufficient Moisture <input type="checkbox"/> 2 = Lack of money to buy inputs <input type="checkbox"/> 3 = Limited wet land/Dambo areas <input type="checkbox"/> 4 = Non availability of seeds from the market <input type="checkbox"/> 5 = Other (specify)_____	

35 h	What is the size of the arable land you intend to cultivate? (indicate unit of measure)	_____	
Production – All -Year Root /Tuber Harvest 2009/10 Season			
36	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 37	_
36 a	Do you eat cassava as a main staple food or as a snack ?	1 = Staple go to question 36b 2 = Snack go to question 36c 3 = Both go to question 36b	_
36 b	For how many months of this past year did you eat cassava as main staple from own production?	1 = <3 mo 2 = 3-5 mo 3 = 6-8 mo 4 = 9 + mo	_
36 c	How much land did you have under MATURE CASSAVA last year (2008/09)? 1 =<0.5 ha 2 = 0.5 to 1 ha 3 = 1 to 2 ha _ 4 = > 2 ha 5 = None	30d. How much land do you have under MATURE CASSAVA (2009/10)? 1 =<0.5 ha 2 = 0.5 to 1 ha 3 = 1 to 2 ha _ 4 = > 2 ha 5 = None	
37	Do you grow sweet potatoes for your own consumption ?	1= Yes 2= No – go to question Q38 _	
37 a	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	_
37 b	Do you grow sweet potatoes for sale ?	1= Yes 2= No – go to question 38	_

37c	How much land did you have under SWEET POTATOES last year (2008/09)?	37d. How much land did you have under SWEET POTATOES this year (2009/10)?
	1 =<0.5 ha	1 =<0.5 ha
	2 = 0.5 to 1 ha	2 = 0.5 to <1 ha
	3 = 1 to 2 ha <input type="checkbox"/>	3 = 1 to 2 ha <input type="checkbox"/>
	4 = > 2 ha	4 = > 2 ha
	5 = None	5 = None

Production – Current (Wet Season) Harvest 2009/10

38 Did you grow any of the following crops? **1** = yes
2 = No, (*If No to all the crops below, go to Q40*)

Type of Crop	Production	Sales	Give Away	Compare 2008/09 and 2009/10 harvest (quantities) 1=Less 2=Same 3=More
Maize <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="checkbox"/>
Millet <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="checkbox"/>
Sorghum <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="checkbox"/>
Cassava <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="checkbox"/>
Rice <input type="checkbox"/>	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="text"/> . <input type="text"/> 50kg bags	<input type="checkbox"/>

39 For how many months did the household consume green maize? Days

39a Has your household had premature MAIZE harvest for its own consumption?
1 = Yes **2** = No – go to question 39c

39b If yes, **how many 50 kg bags** have you harvested early?
. **50kg bags**

39c What are the reason(s) why you consumed pre-mature maize?
Tick where appropriate

1= Depleted own-stocks	<input type="checkbox"/>
2= Fear of crops being washed away	<input type="checkbox"/>
3= Theft	<input type="checkbox"/>
4= Short of staple on the market	<input type="checkbox"/>
5= Animal destruction	<input type="checkbox"/>
6= hunger	<input type="checkbox"/>
7= Other (specify).....	<input type="checkbox"/>

Other Direct Sources of Cereal/ Meal – 2009/10			
40	Did the household acquire or earn cereal from casual labor between <i>January and May 2010</i>	1= Yes 2= No – go to Q41	<input type="checkbox"/>
40a	Approximately how many kilograms were acquired/ earned?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
41	Did any member of this household purchase maize/ cassava meal between <i>January and May 2010</i> ?	1= Yes 2= No – go to Q41	<input type="checkbox"/>
41a	Approximately how many kilograms were purchased?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
42	Did any member of this household purchase cereal between <i>January and May 2010</i>	1= Yes 2= No – go to Q43	<input type="checkbox"/>
42a	Approximately how many kilograms were purchased?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
43	Did any member of this household receive cereal as gifts from relatives, neighbours, or friends between <i>January and May 2010</i> ?	1= Yes 2= No – go to Q44	<input type="checkbox"/>
43a	Approximately how many kilograms were received?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
44	Do you have carry over cereal stocks from the 2008/09 production season?	1 = Yes 2 = No – go to Q45	<input type="checkbox"/>
44a	What is the quantity of carry-over stocks?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
44b	State month when cereal ran out	_ _ (Numeric month 1-12)	
Relief food – January 2010 to April 2010			
45	Did any member of this household receive/earn cereal as Relief food from <i>January 2010 to date</i> ?	1= Yes 2= No – go to 46	<input type="checkbox"/>
45a	If yes to Q 45, under which type of relief food programme was the cereal received?	1 = Food For Work <input type="checkbox"/> 2 = Home Based Care <input type="checkbox"/> 3 = ART <input type="checkbox"/> 4 = General Food Distribution (Free Food) <input type="checkbox"/> 5 = Other, <input type="checkbox"/> specify:.....	
45b	Approximately how many kilograms were earned /received?	_ _ _ _ _ _ _ _ _ _ _ _ _ _ Kg	
46	Did any member of this household receive any HEPS as Relief food - Supplementary Assistance from <i>January 2010 to date</i> ?	1= Yes 2= No – go to Q47	<input type="checkbox"/>

