IN-DEPTH VULNERABILITY AND NEEDS ASSESSMENT REPORT ON THE IMPACT OF THE FLOODS AND/OR PROLONGED DRY SPELLS
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ZAMBIA
Vulnerability
Assessment Committee

BY

THE ZAMBIA VULNERABILITY ASSESSMENT COMMITTEE (ZVAC)
LUSAKA

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Acronyms

BESSIP	Basic Education Sub Sector Investment Programme
CBPP	Contagious Bovine Pleuro Pneumonia
CRS	Catholic Relief Services
CSO	Central Statistical Office
DDMC	District Disaster Management Committee
DMMU	Disaster Management and Mitigation Unit
DHMT	District Health Management Team
DWA	Department of Water Affairs
FAO	Food and Agriculture Organization
FSP	Food Security Pack
HIMS	Health Information Management System
IMCI	Integrated Management of Common Childhood Illnesses
ITN	Insecticide Treated Net
LWF	Lutheran World Federation
LCMS	Living Conditions Monitoring Survey
MACO	Ministry of Agriculture and Cooperatives
MWS	Ministry of Works and Supply
MET	Meteorological Department
MOE	Ministry of Education
MT	Metric Tons
NAPS	National Association for the Prevention of Starvation
NFNC	National Food and Nutrition Commission
PAM	Program Against Malnutrition
PTA	Parent Teachers Association
OVP	Office of the Vice President
RTI	Respiratory Tract Infections
SanPlat	Sanitation Platform
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organisation
WATSAN	Water and Sanitation
WFP	World Food Program
ZAWA	Zambia Wildlife Authority

ZDHS	Zambia Demographic and Health Survey
ZRDF	Zambia Relief Development Foundation
ZVAC	Zambia Vulnerability Assessment Committee

EXECUTIVE SUMMARY

The March, 2007 Rapid Assessment established that most parts of Western, North Western, some parts of Eastern, Central and Northern Provinces experienced severe flooding by second week of December 2006, resulting in damage to infrastructure, crop fields and disruption in service delivery as well as reduction in the grazing land for animals. This led the Zambia Vulnerability Assessment Committee (ZVAC) to conduct an In-depth Need and Vulnerability Assessment in order to determine the effects and extent of the floods and/or dry spells on infrastructure and habitations, health, nutrition, water and sanitation, education, crops, livestock and food access in forty-five (45) districts. The findings from this assessment are the basis for interventions to mitigate the impact of the floods and/or dry spells.

The In-depth Vulnerability and Needs Assessment employed a combination of qualitative and quantitative approaches. Within the quantitative approach, structured household questionnaires were implemented. A complementary qualitative approach relied on the Focus Group Discussions as well as District Key Informants. Under the household questionnaire approach, a two (2) stage stratified sampling approach was used. A total of 630 Standard Enumeration Areas (SEAs) were covered bringing the total of 12,000 sampled households in the forty-five (45) districts of the nine (9) Provinces. Under the qualitative approach, a total of 180 Community Focus Group Discussions (CFGDs) and forty-five (45) District Key Informant interviews were undertaken.

Furthermore, anthropometric data collection methods were also employed for collection of nutrition data for the under-five children a total of 6,240 children were sampled. The field data collection took 28 days and was carried out by thirteen (13) teams of VAC enumerators.

Although 20 SEAs were selected for each district, the teams collected information from at least 14 SEAs due to time constraints. The 14 SEAs were selected purposively depending on the flood/dry spell status. However, caution was taken to ensure that the selected SEAs were well spread out to ensure maximum variability.

Major findings

- Despite varying rainfall intensities experienced in most districts, the 2006/07 production was above average. However, in some of the assessed districts, production of main staples at household level marginally reduced.
- About fourteen (14) districts of Luapula, Northern, Western and North-Western Provinces were found have serious food access problems amongst most households that had a production gap of 70% from the 2006/07 production season. Furthermore, a total population of **440,866** persons in these districts were found to be food insecure and would require **31,742** tons of maize for the period of six (6) months starting in **September, 2007.** This relief should be labour based in nature (80%) and the remaining 20% will be general food distribution for the chronically vulnerable who were affected by floods such as the aged, disabled and not able to work and child headed households. It is also worth noting that the assessment did not look at the chronic versus transitory vulnerability dynamics due to lack of baseline information.
- Major income sources, expenditure patterns and coping strategies employed generally remained the same compared to the previous season with most of them engaging in casual labour, sale of crops and petty trading as the three most common activities
- A total of **thirteen (13**) districts have been placed under monitoring to evaluate the evolution of their food security situation among households whose production gap was less more than -70 but current response options were fairly sufficient to sustain bridge up the production gap.
- Maize prices in visited districts have remained relatively low and below the five year average in most districts while livestock prices have also recorded an

increase in almost all the assessed districts. These prices when compared to those that prevailed during the lean period are higher, indicating that most households are not under food stress.

- The overall prevalence of global acute malnutrition (GAM) and severe acute malnutrition (SAM) of the sampled population, using the weighted mean from all the 45 districts was 5.6% (1.09 - 1.62 CI) and 2% (1.35 - 1.84 CI) respectively. The analysis further indicates that children aged between 6- 41 months were more wasted than the older children.

- Global stunting from the assessed children stands at 34.2% (0.75 – 1.29 CI) while 20.3% (0.31 - 1.82CI)20.3% were severely stunted. The prevalence of severe underweight was more (34.7%) among children aged between 18–29 months while there was no significant difference in moderate underweight in almost all the age groups. The Global underweight rate of 18% and severe underweight rate of 11.6% was found among all the children in the assessed districts.
- Generally, common childhood illness were high among under-five children two weeks prior to the assessment. Malaria (41%) was the most common household illness with 23 % reporting cough problems while fever and diarrhoea cases affected 11%. About 16% of the visited households reported at least a chronically ill adult member.
- Despite the country having the high breastfeeding rate of 98%, only 40% of infants are exclusively breastfed.
- Overall the survey established an impressive coverage of vitamin A supplementation (82%) which is above the 80% threshold from bi-annual child health week campaigns. The immunization coverage among eligible children was also high considering that the assessment was conducted before the campaign. Ninety (90%) of children had received BCG at birth, 86% had received DPT, Polio 82% and measles 73% had received the vaccines.
- Despite most households having poor access to poor safe water only 23% were treating water most households (75%) reporting diarrhoea cases did not treat water. There was high diarrohea case among households using borehole water as well as those using traditional latrines implying generally poor hygiene standards at household level.
- Infrastructure (Roads, bridges/culverts) was found to be the most severely affected.

CONCLUSIONS

The impact of floods and/or prolonged dry spells on crop production and livestock was low as established in the March 2007 rapid flood assessment however fourteen (14) districts have experienced drastic reduction in the overall harvest of main staples as a result of water logging and flash floods.

The nutritional situation of children found in this survey is best described as "stable but precarious", with a high likelihood of deterioration if interventions and/or if basic services, particularly provision of clean water and health care, are reduced.

Access to safe water and good sanitation in rural households has remained poor while hygiene standards are very low.

Although impact on school attendance was low, learning continued under unconducive learning environment

RECOMMENDATIONS

Food Security

- Fourteen (14) districts would require 31,742MT of cereals targeting a population of 440,866 for six months starting from September 2007 to February 2008. Programming options should include food for work (80%), free food (20%). Furthermore there is need for redistribution of the staple food from surplus areas within and outside the district to deficit areas through the markets a source of income for surplus producing households
- Enhanced farmer sensitisation through crop and livestock extension services which should include appropriate Dambo utilization interventions, good livestock husbandry practices and livestock disease surveillance system.
- Support for small scale irrigation systems to targeted rural population with access to streams and dambos to improve their productivity in vegetable gardening as well as other winter crops like maize.
- There is need for crop diversification and promotion of growing and consumption of cassava, sorghum, millet in areas that predominantly grow maize especially low producing areas. In addition, the non cereal crops such as cowpeas should also be considered.

Nutrition

- Programmes aiming to reduce and/or prevent malnutrition must focus on increasing access to safe water and sanitation, and reducing disease incidence, particularly Fever/malaria, respiratory infections and diarrhoea.
- Health and hygiene promotion should be strengthened to include all populations, supported by provision of appropriate non-food items such as water, mosquito nets, Chlorine etc where necessary.
- Food assistance also plays a vital role in ensuring good health and nutrition status, and should be continued for those who are unable to provide adequately for themselves.
- Nutrition programmes should focus mostly on children under the age of three years, since this is where the majority of acute malnutrition is found.
- Routine immunizations and supplementation of vitamin A for all children should be strengthened, and health clinics supported to provide these vital services. Campaigns to maintain high levels of measles and polio immunization are also a necessary strategy.
- Outreach and early case finding of malnourished children in the communities should be strengthened where possible, to improve coverage of therapeutic feeding programmes.
- Supplementary feeding programmes should focus more on education for caretakers, and be used as an opportunity to raise awareness of appropriate health, hygiene and caring practices, rather than simply a distribution of food
- Routine surveillance activities should be strengthened to allow early detection of changes in nutrition and health status, and to remove the need for large surveys such as this. Such surveillance systems should be integrated into government structures and include food security monitoring Indicators as well.

Health

- Intensify information, education and communication to mitigate any possible outbreak of communicable diseases
- Continue monitoring of disease patterns as some effects can appear after the floods.
- Support the provision and distribution of essential drugs and supplies for malaria, diarrhoea and coughs/ARI through programmes
- Scaling up of programmes such as Roll Back Malaria and Domestic Water Chlorination Promotion in all districts.

- Support sustained delivery of essential health services such as immunization, child growth monitoring, maternity, HIV/AIDS, TB including through outreach where appropriate.
- Support integrated disease surveillance and reporting (IDSR), especially measles and other common illnesses.
- Intensification of community sensitization on good hygiene practice e.g. waste disposal.
- Primary health indicators generated by HMIS should be overlayed with environmental predictors such as temperature, rainfall etc in order to provide a comprehensive secondary analysis that could be used for epidermic forecasting and preparedness at district level.

Water and Sanitation

Water

- Intensify community sensitisation and participation in water programmes such as treatment and protection of water sources through D-WASHE programmes
- Increase availability and affordability of chlorine (as chlorine) in collaboration with MoH under the Domestic Water Chlorination Promotion.
- Increase access to safe drinking water by constructing water facilities such as boreholes and dams especially in areas with poor access to safe water such as Northern (Mpika, Luwingu, Chinsali, Isoka, Mporokoso), North-western (Mwinilunga, Zambezi, Chavuma, Kabompo) and Western Province (Kalabo and Shangombo).
- Promote rainwater harvesting facilities and spring utilisation to improve access to safe drinking water.

Sanitation:

- Promote and encourage construction of strong and recommended structures for sanitary or excreta disposal such as SanPlat.
- Increase awareness of personal hygiene and promote behavioural change initiatives at household level.
- Formulation and enforcing of policies that promote construction of strong and recommended structures for sanitary or excreta disposal
- Strengthening and institutionalisation of WASHE programmes in all districts

Infrastructure

Roads and Bridges/Culverts

- Refer to the In-depth Report on the Washed Away and Affected Drainage Structures by the 2006/7 Heavy Rains, RDA, July 2007

Schools

- Repair school infrastructure with blown off roofs
- Rehabilitate school infrastructure which was damaged as a result of floods
- Reconstruct schools which collapsed due to the floods including community schools

Habitation (houses)

- Community sensitization programs to build durable houses
- Community sensitization programs to help households in flood prone areas to appreciate the need to relocate to non flood prone areas.

General Recommendation

- There is still need for ZVAC to carry out a Comprehensive Vulnerability Assessment and Analysis to establish baseline information that will not only help in disaster preparedness but also in designing relief and social protection interventions.

1.0 INTRODUCTION

1.1 Background and Rationale

During the 2006/07 rainy season, Zambia experienced varying rainfall intensities. Most parts of the country experienced high rainfall that was characterized by flooding while extreme southern parts of Western and Southern Provinces experienced prolonged dry spells. This was established during the Rapid Flood Assessment in March 2007. Most parts of Western, North Western, some parts of Eastern, Central and Northern Provinces experienced severe flooding by second week of December 2006. This resulted in damage to infrastructure, crop fields and disruption in service delivery as well as reduction in the grazing land for animals.

The Rapid Assessment also established that the impact was cross cutting and mostly affected infrastructure. The risk of water borne disease outbreak was also found to be very high. Reports of adverse impact of the prolonged dry spells on crops in southern Zambia were also received from affected districts.

In view of these varying impacts of floods and prolonged dry spells on different sectors and the inability to access some affected areas at the time of the survey, the Zambia Vulnerability Assessment Committee (ZVAC) conducted an in-depth assessment aimed at determining the effects and extent of the floods on infrastructure and habitations, health, water and sanitation, education, crops, livestock and food access in forty-five (45) districts.

1.2 Objectives of the In-depth Vulnerability and Needs Assessment

The overall objective of the assessment was to determine the effects and extent of the floods and/or prolonged dry spells on, food access, crops and livestock, water and sanitation, health, education, infrastructure and habitations, in forty-five (45) districts.

1.2.1 Specific Objectives

The specific objectives were to:

- Assess the impact of floods and/or prolonged dry spells on the 2006/07 crop and livestock production
- Determine the impact of varied rainfall on WATSAN, Education and infrastructure
- Determine the impact of varied rainfall on markets
- Identify worst affected areas as well as the population affected.
- Determine food and non-food needs if any
- Determine the effects of varied rainfall on health and nutrition status of under-five children in the affected areas.
- Determine the communities' preparedness to hazards

1.3 Scope of the In-depth vulnerability and needs assessment

The floods and prolonged dry spells affected people in forty five (45) districts. The floods affected all sectors of the economy. These include health, water and sanitation, education, infrastructure and habitations, and agriculture. In order to ascertain the extent to which people were affected, the survey employed three approaches that is, the household questionnaire approach, key informant interviews and focus group discussions at district and community levels.

The household questionnaire covered the following topics: -

- Household demographics
- Productive asset ownership
- Household food security
- Agricultural inputs
- Health, water and sanitation
- Child nutrition
- Food consumption strategies
- Income and Expenditure strategies

The key informant and focus group discussions at district and community levels covered the following topics:

- Rainfall patterns and its effects
- Food security programmes
- Livelihood sources
- Food crop and livestock availability
- Income source
- Health and nutrition
- Infrastructure and habitations
- Water and sanitation.

1.4 Methods and Procedures

1.4.1 Sampling Frame

Zambia is administratively, divided into nine provinces. Each province is in turn subdivided into districts. Each district is further subdivided into constituencies and wards. For statistical purposes each ward is subdivided into Census Supervisory Areas (CSAs) and these are in turn subdivided into Standard Enumeration Areas (SEAs). The 1998-2000 mapping exercise in preparation for the 2000 census of population and housing, demarcated the CSAs within in wards, wards within constituencies and constituencies within districts. In total, Zambia has 72 districts, 150 constituencies, 1,289 wards. Wards are further divided into Census Supervisory Areas (CSAs), which are in turn divided into Standard Enumeration Areas (SEAs). The SEAs are also stratified by

urban and rural strata. The listing of SEAs has information on number of households and the population. However, for the purposes of this survey, SEAs constituted the ultimate Primary Sampling Units (PSUs). Therefore, the sample frame for this survey is the list of SEAs developed from the 2000 Population Census.

1.4.2 Sample Stratification and allocation

In order to have estimates at district level, as well as equal precision in the estimates in the selected districts, the Equal Sample Allocation Method (ESAM), based on the established minimum samples for a district, has been adopted. In view of that, each selected district had a sample of 20 SEAs /PSU's. In addition, the SEAs/PSUs were further stratified by flood and prolonged dry spell status for purposes of this survey. In the district that were affected by floods, allocation of the 20 PSUs was done using proportional allocation i.e. how many flood and non flood affected areas were to be covered within a district. The allocation of sample points in the flood and non flood strata, and the dry spell areas was proportional to there estimated size within these strata.

1.4.3 Sample Selection

The In-depth vulnerability and needs assessment employed a two-stage stratified cluster sample design. In the first stage, 20 SEAs were selected from each of the 45 targeted districts. Due to time constraints only 70% of the selected areas (14 SEAs) were canvassed the field teams.

1.4.4 First Stage Selection

At the first sampling stage, the sampled SEAs were selected within each stratum (affected and non affected areas within district, and prolonged dry spell areas) systematically with probability to estimated size (PPES) from the ordered list of SEAs in the In-depth vulnerability sampling frame. The measure of size for each SEA was based on the population size identified in the 2000 Census. The sorting of the frame of SEAs within each district provided further implicit stratification by the specified criteria. The following first stage sample selection procedures were used:

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

Ids= Mds/nds

The Excel software was used for selecting the sample of the initial 900 sample SEAs for the In-depth Vulnerability Assessment survey following these procedures, based on the allocation of the sample SEAs described Sample Stratification and allocation section above. Separate excel files per province were used showing the ordered frame of SEAs with the corresponding 2000 Zambia Census information. It documents the first stage systematic selection of sample SEAs with PPS for each district stratum within the province for the selected districts. The selected areas were arranged in a separate excel file used to calculate the weights for each selected HHLD in a district stratum.

1.4.5 Second Stage Selection

The second stage of the sampling procedure involved the selection of households in the SEAs selected at the first stage. Due to time and resource limitations, listing to get the updated number of households was not done. For the purposes of this survey the measure of size (N_{SEA}) for the PSUs was assumed to be that in Census 2000 frame. In each SEA 20 households (n_{SEA}) were selected. The sampling interval *k* was calculated as follows:

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

Every *k*-th household in the selected area was canvassed until all the required 20 households were covered.

1.4.6 Weighting Procedure

In order for the sample estimates from any particular survey to be representative of the population, it is necessary to multiply the data by a sampling weight, or expansion factor. The basic weight for each sample household would be equal to the inverse of its probability of selection (calculated by multiplying the probabilities at each sampling stage).

Based on the sample design for the In-depth Vulnerability Survey, the probability of selection within each SEA is different for the households depending on which strata it was sampled from i.e. flood, non flood and dry spell areas. The probability of selection for sample households in each stratum within a selected district can be generalized as follows:

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

Were:

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

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

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

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

ndsi = number of sample households selected in Category s from the listing for the i-th sample SEA in district h

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

The basic sampling weight is equal to the inverse of the probability of selection. Therefore the corresponding basic weight for the sample households in stratification status in each district would be calculated as follows:

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

Where:

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

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

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

Where:

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

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

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

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

1.4.7 Sampling for Nutrition

1.4.7.1 Sample size and sampling process for the household survey

Sample size estimates were made to ensure that key nutrition indicators would be statistically representative at the individual and/or overall population level. Sample size was calculated with 0.05 statistical significance (95% confidence interval-CI), for key nutrition indicators. 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 various Government departments and other agencies national wide. Because of the two-stage sampling technique that was used, it was necessary to increase the sample size by a factor that would allow for the design effect, which were estimated using the rapid nutrition Survey 2005 and the targeted nutrition assessment 2006 conducted, by GRZ, UNICEF and WFP in drought affected districts in Zambia. The desired precision was based on the estimated prevalence, as well as consideration of relevant cut offs for programmatic action.

The primary objectives of integrating the nutrition component in this survey was to determine the nutritional status of populations which were affected by floods and/or prolonged dry spells, proxied by children aged between 6-59 months.

1.4.7.2 Anthropometric measurement

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

1.4.8 Analytical Approach

1.4.8.1 Estimating food production in maize equivalent

In order to estimate the food production in maize equivalent for the 2006/07-production season, each of the main cereals and/or tubers *(main staples)* needed to be converted into one common unit. In this regard, maize was used as a common unit as a result of it being the widely consumed staple crop. Furthermore, before performing any calculations involving aggregating across the different crops, each of the main cereals *(other than maize)* and/or tubers was converted to maize calorie equivalents as a common unit. To obtain quantities of crops in maize calorie equivalents, the quantity of the crop was multiplied by the ratio of its unit calorie content to maize unit calorie content;

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

The calorie contents of various crop commodities were obtained from FAO (1997). With 2005/06 crop production regarded as normal (surplus) the drop in mean cereal production was calculated as the difference per household between cereal production during the 2006/07 marketing season and quantity produced and/ or expected to be produced at the beginning of the 2007/08 marketing season. The latter was computed as the sum of production and carry over stocks as of June 2007, when the survey was conducted.

1.4.8.2 Identifying desperate areas and persons affected

Using the 2005/06 household production data as a baseline (surplus year), all districts were first classified using a process that determined the production gap by comparing the current year's production (2006/07) with the base year (2005/06). All districts that had a gap less than or equal to -39% were eliminated. The assumption is that their range of response options that includes a variety and number of livestock owned by such households which could be disposed is enough to help bridge up the gap through different means which are quite sustainable. Districts whose production gap was between 40%69% and their range of response options are unsustainable i.e. skipping meals, over reliance on consumption of vegetables, working too long in other people's fields, were placed under monitoring so as to observe the evolution of the food security situation as the lean period draws near. It is worth noting that these districts go either way (severe or better) determining on the households ability to employ sustainable coping mechanism. All the districts where most households experienced a production gap

of 70% from the base year (2006/07 season) and their response options such as skipping meals, over reliance on consumption of vegetables, working too long in other people's fields were not enough to bridge up the food gap were classified as severely needy areas. The assumption is that as the season moves towards the lean period, the response options will not be sustainable.

The severity scale was estimated as the percentage gap of maize equivalent in a district as shown in the formula below:

$$\text{Maize Gap} = \left(\frac{\left[\text{Quantity of Cereal Produced (MT) - 07}\right] - \left[\text{Quantity of Cereal Produced (MT) -06}\right]}{\left[\text{Quantity of Cereal Produced (MT) -06}\right]} \right) \times 100 \quad (2)$$

The number of the affected persons in need of the food interventions was derived by averaging the percentage of the persons affected in wards covered during the rapid floods assessment by district, as well as percentage estimates on the affected derived through proportional pilling approach from the community interviews conducted. This was validated by the district % of the HHLDs in the total sample (12,000 HHLDS) that reported having produced less than or equal to100kg in 2007. Of course the other issue taken into consideration for such HHLDS is the assets owned and other livelihood activities being done to complement the production.

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

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

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

Where,

1 Total maize requirements in Metric Tonnes (MT) refers to total quantity of maize required in the affected district

2 Standard ration = 400grammes per person per day (WHO standard) (full ration)

3 Number of months = duration of the food assistance

1.4.8.4 Assessing under five nutrition status

The anthropometrical status of young children aged between 6-59 months was taken to reflect the nutritional status of the populations which were affected by floods and prolonged dry spells.

This was done within the wider socio-economic and public health context for intervention recommendation in the broader perspective. This implies that in addition to anthropometrical data, the underlying causes of malnutrition and the health risks associated with malnutrition were assessed.

Severity of the nutritional situation was assessed by taking weight and height measurements of all eligible children in the surveyed households. In addition to weight and height measurements; sex, age, pitting bilateral oedema and immunization status was collected for each child. Anthropometrical data provided an estimate of the prevalence of malnutrition at household level while normal seasonal patterns of malnutrition, food security and disease helped to determine whether this prevalence was flood/dry spell related or was a normal pattern.

To help identify appropriate intervention responses, the ZVAC used an adapted version of the UNICEF conceptual framework on causes of malnutrition to know the immediate and underlying causes of malnutrition and the risks associated with it. The immediate causes of malnutrition included inadequate food intake and disease while underlying causes comprised household food security, the social and environment care, and the health service delivery

Analysis was done on the EPI-INFO 6.04,SPSS and STATA software to determine the prevalence of severe and moderate acute malnutrition on the basis of W/H Z-scores and % of the Median. W/H Z-scores are used because this is the most reliable statistical measure of malnutrition, and is the nutritional indicator recommended by WHO. Percentage of the median W/H was calculated because this is easily understood. Also, in most feeding programmes children are admitted on the basis of % W/H, hence the prevalence of malnutrition according to % W/H provided a better estimate of the number that can be anticipated for feeding programmes.

<u>Cut-off points for children:</u>

Classification: Indicator

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 was worked on to indicate the precision of the estimate obtained. The age and sex distribution of the population was analysed to see whether there was any abnormality. A high prevalence of malnutrition in children above 36 months is usually an indicator of acute food insecurity.

1.5 Limitations

The In-depth Assessment faced a few limitations which included the following:

- Although 20 SEAs were selected for each district, the teams collected information from at least 14 SEAs due to time constraints. The 14 SEAs were selected purposively from the initial 20 SEAs depending on the flood/dry spell status. However, caution was taken to ensure that the selected SEAs were well spread out to ensure maximum variability.
- Information on HIV prevalence could not directly be collected in this study, although it would have been useful, since HIV plays a key role in issues of food security. The design of this study did not allow for collection of HIV/AIDS prevalence information since such meaningful information can only be done through actual testing of people in the visited households which was outside the scope of this study. However, proxy information on HIV was captured. This included information on chronic illnesses among adults and also information on households and persons benefiting from ART programmes from district and community focus group discussions.
- The 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.

2.0 CONTEXT

2.1 The Economy

Although the target growth rate of 6% for 2006 was not achieved the economy performed well. The real gross domestic product growth rate for 2006 was 5.8 percent increasing from 5.2 percent in 2005. Annual inflation rate dropped to its lowest in the last 30 years reaching a low of 8.2 percent as of December 2006 compared to the annual targeted inflation rate of 10 percent. This was a major achievement compared to 2005 when it was 17.5 percent. Growth rate was largely driven by mining, construction and transport sectors. Agriculture, tourism and manufacturing, wholesale and retail trade and other service sectors registered positive growth. Interest rates have been gradually falling though still prohibitive for borrowing. This impediment to borrowing has kept private investment in agriculture very low. The low investment in agricultural equipment and early warning/preparedness systems has left the sector highly vulnerable to climatic change.

The agriculture sector grew by 3.9 percent in 2006. This was mainly on account of high production of crops. In particular a surplus harvest of 1.4 million MT of maize was recorded during the 2005/06 farming season compared to 886,000 MT in the 2004/5 farming season. This was as a result of not only the favourable weather conditions and increased credit but also government programmes such as the fertilizer support programme, food security Pack and out grower Schemes which boosted production of food and cash crops among the 1.3m small scale farmers. Although the 2006/7 production season was characterised by localised adverse rainfall conditions it has recorded surplus production of 1.36 MT with only marginal reduction of 4% in comparison to previous years. In this regard the government intends to continue focusing on increasing food security, crop diversification and opening up new agricultural production areas. The fertilizer support program will continue at 50% subsidy level.

2.2 Input Distribution

The various Input Distribution Programmes have continued to have a positive impact on access to inputs for farmers in the past agricultural season since the programmes started more than five (5) years ago. Unfortunately, most farmers remain substantially dependent on inputs distributed by the Government and Non Governmental Organisations without graduating into self sustaining farmers. The major input programmes are GRZ Fertilizer Support Programme (FSP), PAM's Food Security Pack (FSP) and the FAO input programme. All these programmes were necessitated by the need to facilitate farmers' recovery from previous droughts.

Table 1: Input Distribution through Support Programmes (2002-2007)

Item	Quantity by agricultural season				
	2002/03	2003/04	2004/05	2005/06	2006/07
Number of beneficiaries	305,924	336,000	134,000	186,000	263,292
Maize Seed (MT)	3,333	3,935	2,545	2,938	4,422
Fertilizer (MT)	66,600	79,445	45,900	55,930	86,792

Source: FAO, PAM, MACO

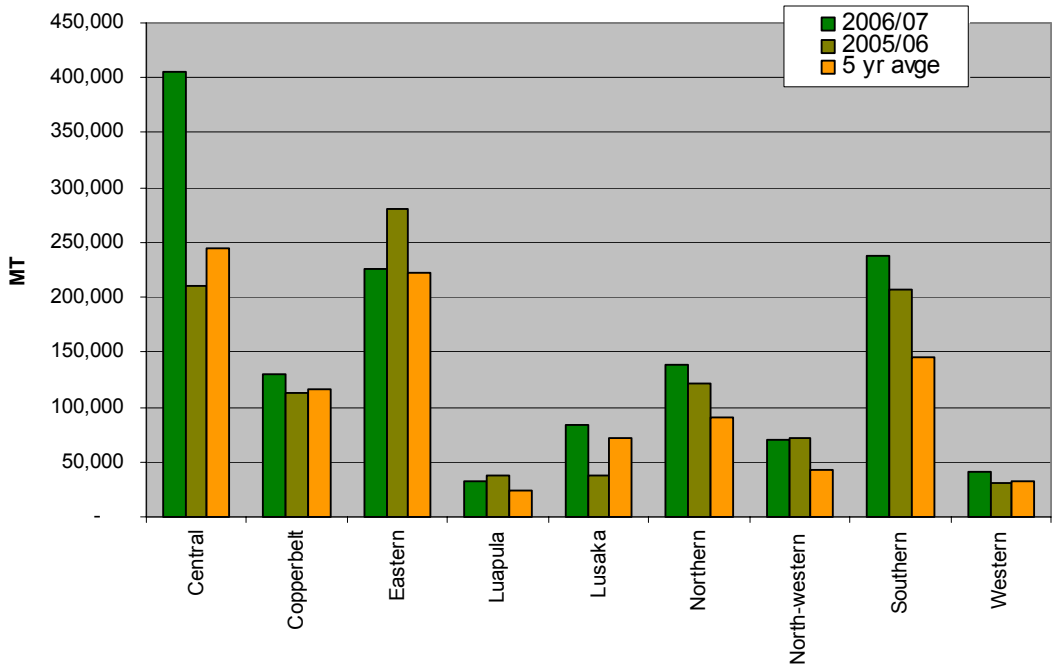
Since 2005/06 agricultural season, there has been a general increase in the quantity of inputs as well as beneficiaries targeted. The total maize seed and fertilizer distributed rose by 50% and 55% respectively in the 2006/7 season with respect to the previous season while targeted beneficiaries increased by 42% in comparison to the 2005/6 season. This increase is a deliberate move by government to increase production and enhance food security both at household and national level.