46a	Approximately how many kilograms were received?	_ _ _ _ _ _ _ Kg	
47	Did any basic/primary school children receive any prepared food at school?	1= Yes 2= No – go to Q48	_
47a	How frequently did this/these child(ren) receive this food?	1 = daily 2 = once weekly 3 = irregularly	_
Food Purchases during the last Consumption Year: 2009/10			
48	What is the main staple consumed by your household?	1 = Maize 2 = Cassava 3 = Millet 4 = Sorghum 5 = Maize and Cassava 6 = Other, specify _____	_
48a	Since 2009/10 consumption season until now, have you purchased CEREAL for your household consumption?	1 = Yes 2 = No	_
48b	If yes to Q 48a, indicate the month (✓)?	38a1. May 09 _ 38a11. Mar 10 _ 38a2. Jun 09 _ 38a12 Apr10 _ 38a3. Jul 09 _ 38a4. Aug 09 _ 38a5. Sep 09 _ 38a6. Oct 09 _ 38a7. Nov 09 _ 38a8. Dec 09 _ 38a9. Jan 10 _ 38a10. Feb 10 _	
48c	If yes to Q 48a, how much of cereal have you purchased so far.	_ _ _ _ _ _ KG	
49	Compared to last consumption year (2009/10), do you expect to purchase more , the same or less cereals?	1 = Less 2 = Same (go to Q50) 3 = More 4 = Never purchase cereals (go to Q 50)	_

49a	<p>If respondent doesn't expect to purchase the SAME amount of cereals:</p> <p>What is the main reason?</p>	<ol style="list-style-type: none"> 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 	<input type="checkbox"/>
50	<p>Since 2009/10 marketing season until now, did anyone in your household purchase CASSAVA to eat?</p>	<p>1= Yes 2= No – go to Q51a</p>	<input type="checkbox"/>
50a	<p>Do you normally buy cassava every year?</p>	<p>1= Yes 2= No – go to Q 50b</p>	<input type="checkbox"/>
50b	<p>Why did you buy cassava during 2009/10 season?</p>	<ol style="list-style-type: none"> 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= Cassava failure made purchases necessary 6= Total crop failure made purchases necessary 7= Other, specify _____ 	<input type="checkbox"/>
Agricultural Inputs (Cereals) – 2009/10 Production Season			
51a	<p>Did you acquire agricultural inputs in the last agricultural season (2009/10)</p>	<p>1 = Yes 2 = No (go to Q56)</p>	
51b	<p>Where did you get your seeds from?</p>	<ol style="list-style-type: none"> 1 = Previous harvest 2 = MACO (Fertilizer Support Programme) 3 = MCDSS/PAM (Food Security Pack) 4 = Cooperatives 5 = Purchased 6 = Gifts 7 = Other, specify: _____ 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
52	<p>Was the seed for your main cereal crop adequate?</p>	<p>1 = Yes (go to question 53) 2 = No 3 = No cereal crops (go to question 54)</p>	<input type="checkbox"/>

52a	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	_
53	Did you have access to fertilizer for your main cereal crop in the last growing season?	1 = Yes (<i>go to question 54</i>) 2 = No	_
53a	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 _____ _____	_
54	What were the three (3) main limitations to your cereal production, in 2009/10 season?	0= The production was very good – no limitations (<i>go to Q 55</i>) 1= Lack of seeds 2= Lack of labour 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	
55	Did you have adequate seed for your main legume (beans, peas, soya beans, groundnut) during the last growing season - 2009/10?	1 = Yes (<i>go to Q 56</i>) 2 = No	_

55a	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: _____	<input type="checkbox"/>
56	Did you apply manure to any of your field crops during 2009/10 growing season?	1 = Yes 2 = No	<input type="checkbox"/>
56a	Did you use conservation farming methods on any of your field crops during 2009/10 growing season?	1 = Yes 2 = No	<input type="checkbox"/>