The input support for wetland production which could have helped the severely flood affected farmers fill in the food gap during the lean period (November to February), has significantly dropped. Apart from the EU supported programmes in North Western and Western province and PAM, there has been poor response for the wetland input support programme.

2.3 Food Supply and Access

Among major crops produced, maize and cassava continue to rank high in terms of output. The production levels of other crops have remained significantly low. Zambia has attained surplus maize production for the second consecutive year. This is despite the floods and prolonged dry spells experienced in localized areas during the critical part of the growing season. However, the estimated maize output for 2006/07 dropped marginally (4%) with respect to the previous season, but remained 30% above the recent five year average (2001/2002 to 2005/2006) (figure 1). Cassava output which is also significant exceeded the previous year's output and is 17% above average. This could imply that overall; flood impact on cassava fields was insignificant in the major cassava producing areas of northern Zambia. At national level, small cereals (sorghum and millet) production dropped with respect to the 2005/6 season and five year average due to reduction in the total area planted. Generally there was a reduction in all major cash crop production due to reduced area with the exception of groundnuts for which reduced production has been caused by a reduction in yield. For cotton and tobacco, the reduction could also be attributed to poor prices during the last marketing season.

Figure 1 Maize Production for 2006/07 vs. 2005/06 and Average



Source: MACO

Based on the Ministry of Agriculture crop estimate data, maize output in Central Province substantially increased during the 2006/07 production season from a low figure of 210,607MT to 405,282MT marking a 92% increase. This unusually high level of production surpassed that of the other high producing areas of Eastern and Southern provinces. This increase could be attributed to increased production by small commercial farmers in Central Province.

The 20% drop in production in Eastern Province during the 2006/07 production season with respect to the 2005/06 production season can be attributed to reduced yield due to the adverse rainfall impact. The drop in production is highest in Katete and Chadiza Districts which have recorded at least 40% reduction. Apart from Nyimba whose production dropped by 26%, the reductions in the other areas that were visited by the assessment team were insignificant. Overall, the output is at average level for the province. Conversely, production for Southern Province increased marginally over the previous season despite experiencing prolonged dry spells during part of the growing season. Of the nine districts, only Livingstone, Mazabuka and Monze had marginal production reductions of up to 10% while in all other districts, production substantially increased including valley areas (Siavonga, Sinazongwe and Gwembe).

For the relatively low producing areas, Western, Northern and Lusaka Provinces all show increase in maize production in comparison to the previous season. There was a marked

reduction in production in some districts of North-western (Kabompo and Mwinilunga) and Luapula (Samfya, Nchelenge, and Milenge) Provinces.

Cassava is a staple crop for most parts of Luapula, Northern, North Western and Western provinces. The total area planted for cassava increased by 8 percent in the 2006/7 season with respect to the previous season. In the past five years, cassava production has steadily increased. In line with the surplus production, maize prices have remained relatively low and below average. This has made staple food accessible for most households relying on the market.

2.3.1 Crops and Food Supply in 2006/07 Marketing Season

Despite localised unfavourable weather patterns, the cereal staple supply for the 2006/7 increased to 1.84 million MT as compared to 1.52 million MT for 2005/6 season representing a 21% increase. Based on MACO data the total available maize has exceeded the total requirement by 250,000 MT, implying a surplus production year. For maize alone, the Government has allowed exports of up to 200,000 MT for 2007/8 marketing season as compared to about 200,000 MT for the previous season.

The last three seasons saw the recovery of maize after two years of deficit production, which led Zambia to move from a maize importing country to a major Southern African Regional maize exporter. The WFP has in the past three marketing seasons purchased substantial amounts of maize from Zambia for both its regional and local programmes, having bought 8,904 MT in 2006/07 season alone. Informal maize and mealie meal exports have continued into neighbouring countries like Democratic Republic of Congo.

2.4 Livestock Situation

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

In the past twelve 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 and extreme Northern Province Districts. East Coast Fever areas include Eastern, Central,

Lusaka and Northern Provinces. Most of the areas affected by these diseases are also prone to drought. This often exacerbates farmers' vulnerability to the effects of drought 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.

These diseases have affected the farmers in terms of loss of draft power and income source. East Coast Fever has resulted in significant loss of cattle in recent years and continues to be a major threat to cattle population.

Since May 2007, cattle have been dying of CBPP in Chavuma and Zambezi no control measures have yet been put in place. In Western Province (Mongu and Kaoma), despite the severe CBPP outbreak, only 50,000 cattle out of target of 450,000 were vaccinated against CBPP. Recurrence of outbreaks will only be effectively handled if vaccination control programmes scaled up.

2.5 Water and Sanitation

Zambia has vast water resources in form of rivers, streams, lakes and ground water. The country generates an estimated 100 Km 3 per year of surface water and an estimated annual renewable groundwater potential of 49.6 Km 3 per year (DWA/JICA, 1995). Most of the surface water is poorly distributed while groundwater is fairly well distributed. However, declining rainfall patterns over the years have had a significant adverse impact on the country's water resources. In terms of groundwater, Zambia has favourable geological conditions for accessing groundwater with regard to depth, storage capacity, available yields and exploitation potential.

However, water resource management has not succeeded to substantially improve access to water or prevent the pollution of both surface and groundwater. Similarly, access to sanitation especially in rural areas is still very low.

In view of these, the Government of the Republic of Zambia through its responsible Ministries of Energy and Water Development and Local Government and Housing and stakeholders including private sector, NGOs and Cooperating Partners, has formulated the necessary policies and legal instruments and is implementing strategies and programmes aimed at increasing access to safe water and proper sanitation. The National Water Policy of 1994 (currently under review), Water Supply and Sanitation Act of 1997, the 1994 National Environmental Support Programme, the Water Resources Master Plan (1995 to 2015), National Irrigation Plan and the Water Resources Management Bill give evidence to Government's commitment to improving the quality of

life of its people through effective development, use and management of water resources as well as provision of proper sanitation.

Furthermore, the Government has over the years implemented a number of water and sanitation programmes such as the Water Resources Action Programme, Rural Water Supply and Sanitation (RWSS) Programme and the District-Water, Sanitation and Health Education (D-WASHE) support programme.

By 2003, 53% of the population had access to improved water sources. The majority of the rural people access their water from rivers/lakes and unprotected wells, which are not "safe" or "improved".

The Millennium Development Goals Status Report of 2005 states that access to improved sanitation in Zambia was 65% (80% urban and 57% rural) in the year 2003.

2.6 Child Health and Nutrition The induction of an immune response through vaccination is a widely accepted public health strategy for the prevention of vaccine-preventable infectious diseases. To be considered fully vaccinated a child should have received one dose of BCG, three doses each of DPT and four polio vaccines and one dose of measles vaccine. The WHO recommends that a child should complete the schedule of vaccinations before the age of 12 months.

The national level malnutrition status is high. According to the 1992 ZDHS data, Stunting 40% of the children were reported to be stunted, 25% underweight and 5% wasting. In 1996, 42% of the children were stunted, 24% underweight and 4% wasting. In 2002 the figures increased to 47%, 28% and 5% for stunting, underweight and wasting respectively. According to the Annual report 2004 the underweight Prevalence were 21% in 2003 and 17% in 2004.

2.6.1 Child Feeding Practices

The pattern of infant feeding has an impact on both the child and mother. Feeding practices are the principal determinants of child's nutritional status.

Breast-feeding as one of the child feeding strategies is universal in Zambia, although exclusive Breast-feeding is not widely practiced. The Global strategy for infant and young child feeding adapted by Zambia, recommends that the child should be exclusively breastfed for the first six months of life. During the first six months, exclusive breastfeeding plays an important role in the survival of the child. In rural areas 62 percent of children were fed at least three times in a day compared to 70 percent in urban areas. About 60 percent of children in age category 10 – 12 months were fed

three or more times in a day (LCMS, 2002-2003). Poor nutritional status in young children exposes them to greater risks of morbidity.

In view of this situation the government is committed to promoting health child and nutrition through a number of strategies which includes the following: infant and young child feeding promotions, growth monitoring promotion, micro nutrient control and management of severe malnutrition.

2.7 Health

Health is one of the major factors with significant impact on the living conditions of the population. The Government of the Republic of Zambia has committed itself to improving the quality of health for all Zambians through its efforts to improve health care delivery by reforming the health sector. An important component of the health policy reform is the restructured Primary Health Care (PHC) programme, which aims to, among other things; deal with the main health problems in the community.

Government is committed to provide cost effective, quality health services as close to the family as possible in order to ensure equity of access in health service delivery and contribute to the human and socio-economic development of the nation.

According to the annual statistical bulletin of 2005 the top ten causes of health facility visitation were malaria, respiratory infection (non pneumonia), diarrhoea (non bloody), trauma, respiratory infections (pneumonia), skin infections, eye infections, ear/nose throat infection, digestive system (non infection) and muscular skeletal and connective tissue.

2.7.1 HIV/AIDS

The 2001-2002 Zambia Demographic and Health Survey (ZDHS) reported that a total of 15.6 percent of population aged between 15 and 49 years was found to be HIV positive. The epidemic is at different levels of evolution in Zambia with urban having a stable epidemic while the rural areas are yet to stabilize. More women (17.8%) than men (12.9 %) were affected. It also showed that except for the older women aged 40 and above, more women than men below 40 were infected. The prevalence was higher in urban than in rural areas.

2.8 Education

Education attainments of individuals have a bearing on their well being in terms of health, poverty and other characteristics such as employment and earnings, and nutrition status. The official entry age into grade one in Zambia is seven (7) years although some children start school earlier (5 or 6 years).

The LCM 2002/2003 showed that thirteen percent of individuals aged 5 to 6 years were reported to be attending school. The results also showed that 68 percent, 85 percent, 75 percent, 56 percent, and 21 percent of lower basic, middle basic, upper basic, high school and post high school age respectively, were attending school. More females than males started school earlier as suggested by the attendance rates for age group 5 to 6 years. The gross school attendance rates were at 94 percent and 30 percent for primary and secondary school levels, respectively. The gross attendance rates for primary schools were 93 percent for rural and 96 percent for urban areas. Gross attendance rates for males were relatively higher than females nearly at all grades. The gross attendance rates for primary schools were higher than those for secondary schools. In rural areas the gross school attendance rates at secondary level were very low, at 16 percent compared to 55 percent in urban areas. In urban areas, the lowest gross attendance rate for secondary school was for persons in the low cost areas with 48 percent. The highest rate was for persons in the high cost stratum with 81 percent.

The LCMS report further showed that about 27.2 percent of the population aged 5 years and above had never attended any formal education. About 25 percent of those with no formal education are males and 30 percent females. These were attributed to lack of financial support, the perception that school is not important and never being enrolled.

Adult illiteracy averages 33% while in the young adult group of 15 to 24 years it is around 30%. Illiteracy is mostly high among females than males. This is due to the negative attitudes to girl child education. Parents attach greater importance to the duration of the male children and see education of girls as only good for marriage and not for employment. Eastern, Northern and Western Provinces have the highest illiteracy levels of over 40%. There is a correlation between level of under development and illiteracy. The regions with high illiteracy are generally those that have low per capita income (UNDP, Zambia Human Development Index, 2006).

2.9 Infrastructure and Habitations

Development of infrastructure is 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. In most of the rural areas government in collaboration with co-operating partners set up institutions such as the Zambia Social Investment Fund and the Micro Projects Unit to undertake community based infrastructure development projects. 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.

About 80% of the country depends on gravel and feeder roads connecting districts and wards to each other. 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 centres in the rural areas through community development programmes such as rehabilitation of existing infrastructure. However, most of the infrastructure especially in the educational sector remains in a poor state as most community schools are built from pole and mud.

A list of affected roads, bridges and buildings of economic importance affected by the floods was compiled during the Rapid Flood Assessment. The report recommended that a more detailed and comprehensive assessment of the extent of the damage to infrastructure in the affected districts be undertaken.

In terms of human settlements and habitations, most houses in rural Zambia are below standard in terms of durability. This is as a result of people using inappropriate building materials such as pole and mud. Due to the livelihood pattens such as livestock rearing, wetland farming and fishing, some houses are built along river banks. However these areas are prone to floods.

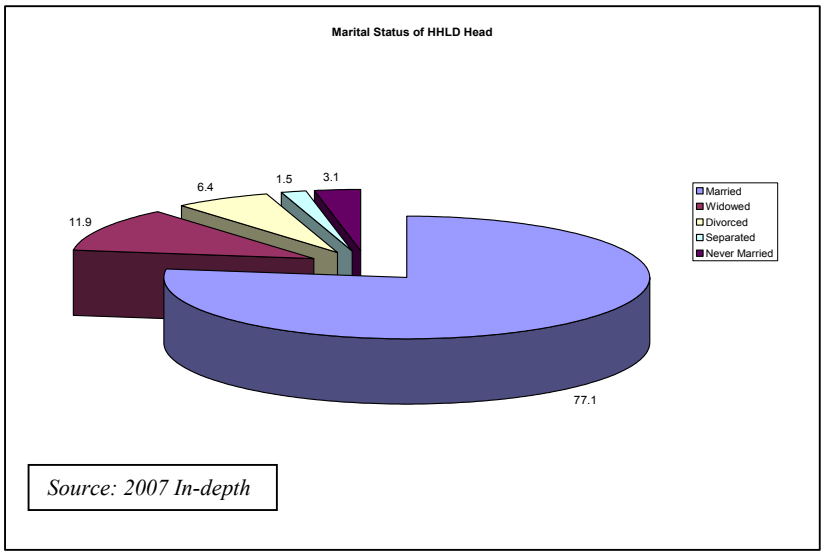
3.0 FINDINGS

3.1 FOOD SECURITY

3.1.1 Household Characteristics

In the sampled households (12,001), the majority (77%) of household heads were married as observed in figure 2. Most of these household heads were mainly in the productive age group of 20 years to 39 years (48%) and 40 years to 59 years (36%) respectively (Figure 2).

Figure 2: Marital Status of Household



It is also worth noting that elderly headed households (60 years and above) were quite significant representing about 15% of sampled households. The family size for most households was between 5 to 6 members, which is in line with the findings of the Living Conditions Monitoring Survey (LCMS, 2004). The assessment also revealed that household heads had diverse educational levels. Majority of household heads have primary education (55%).