G. COPING STRATEGIES FROM DECEMBER 2009 – MAY 2010

Consumption Strategies

57	How many main meals did your household have yesterday?	0 = None 1 = One 2 = Two 3 = Three 4 = More than three	<input type="checkbox"/>
57a	How many main meals does your household normally have in a day?	1 = One 2 = Two 3 = Three 4 = More than three	<input type="checkbox"/>
58	Has the household relied on less preferred foods in the past 6 months (Dec 09 - May 10)?	1 = Yes 2 = No	<input type="checkbox"/>
59	Have the household members regularly reduced the number of meals eaten per day?	1 = Yes 2 = No	<input type="checkbox"/>
60	Have HH members regularly skipped entire days without eating due to lack of money or food?	1 = Yes 2 = No	<input type="checkbox"/>
61	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	<input type="checkbox"/>
62	Has the HH relied on the consumption of own-caught fish more than normal during this time of the year?	1 = Yes 2 = No	<input type="checkbox"/>
63	Has the HH relied on the consumption of game meat more than normal during this time of the year?	1 = Yes 2 = No	<input type="checkbox"/>
64	Has the household eaten meals consisting only of vegetables more than normal?	1 = Yes 2 = No	<input type="checkbox"/>
65	Has the household slaughtered more domestic animals than normal for food?	1 = Yes 2 = No	<input type="checkbox"/>

66	Has the household borrowed food, or money to buy food in the past 6 months?	1 = Yes	2 = No	<input type="checkbox"/>
67	Has the household received food, or money to buy food from relatives, friends or neighbours outside the household in the past 6 months (Dec 09 - May 10)?	1 = Yes	2 = No	<input type="checkbox"/>
68	Has the household received food from a wealthy person in the past 6 months (Dec 09 - May 10)?	1 = Yes	2 = No	<input type="checkbox"/>
69	Has the household received any food assistance from a Church or other religious institution in the past 6 months (Dec 09 - May 10)?	1 = Yes	2 = No	<input type="checkbox"/>
70	Has the household received food relief from any other source in the past 6 months (Dec 09 - May 10)?	1 = Yes	2 = No	<input type="checkbox"/>
<i>Expenditure Strategies (in the last 6 months)</i>				
71	Has the HH been forced to take any children ages 6-15 out of school because of hunger?	1= Yes	2= No	<input type="checkbox"/>
72	Has the HH reduced overall expenditure on education due to hunger?	1= Yes	2= No	<input type="checkbox"/>
73	Has the HH reduced expenditure on healthcare?	1= Yes	2= No	<input type="checkbox"/>
74	Has the HH reduced expenditure on hired labour or draught power?	1= Yes	2= No	<input type="checkbox"/>
75	Has the HH reduced expenditure on purchased agriculture inputs e.g. seeds, fertilizer?	1= Yes	2= No	<input type="checkbox"/>
76	Has the HH reduced expenditure on veterinary medicines?	1= Yes	2= No	<input type="checkbox"/>
77	Other, specify:	1= Yes	2= No	<input type="checkbox"/>
<i>Income Strategies (in the last 6 months)</i>				
78	Has the HH sold more than the usual amount of livestock/poultry?	1= Yes	2= No	<input type="checkbox"/>
79	Has the HH sold other HH assets (furniture, electronics) to buy food?	1= Yes	2= No	<input type="checkbox"/>
80	Has the HH sold productive assets (hoes, ploughs, draught animals) to buy food?	1= Yes	2= No	<input type="checkbox"/>
81	Have additional HH members had to find casual work to get food, or money to buy food?	1= Yes	2= No	<input type="checkbox"/>
82	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	<input type="checkbox"/>
83	Other, specify:	1= Yes	2= No	<input type="checkbox"/>

H. WATER AND SANITATION

84	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 - go to Q86 8= Other, specify _____	_
85	Did your main water source get flooded?	1 = Yes, continued using - go to Q85b 2 = No – go to Q85b 3 = Yes, stopped using	_
85a	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 _____	_
85b	Do you treat the water before drinking?	1= Yes 2= No - go to Q 86	_
85c.	If yes to Q85b, State how?	1 = Use of Chlorine 2 = Boiling 3 = Filtering 4 = Other, specify: _____	_ _ _
86	What is the distance of the water source to your house?	0 = On premises 1 = Less than 100m 2 = 100 – 500m 3 = above 500m	_
87	Compared to the same period last year (May 2009), how is the quantity of water at your main source?	1 = Less 2 = Same 3 = More	_
87a	What is the quality of water being used for domestic purposes	1 = Good – go to Q88 2 = Poor	_
87b	State the reason for the response in Q87a.	1 = Taste 2 = Odour 3 = Colour 4 = Other, specify; _____	_
88	Does your household conduct any irrigation?	1 = Yes go to Q 88b 2 = No	_

88a.	If "No" to Q88 state the reason why? <i>Indicate ✓ where appropriate</i>	78a.1 Field too far from water source <input type="checkbox"/> 78a.2 No pumps/pipes <input type="checkbox"/> 78a.3 No manpower to draw water <input type="checkbox"/> 78a.4 Other, specify:_____	
88b	If yes to Q88, <i>Please make sure you Indicate ✓ where appropriate</i>	78b1 River <input type="checkbox"/> 79b2 Dam <input type="checkbox"/> 78b3 Shallow well <input type="checkbox"/> 78b4 Hand dug well <input type="checkbox"/> 78b5 Borehole <input type="checkbox"/> 78b6 Lake <input type="checkbox"/> 78b7 Spring <input type="checkbox"/> 78b8 Dambo <input type="checkbox"/> 78b9 Other, <input type="checkbox"/> specify:_____	
89	What main sanitary disposal facility does your household use?	1 = Flash Toilet 2 = VIP 3 = Sanplat (Improved Traditional) 4 = Traditional Latrine 5 = Bucket 6 = No facility (i.e. Bush, river, CAT Method) 7 = Other, specify: _____	
90	What does the household use for washing hands?	0 = None 1 = Soap 2 = Ash 3 = Other, specify_____	<input type="checkbox"/>
90a	Do household members wash their hands with soap before preparing food?	1 = Yes 2 = No	<input type="checkbox"/>
90b	Do household members wash their hands with soap after using the toilet?	1 = Yes go to Q91 2 = No	<input type="checkbox"/>
90c	If "No" to Q90b. State the reason why? (Indicate ✓ where appropriate)?	1 = Forget to wash their hands <input type="checkbox"/> 2 = Soap is expensive <input type="checkbox"/> 3 = Others (specify) <input type="checkbox"/>	

I. HEALTH			
91	Did anyone in the household get sick between January to March 2010?	1 = Yes go to 87a 2 = No – go to Q92	<input type="checkbox"/>
91a	What disease(s) did they suffer from? <i>Please make sure you Indicate ✓ where appropriate</i>	1. Fever/Malaria <input type="checkbox"/> 2. Diarrhoea <input type="checkbox"/> 3. Cough <input type="checkbox"/> 4. Scabies <input type="checkbox"/> 5. Others, specify: _____	<input type="checkbox"/>
92	Did anyone in the household get sick over the last two (2) weeks?	1 = Yes 2 = No (<i>go to Q94</i>)	
93a	If yes to Q92 , specify how many were sick (number)?		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
93b	What disease(s) did they suffer from? <i>Please make sure you Indicate ✓ where appropriate</i>	1. Fever/Malaria <input type="checkbox"/> 2. Diarrhoea <input type="checkbox"/> 3. Cough <input type="checkbox"/> 4. Scabies <input type="checkbox"/> 5. Others, specify: _____	<input type="checkbox"/>
93c	Where did household members go to seek health care ? <i>Please make sure you Indicate ✓ where appropriate</i>	1. Did not seek any health care – go Q94 <input type="checkbox"/> 2. Traditional Healer <input type="checkbox"/> 3. Formal Care (clinic/hospital/village health worker) <input type="checkbox"/> 4. Private (formal health care) <input type="checkbox"/> 5. Pharmacy/dispensary <input type="checkbox"/> 6. Own medication (purchase drugs from <i>tuntemba</i>) <input type="checkbox"/> 7. Others, specify: _____	
93d	What were the main reasons for not going to the health facility? <i>Please make sure you Indicate ✓ where appropriate</i>	1. No money to pay for treatment (fees and drugs) <input type="checkbox"/> 2. No transport , too far, or too expensive <input type="checkbox"/> 3. Poor quality /lack of confidence/lack of staff or drugs <input type="checkbox"/> 4. Religious or cultural reasons <input type="checkbox"/> 5. Too ill to be moved <input type="checkbox"/> 6. Home Based Care <input type="checkbox"/> 7. Others, specify: _____	

J. NUTRITION AND ANTHROPOMETRIC MEASUREMENTS (THIS SECTION ONLY APPLIES TO ALL CHILDREN AGED BETWEEN 6 TO 59 MONTHS LIVING IN THE HOUSEHOLD AND THE MOTHER)

94. Who is providing information on the child/children? **1** = Mother **2** = Father **3** = Sister/Brother **4** = Grand Parents **5** = Other relatives |_|

95 How many children aged between 6 to 59 months live in your household |_|

Child Number	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) <i>Check children's under five cards</i> Did the child receive any immunization / vaccinations? 1 = Yes 2 = No										
					Fever	ARI/cough	Diarrhea	Skin Infection	Measles		Measles	OPV 0	OPV 1	OPV 2	OPV 3	OPV4 (at 9 mths, only if OPV 0 was not given)	DPT-HepB/Hib 1	DPT-HepB/Hib 2	DPT-HepB/Hib 3	BCG	
					1 = Yes 2 = No	1 = Yes 2 = No	1 = Yes Watery 2 = Yes Bloody 3 = No	1 = Yes 2 = No	1 = Yes 2 = No		Measles	Measles	Measles	Measles	Measles	Measles	Measles	Measles	Measles	Measles	
1	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
2	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
3	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
4	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
5	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
6	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
7	_ / _ / _	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