Furthermore, 63% of the spouses have also attained primary education. About 14% of the sampled households indicated having an orphan in their households and of these, 98% had at least one orphan. 72% of the sampled households indicated having at least one under five child.

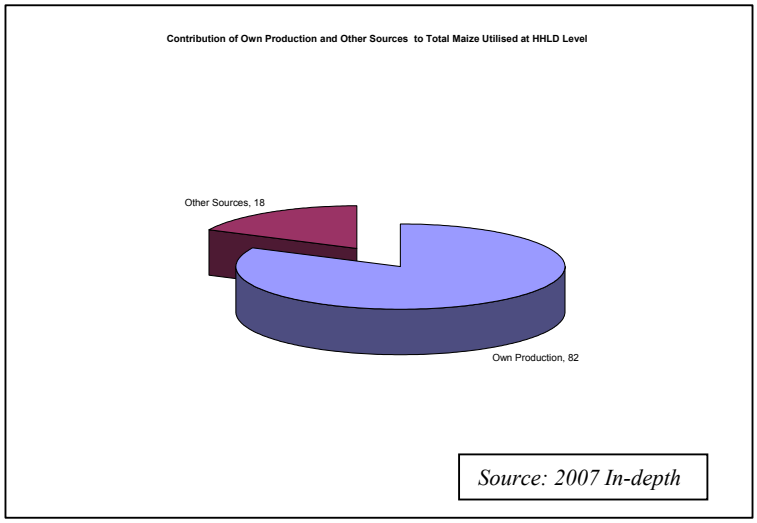
3.1.2 Household Food Security

The needs and vulnerability assessment covered mainly rural households in forty five (45) districts of Zambia. Despite varying rainfall intensities experienced in most districts, the 2006/07 production was above average. Most households have continued to display diverse food sources such as purchases, casual labour, and barter, in addition to own production.

3.1.2.1 Contribution of Own produced Maize Equivalent and Other Means to Total Maize

Although households have a diversity of livelihoods, it is evident that own production remains a dominant source of staple food. Contribution of own production to household staple consumption was found to be 82% with the remaining 18% coming from other sources (purchases, remittances, gifts)-Figure 3.

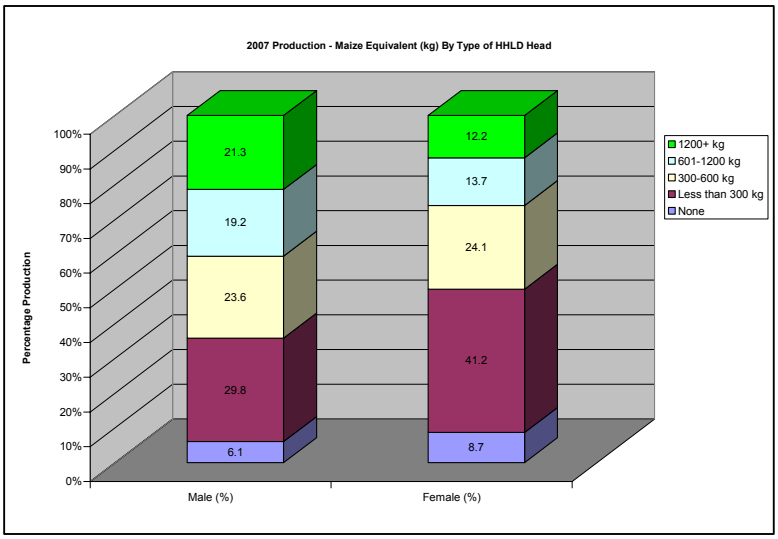
Figure 3: Contribution of own production and other sources to total Maize utility at Household level



This dominance of own production in most rural household provides an insight into the possible food insecurity risk resulting from hazards such as floods and droughts. Generally in some of the assessed districts, production of main staples at household level marginally reduced. The reduction in the yields during the 2006/07 season was mainly attributed to flash floods, water logging and prolonged dry spells. However, the level of impact was minimal on the overall harvest as most households still managed to get substantial amount of food for their own consumption.

The level of production with respect to sex of household head still remains unbalanced with male headed households taking dominance. On average, most male headed households produce more than those that are female headed. About 40% of male headed households produced more than 600Kg as compared to only 26% of female headed households. More female headed households (50%) produced less than 300Kg in comparison to their male counterparts (36%).

Figure 4: 2007 Maize equivalent (Kg) by type of household head



It is also evident that most rural households have poor access to animal and/or mechanical draught power. In view of this, households with a high number of household members produced more than those that had a smaller number.

Figure 5:2007 maize equivalent (kg) by household size

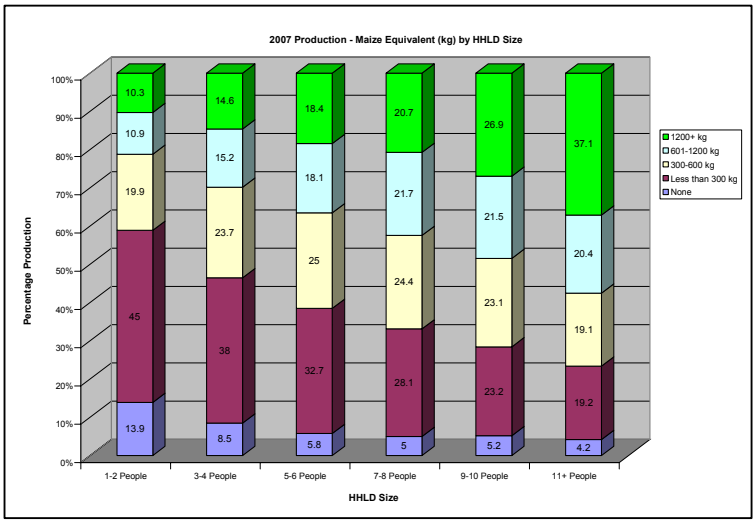


Figure 5 shows that during the 2006/07 production season, out of the households with more than seven (7) members 20.7% to 37.1% of them produced more than 1,200 kg maize equivalent. This is in comparison to 10.3% to 18.4% of households with less than seven members that produced the same amount. This implies that households with few members who have limited access to mechanical and/or draught power will continue to cultivate and produce less even if the climatic conditions are favourable.

The Impact on livestock diseases was generally moderate with only a few areas being severely affected. Only 20% of the assessed communities indicated experiencing severe impact of floods on livestock diseases which could be as result of animals being confined in limited grazing land which increases the potential for disease outbreak. The consequences of this disruption in cattle movement have been seen in the increase of

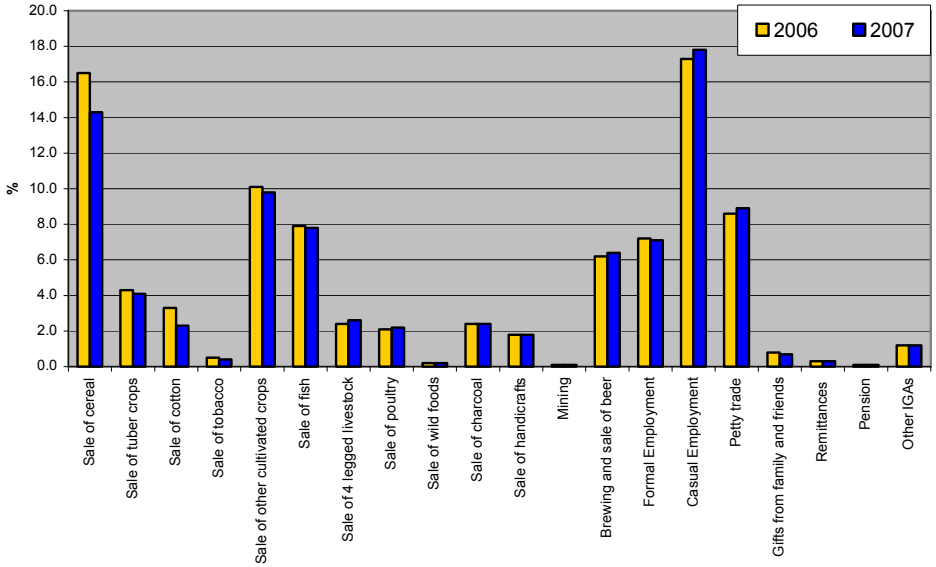
CBPP, Anthrax and Haemorrhagic Septicaemia. Although pasture was also impacted through flooding there was plenty of pasture for animals following the receding of the water which was a positive development.

3.1.3 Livelihoods

3.1.3.1 Income Sources

The assessment revealed that most rural households have diverse sources of income (Figure 6) Major income sources for most households have generally remained the same this marketing season compared to the last marketing season with most of them engaging in casual labour, sale of crops and petty trade as the three most common activities

Figure 6: Household Income Sources



These are followed by sale of fish and formal employment. The major difference in income sources from the previous season is in the reduction of households (13%) intending to sale cereal. This suggests that slightly more households will keep their harvest for own consumption either due to reduced availability or increased consumption requirement. Furthermore, additional households intend to engage in casual work and petty trade compared to the previous season which is a response to reduced income from cash crops. The reduction in cash crop (cotton and tobacco) sale can be attributed to reduced production of these crops in response to poor prices that prevailed in the 2006/07 marketing year.

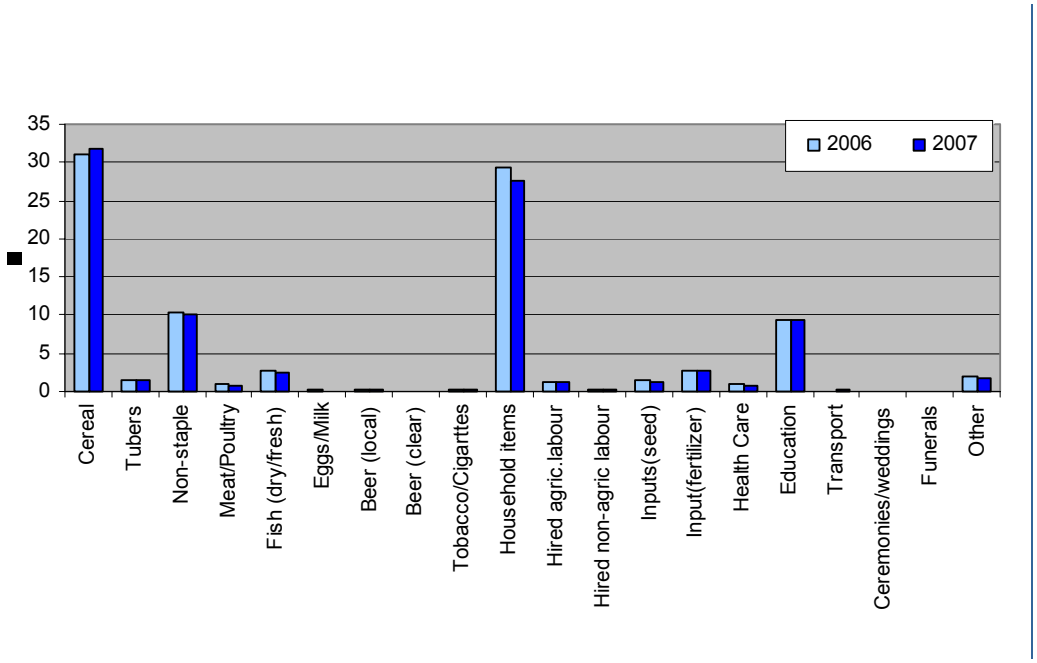
3.1.3.2 Expenditure Pattern

Expenditure on key elements such as agricultural inputs, health and other food items is significantly low. The pattern has remained the same as the previous season. However

there is a marginal drop (3%) in households spending on household items while cereal expenditure has seen a marginal increase of 2%(Figure 7). This suggests that there is no major shift in household expenditure patterns compared to the previous season. Major expenditure shift on items such as transport and/or poultry products (e.g. milk, eggs) are insignificant.

The assessment results revealed that, most households use their income to purchase cereal and household items followed by non staple and education expenditure.

Figure 7: Household Expenditure Pattern



3.1.3.3 Seasonal Calender

Out of 143 communities sampled in the forty five districts visited, it is evident that most of the livelihood activities that sampled communities are engaged in vary in their temporal characteristics. In terms of the agronomic practice calendar, it was evident that most communities did their land preparations from July through to September of every year while planting starts in November through to December as outlined in *Annex 9* Weeding on the other hand starts in December/January depending on how early the planting is done.

In terms of the food source calendar, it is evident that consumption of green food starts in February through March. However this very much depends on the start as well as the stability of the rainy season. Overall, harvest in most these sampled communities starts in April through June depending on the varieties of crops grown (e.g. early or late maturing varieties). It is however worth noting that while consumption of green food done by most households in sampled communities, collection of wild foods is concurrently being done as well. These alternative wild foods do provide the households

a diversity of foods consumed. For the communities where fishing was the main or one of the main sources of food and/or income, it was evident that most of it started in March and ended in December when the fishing ban is on. The assumption here is that these households would have generated enough money to buy extra food to bridge up the food deficits if any. Furthermore, it was also evident that the majority of the sampled communities indicated that consumption of own produced food started February 2007 and will last them up to December 2007. This implies that most of the households in the sampled communities will manage to consume own produced food with little or no reliance on other sources.

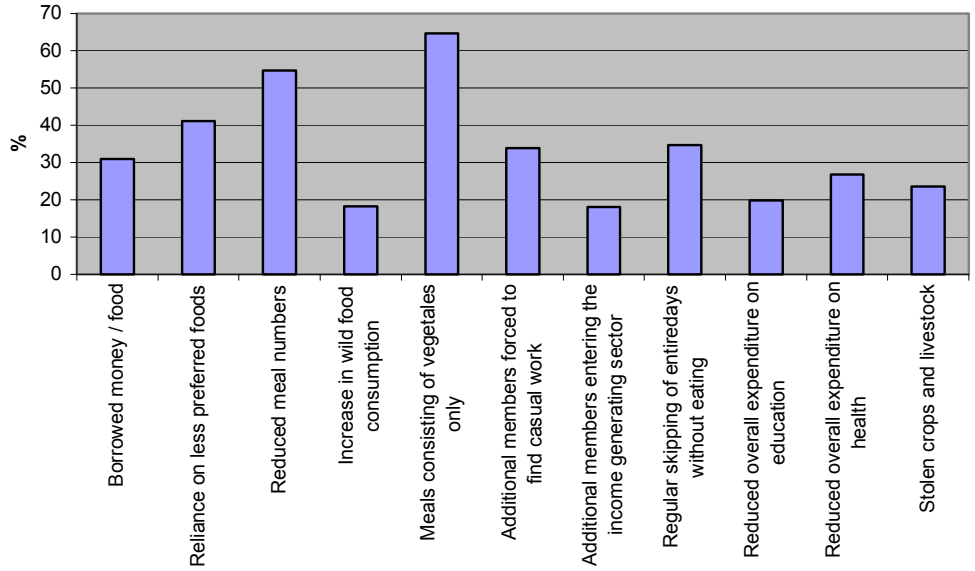
Furthermore, the income sources calendar reveals that a diversity of income generating activities are being implemented by most of the households in the sampled communities. These range from labour exchange on farms that start in December through to February, off farm labour activities such as small scale trading that starts in May/June through to August. These income sources provide an avenue for these households to acquire additional foods from other sources such as purchases, payment in kind from working on farms etc. The synergy between agronomic, and income source food calendars confirms how sustainable and reliable these livelihood components have on the general food security situation of the sampled communities. It is also evident that when own produced food is finished, it will definitely be supplemented by other sources described in the food and income source calendar.