Child ID from Above	Mother's Name	Mother's MUAC	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 6 months (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) <i>Take 3 height measurements. If 2 readings match, use that reading. If all 3 readings are different, enter the 2 closest height reading.</i>	Weight (if no Oedema) <i>Take 3 weightt measurements. If 2 readings match, use that reading. If all 3 readings are different, enter the 2 closest weight readings.</i>	Middle Upper Arm Circumference (MUAC) If no oedema
						Supplementary feeding programme	Therapeutic feeding programme	Currently enrolled in Therapeutic feeding programme				
Below 24 Months <input type="checkbox"/>		cm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. cm	1. <input type="text"/> <input type="text"/> <input type="text"/> kg	<input type="text"/> <input type="text"/> <input type="text"/> . cm
										2. cm	2. <input type="text"/> <input type="text"/> <input type="text"/> kg	
Above 24 Months <input type="checkbox"/>		cm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. cm	1. <input type="text"/> <input type="text"/> <input type="text"/> kg	<input type="text"/> <input type="text"/> <input type="text"/> . cm
										2. cm	2. <input type="text"/> <input type="text"/> <input type="text"/> kg	

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

96. 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)				
97a	Yesterday, how many times did the men in this household take a meal?			[]
97b	Yesterday, how many times did the women in this household take a meal?			[]
97c	Yesterday, how many times did the under-five children in this household eat a meal?			[]
97d	Yesterday, how many times did the children (5-17 years) in this household take a meal?			[]
	Food item	In the past one week, have your household eaten the following food items	# of days eaten last 7 days	What is the main source of (the food item consumed) 1= Own production 2= Purchase 3= Gifts 4= Barter 5= Gathering from the bush 6= 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 Vegetable and tubers	Pumpkin, carrots, Squash, or Sweet potatoes that are orange inside	[]	[]
	Dark-leafy vegetables	Sweet pepper , dark green leafy vegetable e.g. spinach, including wild ones, cassava leaves etc.	[]	[]
	Vitamin A rich fruits	Ripe mangoes, pawpaw, other locally available vitamin A rich fruits (yellow and orange 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		[]	[]
	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.	[]	[]

Annex 2: Community Questionnaire – 2010

Community Questionnaire
ZVAC In-depth Needs and Vulnerability Multi - Sectoral Assessment (May 2010)
Community Focus Group Discussion

Questionnaire ID | _ | _ | _ | _ | _ | _ | _ |

Longitude	Easting (E)	_ _ . _ _ _ _ _ °E
Latitude	Northing (S)	_ _ . _ _ _ _ _ °S

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:	
Rural = 1 Urban = 2	_

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

Note: Please Probe

4. Livelihoods

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

Rank Order	Major Livelihood
1.	
2.	
3.	

4b. What are the three major income sources for households in this community (compare current to May 2009)? *Please rank in the order of importance as provided below;*

Income Source		
Rank Order	May 2010	May 2009
1		
2		
3		

5. Food Crop and Livestock Availability

5a. What is the current staple food availability in the area compared to May 2009? (1= More, 2= Same, 3=Less)

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

5b. How long will the main staple food from own production last this year (indicate in months)? **Months**

5c. How long does the main staple food from own production usually last in a normal year (indicate in month)? **Months**

5d. Is fishing a major livelihood in your community?

1 = Yes

2 = No – Go to Q5f

5e. How are the current fish catches compared to May 2009?

1= More

2= Same

3=Less

5f. What is the current livestock availability in the community compared to May 2009?

Livestock	Number (2010)	Number(2009)	Comments (Reason for change?)
Cattle			
Goats			
Sheep			

Pigs			
Poultry			
Other Specify			

6. Access

6a Are there functional markets in this community? Yes No - **Go to Q6f**

6b Are these markets easily accessible? Yes - **Go to 6d** No

6c If **No**, Why?

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

6d Is the main staple food readily available on the market in this community? Yes No

6e. Does the main staple food on the market come from outside the community? Yes No

6f. Compare the current prices of staple foods to those of May 2009, Please insert prices in the table below;

Commodity	Unit of measure	May -10 (price)	May - 09 (price)	Reason for price variation (e.g. 1 = Increased harvest, 2 = Reduced harvest, 3 = Reduced demand, 4 = No change in demand 5 = Increased demand, 6 = Other, specify in the appropriate row
Maize				
Sorghum				
Millet				
Rice				
Cassava				

7c. What was the total number of children that attended under 5 clinic sessions in the quarter and how many were **underweight**?