3.1.3.4. Coping Strategies

The assessment findings show that the main coping strategy employed by most households is consumption of meals with vegetables only (65%) followed by reduction in number of meals (55%) and reliance on less preferred foods (41%)(Figure 8). The results also show that the major coping strategies employed by most households relate to reduction of food intake in terms of amounts or quality. The non- direct food related strategies such as pulling children out of school, sale of productive assets, and increased sale of livestock are employed less. This implies that in case of food deficit, most household's immediate response is to reduce food consumption which has serious implications on the nutrition status of the households. Also notable is that more households would rather reduce health expenditure than pull their children out of school. However, more households would rather cut back on both health and education than sell additional livestock which can be used to cover such costs.

Figure 8: Coping Strategies

Figure …. Coping Strategies



3.1.4 Market Situation

Generally, maize prices have remained relatively low and below average in rural areas (Figure 8). However, findings show that nominal prices in Chilubi and Kalabo districts during the month of May 2007, were exceptionally high at K1,200/Kg which is about 58% higher than the FRA maize purchasing price of K760/Kg and 100% above the average price for the assessed districts. Compared to the same period in 2006, most districts recorded price increases with Mpika, Lukulu and Shangombo recording price increments of over 80%. Other notable areas with high price increases (at least 60%) were in Southern Province (Gwembe, Kazungula, Mazabuka, Monze); and Northern (Kaputa, Mporokoso) respectively. It is worth noting that maize prices in May 2006 were exceptionally low following the surplus harvest of 2005/06 production season. Therefore these price increases do not necessarily imply a maize supply problem. Maize prices in May 2007 were in the range of K278/Kg in Kazungula to K833/Kg in Kafue and Sinazongwe (when Chilubi and Kalabo are excluded). Most districts (60%) recorded low maize prices of below K600/Kg. These price levels are associated with adequate supply of the commodity for that time of the year.

In the case of cassava, only three districts (Mporokoso, Isoka, Sesheke) recorded significant price increases (50% and above) in comparison to the prices that prevailed in May 2006. Of these, only one district (Mporokoso) consume cassava as a staple while in Isoka and Sesheke districts, maize is predominantly consumed.

The price of small grains (sorghum and millet) has remained stable in almost all of the assessed districts, with the exception of Mporokoso and Isoka where prices increased by 100%. The two districts do not consume the small grains as staple food. Price of rice either remained the same or rose to the advantage of producers, this being a cash crop.

Most of the districts whose maize prices rose significantly are also major livestock rearing areas. Cattle prices in most of the assessed districts either rose sharply or remained stable with respect to the month of December (lean period). Only three districts (Mazabuka, Chibombo and Kaoma) registered moderate price drops. The fact that prices in most districts rose suggests that there is no desperation for households to sell off their cattle at low prices as they are able to negotiate for higher prices. This situation is very much associated with good food availability. The situation is similar for the other types of livestock. However Monze and Luwingu registered a drop in prices of pigs (25%), while Luwingu also registered drops in goats and poultry prices of 33% and 40% respectively

Generally, although maize prices have increased in comparison to the same period in 2006, the price levels are still low in most districts. Only Chilubi and Kalabo are showing exceptionally high maize prices suggesting a possible low supply of maize on the market. Other districts exhibiting moderately high prices were Sinazongwe, Siavonga, Lukulu and Kafue districts which are pre dominantly low maize producing areas. The fact that livestock prices in almost all assessed districts have significantly increased with respect to the situation that prevailed during the lean period suggests low pressure on food situation.

3.1.5 Food Needs

The finding established that only 14 districts out of the 45 assessed districts will require food assistance 6 months (September,2007 to February,2008) while thirteen districts will be placed under monitoring from now until the next harvest(*Annex 3*). These were the only districts that could not fill up the gap after considering all livelihood options.

3.2 NUTRITION

A total of 6,240 children aged between 6 - 59 months were assessed from the 12,000 households in the 45 visited districts. Approximately 3.8% of the records were flagged and excluded from the analysis process; hence 6001 records were included in the final analysis for anthropometrical indices. However, the flagged records were incorporated into the analysis when estimating the morbidity prevalence of the studied population.

Table 2 shows the age and sex distribution of the sampled children. There are no significant differences in the age and sex distribution of the children ($p>0.05$)

Table 2: Age and Sex distribution of Children (6-59 months) by age group

AGE GROUP (MONTHS)	BOYS		GIRLS		COMBINED		Boy to Girl ration
	N	%	N	%	N	%	
6-17	795	49.8	801	50.2	1596	26.6	0.99
18-29	745	50.1	743	49.1	1488	24.8	1.00
30-41	703	48.7	742	51.3	1445	24.1	0.95
42-53	603	50.2	599	49.8	1202	20.0	1.01
54-59	140	519	130	48.1	270	4.5	1.07
Total	**2986**	**49.8**	**3015**	**50.2**	**6001**	**100**	**0.99**

3.2.1 Acute Malnutrition or Wasting (Weight for Height)

The overall prevalence of Global Acute Malnutrition (GAM) and Severe Acute Malnutrition (SAM) of the sampled population, using the weighted mean from all the 45 districts is shown in the table 3 below.

Table 3: Prevalence levels of Acute Malnutrition (Wasting) among children

Acute Malnutrition	Global (95% CI) (< -2 z-score)	Severe (95% CI) (<-3 z- scores/ oedema)	Means
WFH z-score (Wasting)	5.6% (1.09 - 1.62 CI)	2% (1.35 - 1.84 CI)	1.6

A weighted mean was used to account for the sample design in which all children did not have an equal probability of selection. It should be noted that the analysis was performed on records (n=6001) excluding range values identified using standard EpiInfo flag criteria.

Table 4: Acute malnutrition (wasting] by age group

AGEGROUP (MONTHS)	Severe		Moderate		Normal		Oedema	
	N	%	N	%	N	%	N	%
6- 17	2494	42	1867	31	1381	23	1	0.02
18-29	1525	25	1700	28	1432	24	5	0.08
30-41	950	16	882	15	1552	26	0	0
42-53	619	10	955	16	1332	22	0	0
54-59	413	7	597	10	296	5	0	0
Total	**6001**	**100**	**6001**	**100**	**6001**	**100**	**6**	**0.1**

There are significant differences in acute malnutrition by age group. The analyses further indicate that children aged between 6- 41 months were more wasted than the older children.

3.2.2 Chronic malnutrition

The survey also estimated prevalence of stunting (low height-for-age), which reflects chronic malnutrition and underweight (low weight-for-age) which reflect both acute and chronic malnutrition (see Table 5). All efforts were made to record the age of the children as accurately as possible, as described in the methodology section.

Table 5: Prevalence levels of Chronic Malnutrition

Chronic Malnutrition	Global (95% CI) (< -2 z-score)	Severe (95% CI) (<-3 z- scores)	Means
WFA z-score (Underweight)	34.2% (0.75 – 1.29 CI)	20.3% (0.31 - 1.82CI)	1.02
HFA z-score (Stunting)	18 % (0.95 – 1.94)	11.6 % (1.09 – 1.21)	1.44

The prevalence of severe underweight was more (34.7%) among children aged between 18–29 months. Except for the age group 54 – 59 months, there was no significant difference in moderate underweight in almost all the age groups.

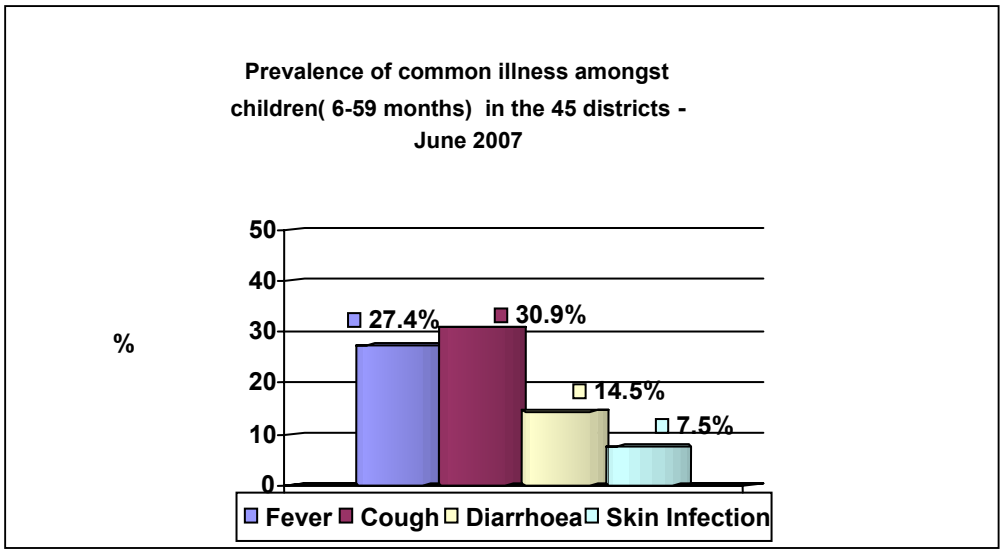
Table 6: Prevalence of underweight by age group

Age group (Months)	Severe		Moderate		Normal	
	N	%	N	%	N	%
6- 17	877	14.6	1221	20.3	1434	23.9
18-29	2081	34.7	1535	25.3	1459	24.3
30-41	1260	21	1440	24.0	1520	25.3
42-53	821	13.7	1558	26.0	1261	21.0
54-59	962	16	262	4.4	327	5.4
Total	**6001**	**100**	**6001**	**100**	**6001**	**100**

3.2.3 Health Status of the sampled population

Caretakers were asked if the child had been ill during the two weeks prior to the survey. The survey specifically asked about diarrhoea (watery and/or bloody), cough, fever and measles. Figure 9 shows the overall prevalence of illness among children 6-59 months from the 45 districts that were surveyed.

Figure 9: Prevalence of common illnesses among children (6-59 months for 2006 and 2007



Cough was the most commonly reported problem, with 30.9% of children (6-59 months) having had suffered from it in all the districts visited. Fever affected 14.5% of children and 14.5% had suffered from diarrhoea in the fortnight before the survey. None of these were reported to have had bloody diarrhoea (this was not verified by the survey workers or health practitioners). Overall, the rates of reported illness were high though fever and diarrhoea were substantially lower as compared to the same time last year during June 2006 rapid vulnerability assessment survey. This finding is somewhat surprising given the reported effect of floods on sanitary facilities and water sources in the surveyed districts. One possible explanation could be attributed to the responses made by Government and partners during the flood period.

3.2.4 Child Feeding Practices

Appropriate feeding practices are of fundamental importance for the survival, growth development, health and nutrition status of infants and children. Feeding practices are one of the underlying determinants of child nutrition status, which in turn influences the risk of illness and ultimately death. Despite the high breastfeeding prevalence (98%) in Zambia, only 40 % of the infants are exclusively breastfed (CSO, 2001/2).

Breastfeeding Practices

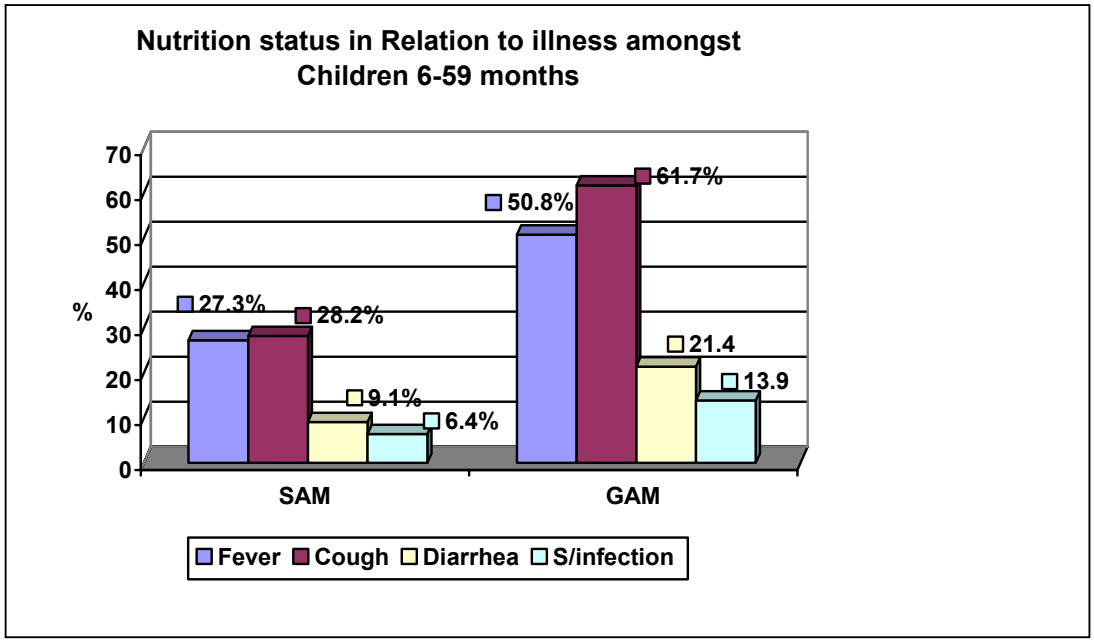
Breastfeeding status was based upon maternal recall. Mothers were first asked if they were still breastfeeding any child at the time of the survey. Overall, 65% of mothers were currently breastfeeding a child at the time of the assessment.10% had received solid/semi solid foods in the past 24 hours.

3.2.5 Vitamin A Supplementation

3.2.5.1 Vitamin A Coverage

Due to the importance of Vitamin A, and its relationship with malnutrition and measles, all eligible children aged between 6-59months were assessed if they had received Vitamin A supplement over six months prior to the assessment. Out of the sampled children from the 45 district, 82.5% had received the Vitamin A supplement. This figure is similar to the 80% threshold from bi-annual child health week campaigns (vitamin A is distributed as part of the health care package) and routine Vitamin A supplementation; however, 17.5% of eligible children did not receive the Vitamin A supplement. This was attributed to logistical constraints in the districts to access some areas and also inadequate health personnel. The high vitamin A supplementation coverage is indicative of mothers becoming more enlightened on the importance of vitamin A, through the bi-annual child health week events campaign programme and routine vitamin a supplementation in the health facilities.