Item	First Quarter		
	2008	2009	2010
Number of Underweight children			
Total Number of under five(5) children weighed			

8.0 Water and Sanitation

8a. 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|_|

8b. What percentage of the commonly used water sources for drinking and cooking were affected by flood waters during 2009/10 rainy-season?
(Use proportion piling)

[]

8c. What percentage of the commonly used water sources for other domestic purposes were affected by flood waters in the 2009/10 rainy-season?
(Use proportion piling)

[]

8d. Does the community normally treat their drinking water? 1=Yes 2=No |_| – if **no**, go to **Q8f**.

8e. If yes for Q 8d, 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

8f. 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	

8g. What type of sanitary facilities are most commonly used in the community?

1 = Ventilated Improved Pitlatrine (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

8h. What percentage of commonly used sanitary facilities were affected by floods, where applicable?

Flooding [] (Use Proportional piling)
 Collapsing []

8i. What are the waste disposal method used? Indicate by inserting (√) in appropriate boxes below

- a. Refuse Pit |_|
- b. Refuse Collection Service |_|
- c. Indiscriminate Disposal |_|
- d. Burning |_|
- e. Other, specify _____

9. Early Warning/Preparedness Measures

9A. Dry Spell

9Ai. Were you warned about dry spell? **1**= Yes **2** = No – go to Q9Bi |__|

9Aii. If Yes to 9Ai, who warned you?

1 = Department of Water Affairs (DWA) **2** = Ministry of Agriculture (MACO) **3** = Meteorological Department (MET)
4 = District Disaster Management Committee (DDMC) **5** = other; specify

9Aiii. What was the mode of communication?

1 = TV **2** = Radio **3** = Newspaper **4** = Flyers
5 = other; specify.....

9Aiv. What measures did you take to minimise the impact?

.....

9B. Floods

9Bi. Were you warned about flooding in 2009/10 season? **1**= Yes **2** = No – go to Q10a |__|

9Bii. If Yes to 7b, who warned you?

1 = DWA **2** = ZESCO **3** = MET **4** = DDMC
5 = other; specify

9Biii. What was the mode of communication?

1 = TV **2** = Radio **3** = Newspaper **4** = Flyers
5 = other; specify.....

9Biv. What measures did you take to minimise the impact?

.....

9Bv. Have you been evacuated before due to flooding from this area in the 2009/10 season? **1** = Yes **2**= No |__|

9Bvi. If yes, why have you returned to this area?

.....

10.0 Infrastructure

10a. 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 _____

10b. What was the effect of adverse rainfall on the following?

Infrastructure	Level of Effects 0 = No effect 1 = Less (0 - 29%) 2 = Moderate (30- 69%) 3 = Severe (70-100 %)
Gravel Road	
Paved Road	
Bridges/culvert	
Houses	
Clinics	
Schools	
Office Buildings	
Community Hall	
Markets	
Others (specify)	

10c. Describe the current condition of the infrastructure in view of the floods during the 2009/10 season (List affected areas by ward. Where applicable, give the name of the facility)

Infrastructure	Current Condition of Infrastructure
Gravel Road	
Paved Road	
Bridges/culvert	
Houses	
Clinics	
Schools	
Office Buildings	
Community Hall)	
Markets	
Others (specify)	

10d. 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

10d1. Comments for School Infrastructure (Describe the damage done to the infrastructure in question):

School Infrastructure affected							
Classroom	Teachers Houses	Water Points	Sanitation Facilities	Other Facilities	School Furniture	School text books	Recreational Areas or Sports field

10e. 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

10e1. Comments for Clinic/RHC Infrastructure (Describe the damage done to the infrastructure in question):

Clinic/RHC Infrastructure affected						
Maternity Wing	Maternal Child Health	Disposal Facility (Incinerator)	Mothers Shelter	Laboratory	Water Points	Staff House (s)

10f. What type of infrastructure projects are being implemented in this community (Ongoing)?

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

11. Protection

11a. Are there any reports in the community/camp of violence against women and children since the floods/dry spell? 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Early marriage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Child Defilement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Assault	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sexual Exploitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Others (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Annex 3: District Questionnaire – 2010

District Questionnaire – 2010
ZVAC In-depth Needs and Vulnerability Multi- Sectoral Assessment (May 2010)
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: _ _ _ _
Place of Interview:	Date of Interview: _ _ _ _ _ _ _ (DD-MM-YY)
Enumerator Name:	

2. Describe how the rainfall performed in this district during the 2009/2010 production season |_|_|

1 = normal 2 = Floods 3 = Dry Spells 4 = 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? What is the **duration** of the Programme? Which **organisation** is carrying out the programme?

Type of programme	Organisation Implementing	Ward Names	No. of HH benefiting	Total No. of HHs	Quantity received monthly	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)							
Extension Services							

Type of programme	Organisation Implementing	Ward Names	No. of HH benefiting	Total No. of HHs	Quantity received monthly	When Started mm/yy	Expected end mm/yy/Ongoing
(E.g. Conservation Farming, Crops, Livestock, Irrigation e.t.c.)							
WATSAN (Water & Sanitation)							
Health Programmes (Specify):							
Therapeutic/ Supplementary 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= Church organisation **8 = other (specify)**

3. Food Crop and Livestock Availability

3a. What is the current staple food availability in the district compared to May 2009?

Food Type	Own Production 1 = Less, 2 = Same 3 = more	Other indirect sources (<i>e.g. Casual work, barter system, Food Aid, purchase etc</i>) 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 mainly come from?

- 1 . Within the district, go to 3d. 2. Outside the district 3. Both

3c. Name the place where the staple food mostly come from?

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3d. Compare the current prices of staple foods to those of May 2009. Please use the table below;

Commodity	Unit of measure	Measure in kg	May -09 (price)	May-10 (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					

3e. What is the current livestock availability in the district compared to May 2009?

Livestock	Number (May 2009)	Number (May 2010)	Comments (Reason for change?)
Cattle			
Goats			
Sheep			
Pigs			
Poultry			
Other Specify			

3f. How have selling prices for livestock (live weight) been in the last five months (Dec 09 – May 10)? Please use the table below;

Type of Livestock (fully grown)	Price now	Dec 2009(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 (For those Districts Impacted by dry spells only, please skip this section)

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

Infrastructure	Level of Effects 0 = No effect 1 = Low 2 =Moderate 3 = Severe	Describe the current condition of the infrastructure in view of the rainfall intensity during the 2009/10 season (List affected areas by ward)
Gravel Road		
Paved Road		
Bridges/culvert		
Houses		
Markets		
Church / Community Hall		
Dip Tanks		
Boreholes		

4b1. Comments for School Infrastructure (Describe the damage done to the infrastructure in question):

School Infrastructure affected							
Classroom	Teachers Houses	Water Points	Sanitation Facilities	Other Facilities	School Furniture	School text books	Recreational Areas or Sports field

4c. 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		Maternal Child Health		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

4c1. Comments for Clinic/RHC Infrastructure (Describe the damage done to the infrastructure in question):

Clinic/RHC Infrastructure affected						
Maternity Wing	Maternal Child Health	Disposal Facility (Incinerator)	Mothers Shelter	Laboratory	Water Points	Staff House (s)

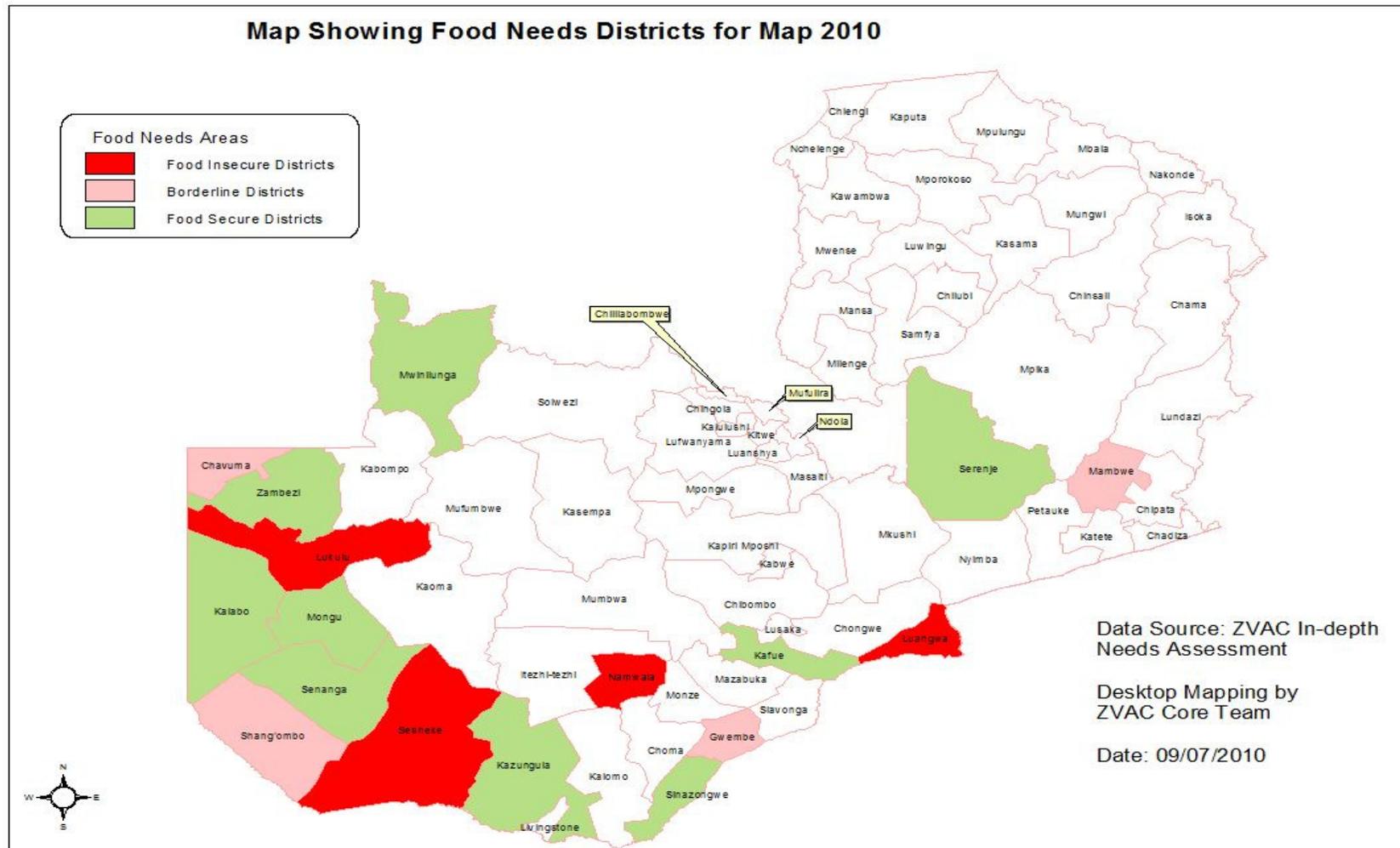
End of Interview!!