Figure 10: Relationship between nutritional status and illness



Malnourished children were likely to have been sick two weeks prior to the survey. About 50.8% of the malnourished children had suffered from fever in the two weeks prior to the assessment, hence there was a strong relationship between children suffering from fever and being malnourished –this association may be a reflection of high prevalence. Fever was self-reported by the caregiver but not clinically verified; the survey did not record cases of diagnosed malaria separately. The same was observed for cough with wasting prevalence of 61.7% children 6-59 months who had suffered from it. The prevalence of malnutrition amongst children who had had diarrhoea was 21.4%. Chronic malnutrition is a long-term process and therefore the recent bout of diarrhoeal illness

was not directly related to stunting, but of their vulnerability to illness because of their condition.

3.2.6 Relationship between nutritional status and source of water

Wasting (mean weight for height Z-score) was strongly significantly associated with unsafe drinking water source. Malnutrition prevalence was 62.6% for those consuming water from unsafe water source.

3.2.7 Relationship between nutritional status and type of latrine

There was a slight association between wasting and the type of latrines used by households (significant at $p<0.05$ based on mean Z-score). The prevalence of wasting in households using traditional latrines was 13% compared to 12% with improved latrines.

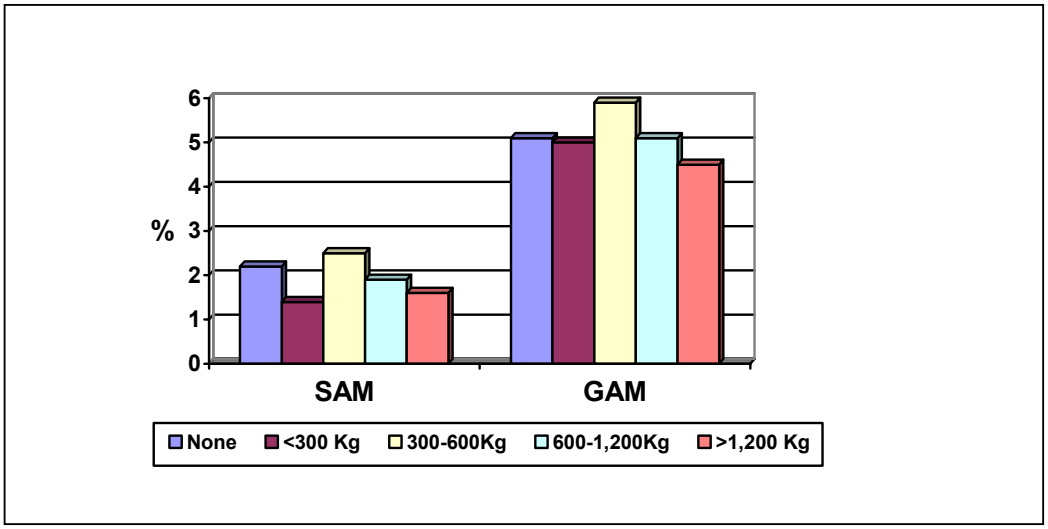
3.2.8 Household food security situation and malnutrition

Household food security was not significantly associated with child malnutrition, whether acute (wasting) or chronic (stunting). This however does not mean that no malnourished children were found in severely or moderately food insecure households, but it indicates that other factors seemed to play a stronger role as determinants of malnutrition.

3.2.8.1 Relationship between total staple produced and nutrition status

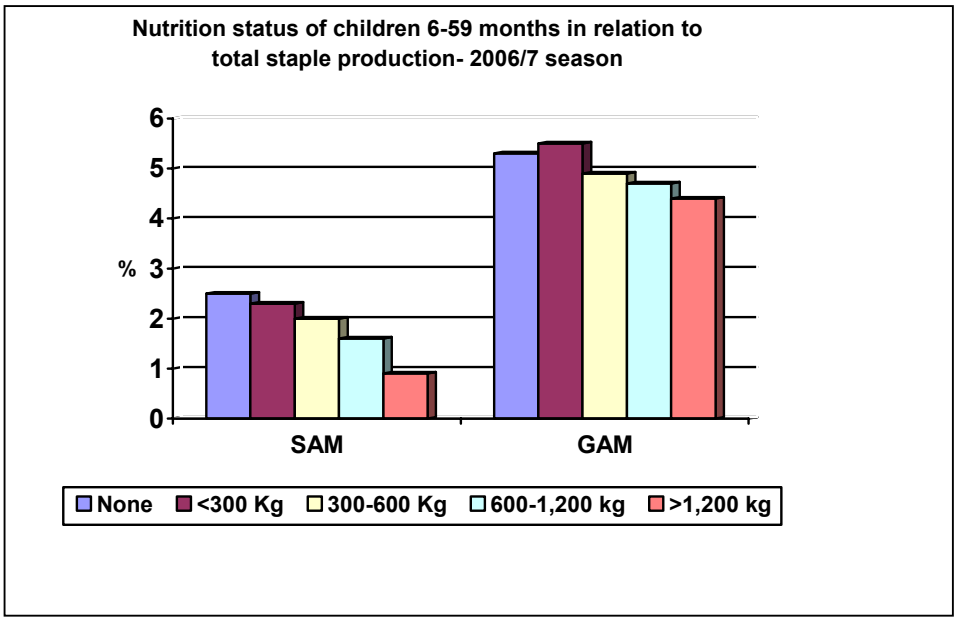
Severe acute malnutrition (SAM) was slightly lower (2.2%) -for children in households having produced none of the staple crop during the 2005/6 season compared to 2.5% for children from similar household during the 2006/7 season (Figure 11).

Figure 11: Nutrition status of children 6-59 months in relation to total staple production, 2005/6 season



There were no significant differences in wasting (mean Z-score) between children living in households who had not produced and those in households who had produced at least 300 kg of the staple crop during the 2005/6 and 2006/7 seasons.

Figure 12: Nutrition status of children 6 – 59 months in relation to total staple production 2006/7 season



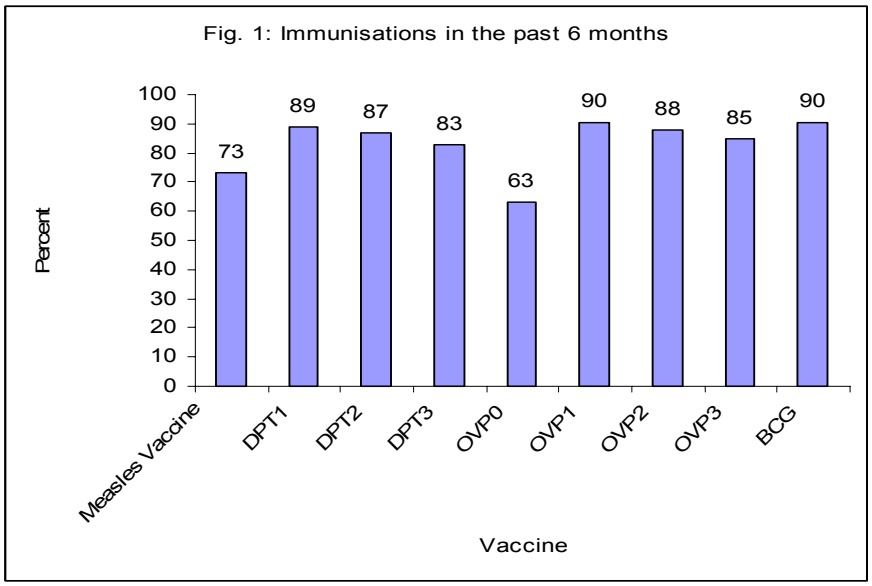
3.3 HEALTH

Health is an important component of one's life in so far as human survival is concerned. In a bid to try and alleviate the health problems that may have been caused by floods or prolonged dry spells, the in-depth vulnerability assessment collected information on immunizations, illnesses in the households, chronic illnesses, deaths in the households and age at death.

3.3.1 Immunizations

Generally immunization coverage of children (0-59 months) was high in the forty-five (45) districts assessed. BCG had the highest coverage with 90%, immunizations against DPT averaged 86% and polio vaccinations averaged 82%. A total of 5% of the children had measles; 73% were vaccinated against the disease. Despite the floods, immunisation services were still accessible.

Figure 13: Immunizations in the past 6 months



Clinical data on measles vaccinations was also collected during the assessment. The data shows that 21% of the communities indicated that at least one child received a measles vaccine in the first quarter of 2005 compared to 8% in 2006 and 12% in 2007.

3.3.2 Illness

Out of the assessed households, a total of 7,828 people reported ill two weeks prior to the survey, 49% were male and 51% female. Figure 1 shows that malaria was the most common illness, reported by 41%, 11% reported to have had diarrhoea, 23% reported to have been coughing and 2% reported to have had scabies. Out of the total children under 5, who were reported to be ill, 45% were reported to have had malaria, 17% reported to have had diarrhoea, 25% reported to have been coughing and 2% reported to have had scabies.

Figure 14: Distribution of persons reported ill two weeks prior to survey

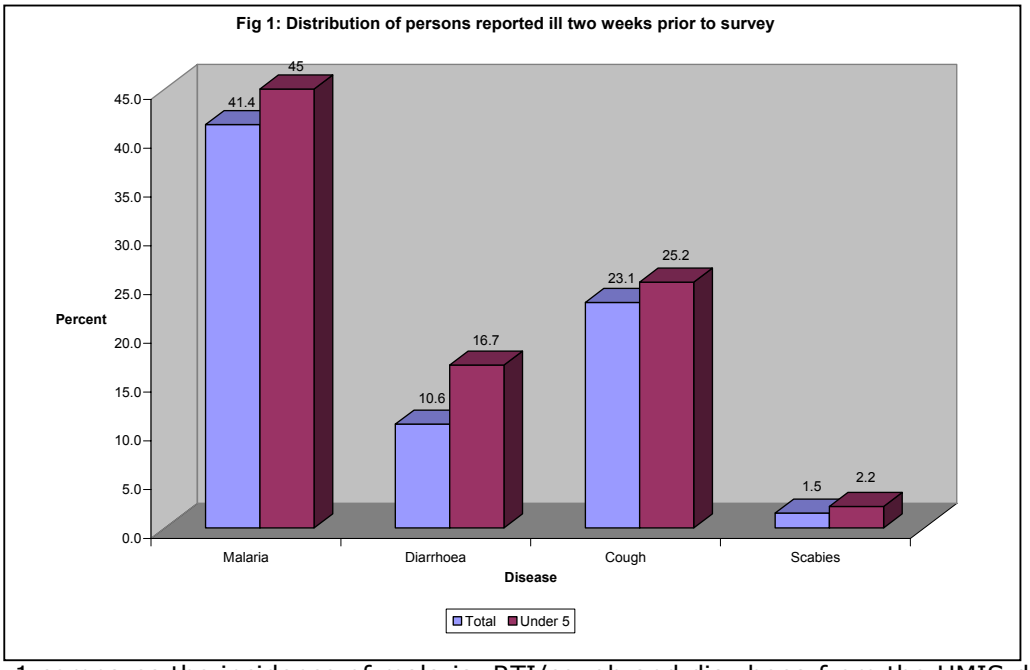


Table 1 compares the incidence of malaria, RTI/cough and diarrhoea from the HMIS data for the second quarters of 2004-2006, with the findings of this study.

Table 7: 2004-6 2nd Qtr statistics for malaria RTI and diarrhoea (HMIS) compared to the 2007 findings

Year	**Age**	**Malaria (%)**	**RTI/Cough (%)**	**Diarrhoea (%)**
HMIS data 2004	Below 5	27.5	10.8	5.6
	5 & above	5	2.1	0.6
2005	Below 5	26.1	11	6
	5 & above	4.6	2	0.7
2006	Below 5	29.5	1.5	6.6
	5 & above	7.1	3.3	0.8
Average for 2004-6	**Below 5**	**27.4**	**8.8**	**5.7**
	5 & above	**5**	**2.1**	**0.7**
In-depth assessment data 2007	Below 5	10.6	5.9	3.9
	5 & above	16.4	9.2	3.0

Generally it has been noted that malaria, diarrhoea and RTI/cough cases in the under 5 was far below the average for the past three (3) years during the second quarter, while that of those above the age of five was high. These cases could have been lower in those below five years since there were immediate measures taken to mitigate the impact of

the floods especially targeting this age group and pregnant women. Further, those aged above 5 years are more exposed to disease as a result of their outdoor activities.

3.3.3. Deaths in Households

A total of 92% of the 12,001 households interviewed reported no deaths in the household in the last 6 months, 4% reported to have had one (1) death, another 4% reported two (2) deaths and the percentage with three (3) deaths or more in the family was negligible.

In 113 households, at least one death of a person who was above 16 years and was sick for more than three months was reported. Of these, 94% reported one such death, 5% reported two deaths and 1% reported at least 3 deaths.

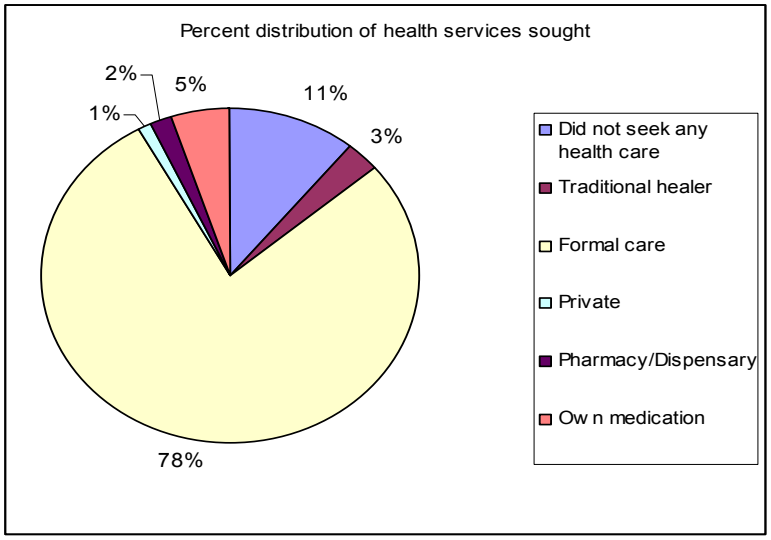
3.3.4 Chronic illness among adults in the past 12 months

The survey results showed that 16% of the households had at least one adult (16 years and above) who was ill for more than 3 months in the 12 month period prior to the survey. Out of these households with chronically ill adults, 64% reported one chronically ill adult, 35% had two while 1% had three or more. Furthermore, about a third of the household members that were reported chronically ill were household heads.

3.3.5 Access and use of health services

Formal health care was sought by the majority (78%) of the persons in households out of the total number that recorded sickness (Figure 15). Own medication and visits to traditional healers accounted for 5% and 3%, respectively. The percentage of those who did not seek any health was 11%.

Figure 15: Percent distribution of health services sought



Reasons for not seeking health care included lack of money, lack of transport, respondents perception on quality of health care, preference, severe illness which

disenabled a person to be moved, home based care and inaccessibility of the health facility. The most common reason for not seeking health care was inaccessibility of the health facility reported by followed by home based care. The proportion that reported that the patient was too ill to be moved was low. The proportions for the rest of the reasons were negligible.

3.4 WATER AND SANITATION

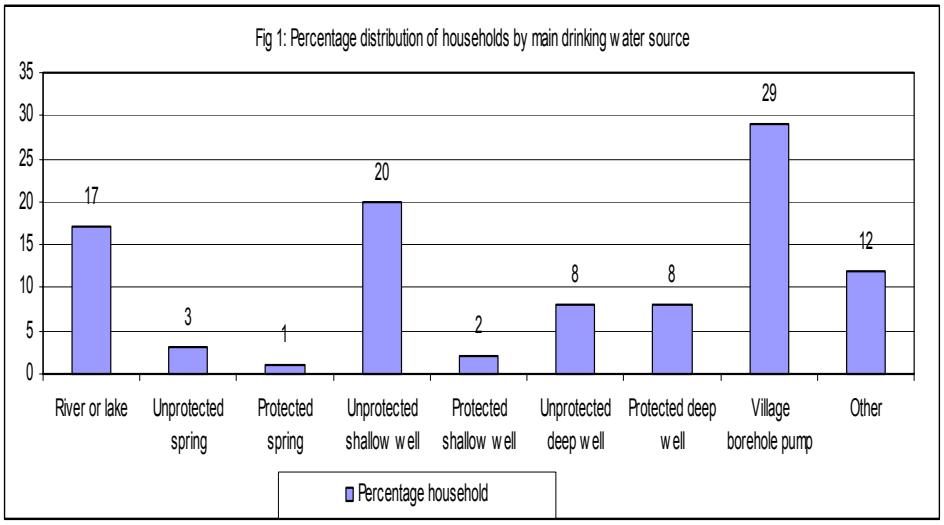
In this survey "access to clean and safe drinking water" was considered the same as "access to an improved water source". Boreholes and protected sources were regarded as safe sources while rivers or lakes and unprotected sources were considered unsafe.

3.4.1 Water

3.4.1.1 Types of Drinking Water Sources and Water Quality

The three most common drinking water sources in the assessed districts were unprotected shallow wells, boreholes and river or lake. Village boreholes were found to be the commonest source of water, accounting for about 29% of all households (12,001) interviewed in the 45 surveyed districts (see Figure 16). However overall, unprotected sources such as unprotected shallow wells and river or lakes were the major source of drinking water accounting for 48% of households.

Figure 16: Percent distribution of households by drinking water source



This implies that a significant number of households have no access to safe drinking water. This is most prevalent in Northern (Mpika, Luwingu, Chinsali, Isoka, Mporokoso), North-western (Mwinilunga, Zambezi, Chavuma, Kabompo) and Western Province (Kalabo and Shangombo)

Based on the community's perception of water quality, the majority of them (58%) reported that the water was mostly fair to good while the rest reported poor quality. The

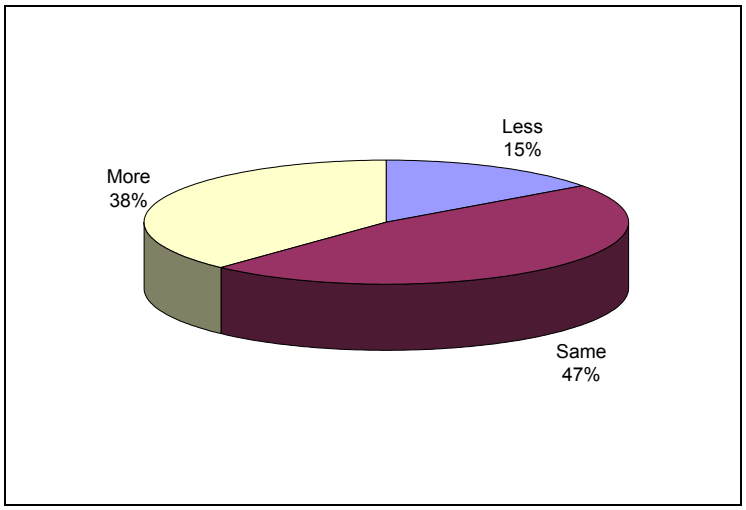
quality of the water was based on aesthetic characteristics e.g., colour, appearance and taste. Despite the negative impact on water quality during the flood period, most households (75%) did not change the main source of drinking. This suggests that most rural households lack alternative sources of safe drinking water.

Very few (23%) households treat their drinking water leaving the majority of the households vulnerable to waterborne diseases. The commonest method of treating water was the use of chlorine (78%), followed by boiling (21%) which are very effective. The findings show that 75% of households that reported diarrhoea cases did not treat their drinking water. While poor drinking water quality can significantly contribute to the diarrhoea disease burden, poor hygiene practice has been linked to high diarrhoeal diseases in other surveys.

3.4.1.2 Water Availability

Compared to last year (2006), very few of households (15%) had reduced water quantity at their main water source- Figure 17.

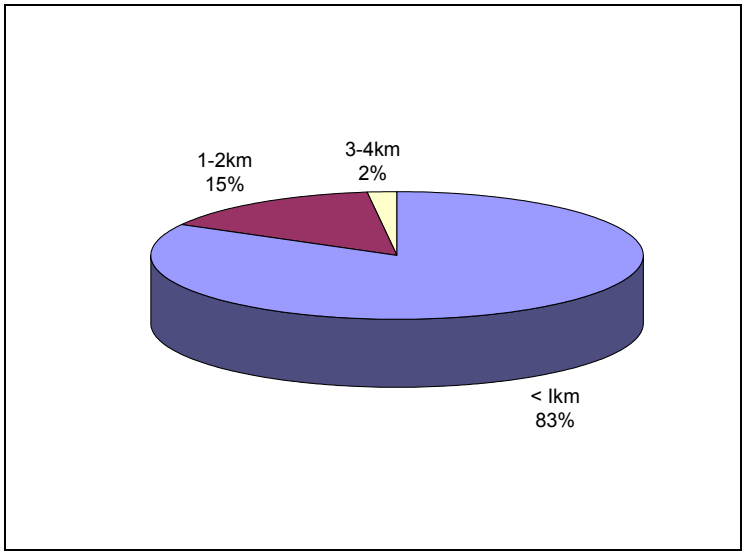
Figure 17: Quantity of water at main source compared to same period in 2006



For most households water quantity either remained the same (47%) or increased (38%). This shows that there was an overall increase in the amount of water, which can be attributed to the floods. Only 25% of assessed households reported water drying up.

3.4.1.3 Distance to Main Drinking Water Source

Figure 18: Distance to water source covered by households



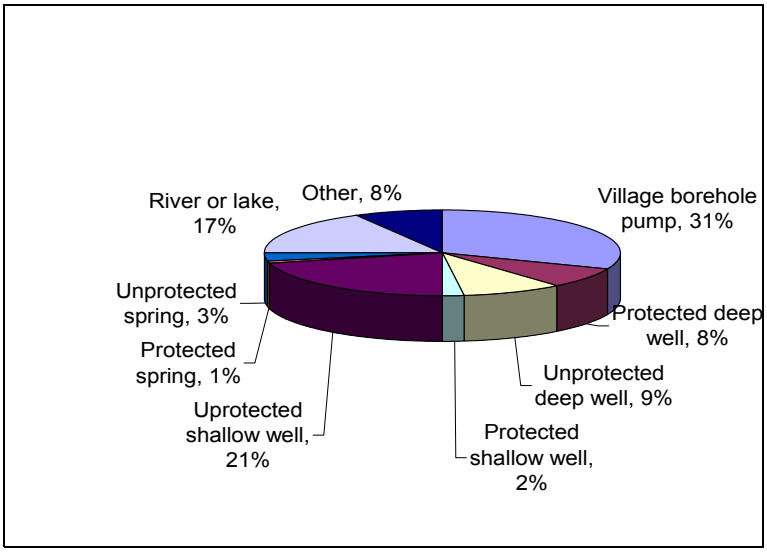
The results show that majority (83%) of respondents had access to water sources within 1 kilometre from their houses (Figure 18). Though most households had easy access (< 1KM distance) the quality of water remains a challenge as only 23% were treating their drinking water.

3.4.1.4 Comparison of main drinking water source with diarrhoea prevalence

Figure 2 shows that out of the total number of households that reported cases of diarrhoea, 31% used the borehole, 21% used the unprotected shallow well while 17% used the river or lake (Figure 19).

Although borehole water is considered to be clean and safe, the contamination of water could have occurred during handling e.g., through poor hygiene practice at household level.

Figure 19: Diarrhoea cases versus main water source



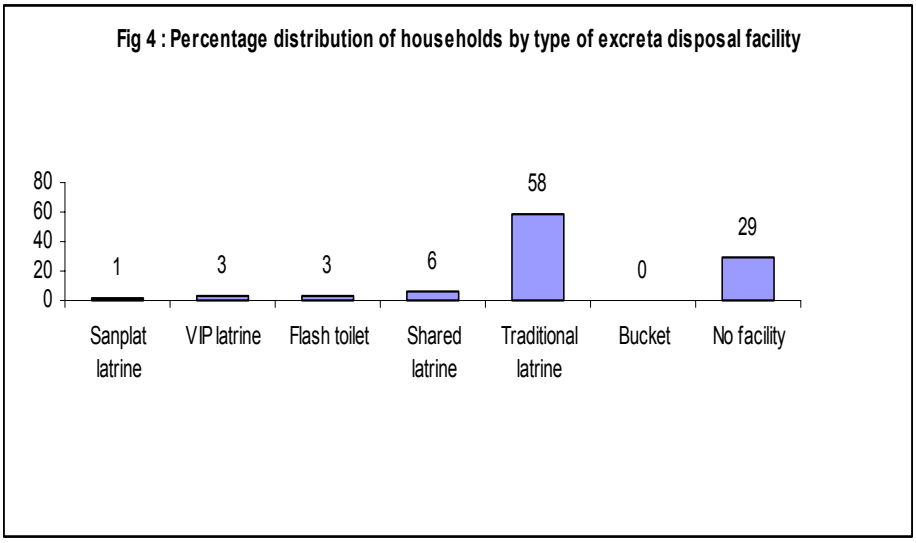
3.4.2 Sanitation

In this report sanitation access is regarded as access to improved sanitation based on the United Nations (2003) definition of "improved sanitation". This definition assumes that facilities such as septic tank system, pour flush latrines, simple pit or ventilated improved pit latrines are likely to be adequate, provided that they are not public as stated in the Millennium Development Goals Zambia Status Report of 2005. The report puts national coverage for improved sanitation at 65% in 2003.

Despite water and soap being available in the majority (70%), of the households a large number (over 60%) of them do not wash their hands with soap before preparing food, eating and after using the toilets/latrine.

Findings show that the majority (58%) of respondents used traditional pit latrines while 29% had no sanitary facility at all (Figure 20). Areas with no access to improved sanitation include Southern (Gwembe, Kazungula, Namwala, Sinazongwe), Eastern (Lundazi, Nyimba), Central (Chibombo) and Western (Kalabo) provinces. Furthermore, about 65% of the assessed households had access to improved sanitation. This is in line with the findings of 2003 (MDG Zambia, 2005).

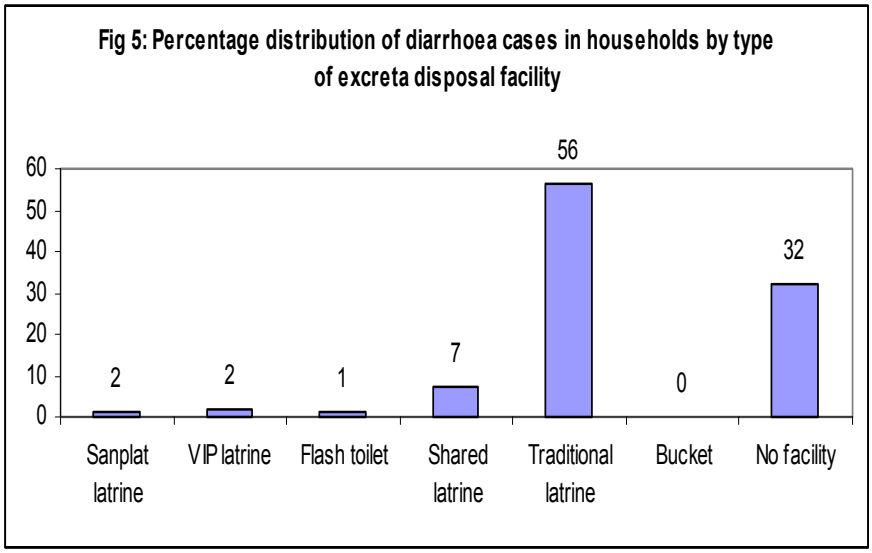
Figure 20: Percent distribution of households by type of excreta



About 64% of households that reported diarrhoea cases did not wash their hands with soap after using the latrine or toilet. The remaining diarrhoea cases (36%) could be attributed to other routes of infection like contaminated drinking water or food.

Out of the total number of households that reported cases of diarrhoea, most (56%) use traditional latrines while 7.1% use shared latrines and 32% have no facility at all (Figure 21).

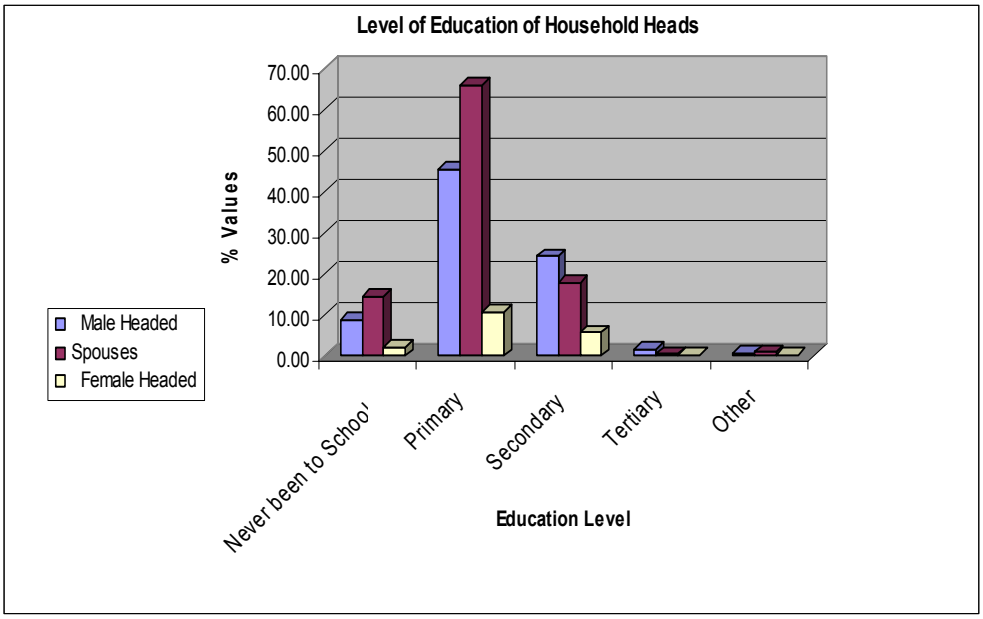
Figure 21: Percent distribution of diarrhea cases in household by type of excreta disposal facility



3.5 EDUCATION

The data on education collected included, levels of education of household heads, levels of education of spouses, school drop outs six months prior to the assessment, reasons for school drop outs and expenditure trends on education fees and costs.