Annex 5: Districts Assessed and Team Composition

TEAM	PROVINCE	DISTRICTS	NO. OF DAYS	TEAM COMPOSITION
1	Central, Lusaka	Serenje and Kafue	14	Ms.Maudy Kaoma: Team Leader Team Members: Ms.Gift Lugali Mr.Bwalya Kalilo Mr.Arams Kalumba
2	Lusaka, Eastern	Luangwa and Mambwe	14	Mr.Henry Lubinda: Team Leader Team Members: Mr.Martin Mushiba Mwaba Ms.Catherine M. Chali Ms.Naomi B. Miti
3	North-Western	Zambezi and Mwinilunga	14	Mr. Eddy Palula Team Members: Ms.Charity Samunuma Mr.Agripa Banda Mr.Gondwe Thulasoni
4	North-Western, Western	Chavuma and Lukulu	14	Mr Lusajo Ambukege: Team Leader Team Members: Ms.Kabubi Muyambango Mr.Kennedy Katowa Mr.Brian Siame
5	Southern	Sinazongwe and Gwembe	14	Ms.Eunice Chishimba : Team Leader Team Members: Mr.Frank Mukuka Ms.Michelo Munachonga Mr.Nathan Simwanza

6	Southern	Namwala and Kazungula	14	Mr.Nathan Tembo: Team Members: Ms.Michelle Chiyala. K Mr.Ryan Mwape Mr.Justine Chanda
7	Western	Mongu and Senanga	14	Mr.Elijah Malumo: Team Leader Team Members: Mr.Mwila B.Chipampwe Ms.Shamanga Muliyaunda Ms. Maggie Mapalo
8	Western	Sesheke and Shangombo	14	Mr.Joseph Mashilipa : Team Leader Team Members: Mr. Elvis Silwimba Ms.Bertha Manga Wamuwi Ms Isabel Madzorera
9	Western	Kalabo	8	Ms. Emely Mwale: Team Leader Team Members: Ms.Mainza Makunga Ms .Womba Chikunji Mr.Mugala Rabby M. Mr.Arthur Sinyinza

Annex 6: Food Security Phase Classification Map



Annex 7: Food Needs for Market Intervention

NO.	DISTRICT NAME	POPULATION AFFECTED	CEREAL REQUIREMENTS (Metric Tonnes)
1	LUANGWA	6,831 (1139HH)	359
2	LUKULU	23,059 (3843HH)	1,211
3	NAMWALA	18,807 (3134HH)	987
4	SESHEKE	4,932 (822HH)	259
	TOTAL	53,629 (8938)	2,816

Annex 8: Editorial Team

Ms.Yande Mwape	DMMU
Mr.Lenganji Sikaona	DMMU
Mr.Evans Kapekele	DMMU
Isabel Madzorera	FEWSNET