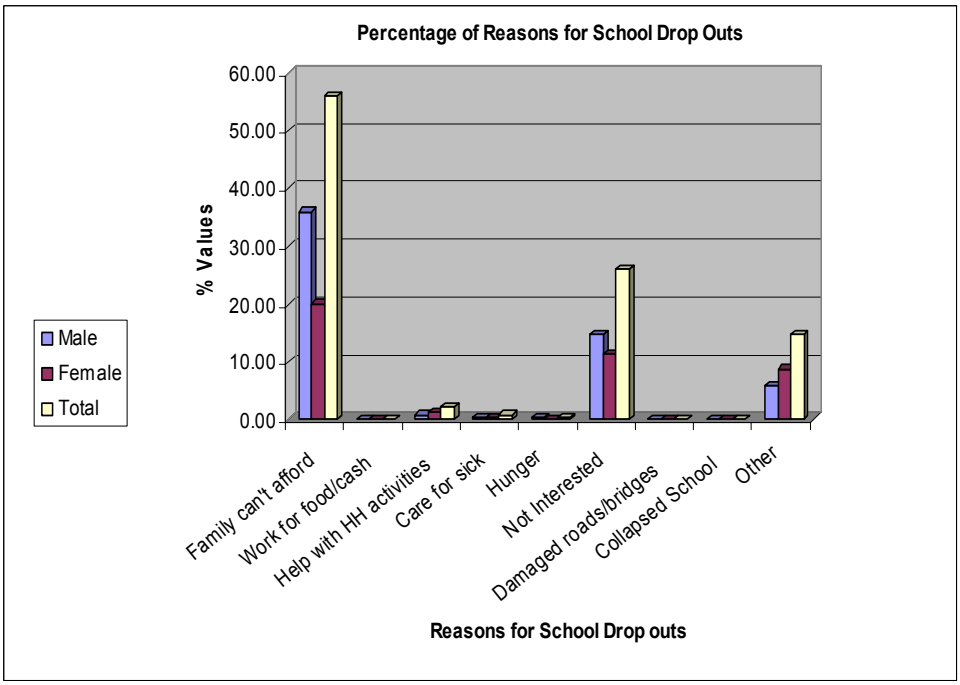
Figure 22: Level of education of household heads



3.5.1 Levels of Education

On average about 56% of the household heads have undergone primary school education with only 30% attaining secondary education as shown in Figure 22. There are more women (16%) that have never been to school than men (9%). However, more women attended primary education (66%) as opposed to men (34%). This is mostly for Grades 1 to Grade 5. The attendance of the girls reduces significantly from Grades 6 onwards due to factors such as coming of age and early marriages. More men reached secondary and tertiary education (24% and 2% respectively) than women (23% and 1% respectively). The number of people who advanced to higher levels of education decreased from one level to a higher level with only 2% reaching tertiary education. The other forms of education included adult literacy, vocational skills training and short courses.

Figure 23: Reasons for school dropouts



3.5.2 School Attendance

According to figure 23 outlining the reasons for dropping out of school, 56% (36% males and 20% females) of the children dropped out because the family could not afford to meet their school requirements. The drop outs were mostly unrelated to the impact of the floods. The results show that more boys than girls dropped out of school. On the contrary the 2005 Educational Statistical Bulletin established that there were more girls dropping out than boys as families would rather finance boys education than the girls education because of the belief that the girls would no sooner than later get married.

Secondary school going children prematurely stop school because of the requirement to pay school fees, where as in the case of primary school going children paying school fees and also wearing uniforms are not a requirement. This confirms the results of the assessment that attendance reduces from lower to higher education.

There were more males who dropped out of school than females on account of not having interest in school while the differences in numbers between male and female drop outs was negligible for reasons like work for food/cash, help with household activities, caring for sick family members and hunger in the homes. However, it is common practice for girl children to be more involved in looking after sick family members than boys.

The LCMS of 2004 also established that school attendance rates at primary school were marginally higher for female children than for male children. However, in terms of secondary school, attendance among male children was higher than that of females.

More females than males dropped out of school because of other reasons, such as personal inhibiting circumstances like early pregnancies, becoming of age and early marriages.

The results of the In-depth assessment further showed that few children (about 1%) dropped out of school because of inaccessibility to the schools and/or collapsed school buildings, as a result of the floods experienced. Furthermore, in some of the flood affected areas the school children shifted to the higher and drier lands where they continued with their education. In other areas the learning processes continued in make shift structures and/or other community centres. However, this was not conducive for learning and the quality of education was compromised. Furthermore the relocation to the drier lands and alternative learning environments, took away valuable learning time from the school children. This has compelled government to issue a directive to the school authorities in the affected areas to continue with the school sessions during the school holidays. Government has focussed its attention on the replacement of pole and mad schools with permanent structures (schools).

3.5.3 Household Expenditure on Education

The assessment also established that in the forty-five (45) districts assessed there has been no significant shift in the household expenditures on education fees and costs during the period December 2006 to April 2007 as compared to the period December 2005 to April 2006. A total of 20% of the households interviewed reported to have had a reduction of overall expenditure on education costs. This was especially so for households with children attending secondary school because primary education cost did not include school fees. This is in line with the Ministry of Education's policy of Free Primary Education in the rural areas. The reduction of household expenditures on primary education costs consisted mostly of expenditure on PTA funds, school uniforms and scholastic materials such as books and pens. However only 8% of the people interviewed reported to have taken children aged 6 to 15 years out of school, because of vulnerability.

3.6 INFRASTRUCTURE

In order to assess the effects of the floods and/or prolonged dry spells on infrastructure, it was necessary to identify the types of infrastructure existing in the communities sampled. The assessment established that all the communities visited have at least one or more of the following infrastructure; gravel roads, bridges/culverts, clinics, schools and boreholes. Total of 92% of the key informant focus groups confirmed the existence of these infrastructures in their communities. However, paved roads, markets, community halls, dip tanks and storage tanks are not very common in the communities assessed.

The assessment further established that infrastructure was among the most severely affected sectors (61 to 100%) by the floods. The level of effects differed from one type of infrastructure to the other.

3.6.1 Roads and Bridges/Culverts

Gravel roads and bridges/culverts were the most affected. This was established from key informant interviews at both community and district level where an average of 55%of the respondents indicated that the damage to roads was severe and another 54% indicated that the damage to bridges/culverts was severe. The roads become flooded making them unusable. The affected bridges/culverts either collapsed or were washed away. The effect on paved roads on the other hand was minimal. At the time of the assessment both the affected roads and bridges/culverts were still in a poor state and had not been repaired.

A Technical Assessment report has been prepared by the Road Development Agency (RDA) detailing the nature and extent of the damage to the roads and bridges/culverts in the affected districts. The report also provides recommendations for the repairs and cost estimates for the works.

3.6.2 Habitations (Houses)

The impact on habitations was moderate as 54% of respondents reported that houses collapsed. At the time of the assessment the people whose houses had collapsed were moulding bricks to rebuild their houses.

3.6.3 Health Facilities

The level of damage to health facilities attributable to the floods was low (an average of 93% of the key informants at both district and community level confirmed that there was no or low effect on the health facilities). The assessment established most of the health centres are still in good condition. However the health centres have been dilapidated over time due to lack of maintenance.

3.6.4 Schools

The damage to school infrastructure was moderate as indicated by an average of 56% of the respondents from the community and district interviews. The damage was mostly on community schools made of pole and mud but also included teachers' houses made of poor quality materials. There were also incidences of damage to the permanent structures at the schools where the roofs were blown off. The current condition of the physical structures at the schools with permanent buildings is fair. However, the affected schools remain in a poor state and need replacement with permanent buildings.

3.6.5 Boreholes and Water Points

The assessment established that there was no physical damage to the boreholes. Although there were indications that the quality of water was poor. The other water points such as hand dug wells were flooded and collapsed.

3.6.6 Others

There was no effect on physical **markets** as most of the communities visited do not have physical markets. The trading is usually informal exchange of commodities (barter system). The physical markets are located at the district administrative centres. These were found not have been impacted upon.

There was no effect on **churches/community halls** at both district and community levels. The condition of the churches/community halls is poor because they have not been maintained for a long time and not because of the floods.

Information collected on effects on **dip tanks** in the assessed areas, established that there was no effect on dip tanks as these are still in good condition.

The assessment established that there was no effect on **storage sheds** (80% response). However the storage sheds are in a bad condition due to lack of maintenance over the years.

3.7 VULNERABILITY SITUATION

The level of vulnerability has been exacerbated by lack of preparedness measures in the assessed districts and communities. The assessment established that there are no major preparedness measures put in place. From the focus group discussions which were conducted at community and district level, 14% and 17% respectively said there are no measures put in place to deal with hazards such floods and hazards. The major things that were mentioned as measures put in place were sensitisation of people along river banks to move to higher ground, cultivation of drought resistant crops and planting of early maturing crops. These are not preparedness measures as such but mitigation. Given the above, it is inevitable to carry out the comprehensive Vulnerability Assessment and Analysis to identify the hazards, associated risks and the level of vulnerability. This will be the basis for any meaningful preparedness measures at district and community levels.

4.0 CONCLUSIONS

4.1. Food Security

The Crop Forecasting Survey has established that the 2006/7 production season has recorded a surplus for the main staples (maize and cassava) for the second year running. However the assessment results also show that despite this national surplus there are some districts that have recorded a reduction in production. In spite of this, the prices of these commodities in most of the visited districts have remained low. Furthermore, livestock prices have significantly increased with respect to the lean period suggesting that there was no desperation for households to sell. This confirms the fact that the impact of floods and/or prolonged dry spells on crop production and livestock was low as established in the March 2007 rapid flood assessment.

The assessment revealed that fourteen (14) districts from Luapula, Western, North-western and Northern Provinces had a majority of households who experienced drastic reduction in the overall harvest of main staples as a result of water logging and flash floods.

The assessment also revealed that input support for rural households has still remained inadequate prompting most of them to resort to recycled hybrid seed which are low yielding.

4.2 Nutrition

The nutritional situation of children found in this survey is best described as "stable but precarious", with a high likelihood of deterioration if interventions and/or basic services, particularly provision of clean water and health care, are reduced. Malnutrition levels are still below emergency levels where as children under the age of three years are significantly more malnourished than children over three years. This is consistent with localized nutrition surveys- Rapid Nutrition assessment 2005 and targeted nutrition assessment 2006 in drought affected districts

4.3. Health

Access to health services such as immunisation was still high during the period of the floods. The interventions taken to mitigate the impact of the floods were effective as demonstrated by the low disease prevalence among the children below five years of age, who were in the target group.

4.4 Water and Sanitation

From the findings it is clear that the floods and/or heavy rainfall in the 2006/2007 season increased water availability but caused wide-spread water contamination especially in unprotected shallow wells and surface water sources such as rivers, dams

and lakes. The impact on water quality was severe during the rainy season in areas that experienced floods and heavy rainfall. After the rainy season (during the survey) the quality was reported to have improved. The major sources of drinking water were borehole, unprotected shallow well and river or lake. Only 52% of households had access to safe drinking water. Most households (77%) do not treat their drinking water. Most households (75%) have no access to alternative sources of safe drinking water in the event of floods.

The majority of households (65%) have access to improved sanitation, which largely consists of traditional latrines. However, a number of these latrines are susceptible to floods and heavy rainfall. Generally, the level of hygiene in most households was observed to be low. Diarrhoea cases were highest in households that used traditional pit latrines. Poor hygiene practices could have also greatly contributed to high diarrhoea incidences.

4.5. Education

The assessment established that there was more attendance at primary school than at higher levels of education in the assessed districts. There were more women than men that had undergone primary education but the situation changed at secondary school level where there were more men than women due to due to personal circumstances. Furthermore, the main reason for children dropping out of school was because the families could not afford to meet their school requirements.

The effect of the floods on school attendance was low because learning continued under alternative arrangements even though the quality of education was poor because the alternative learning environment was not conducive.

4.6. Infrastructure

As reported in the Floods Rapid Assessment of March 2007, the In-Depth Assessment confirmed the impact on roads (gravel) and bridges/culverts was severe ranging from 60 to 100%. The extent of the damage is contained in a supplementary Technical Report prepared by the Roads Development Agency.

The effect on Health facilities was low as there was minimal damage to the health infrastructure. The assessment established that the condition of the hospitals, clinics and rural health centres in the districts visited was still good.

School infrastructure was moderately affected by the floods. The community schools suffered the most damage as the pole and mud structures at these schools collapsed. The schools with permanent structure had minimal damage from blown off roofs.

The effect on other infrastructure such as boreholes, markets, churches/community halls, dip tanks and storage shed was minimal. Most of these were not damaged due to floods and/or prolonged dry spells but are in a poor state due to lack of maintenance.

5.0 RECOMMENDATIONS

5.1 Food Security

Short term

- The assessment recommends that fourteen (14) districts (Samfya, Mungwi, Mpika, Chavuma, Kabompo, Mwinilunga, Zambezi, Kalabo, Lukulu, Mongu, Senanga, Shangombo, Kaputa and Mporokoso) where major households experienced drastic reductions in their overall harvest be targeted for relief. Bearing in mind that this is just the beginning of the consumption period, there is need to provide 31,742MT of cereals for a total of 440,866 persons from September 2007 to February 2008 (six months). It is recommended that this relief be labour based in nature (food for work e.g. infrastructure rehabilitation in collaboration with RDA). The food will be distributed per district as per the attached distribution graphs in **Annex 8.**
- There is need for redistribution of the staple food from surplus areas within and outside the district to non surplus areas through the markets. This will increase income for producing households. Market programs can include the WFP local purchase, use of FRA stocks within districts.

Medium to long term

- Extension services to be enhanced and should include appropriate Dambo utilization interventions bearing in mind that these are fragile environments

- Support for small scale irrigation systems be provided to targeted rural population with access to streams and dambos. This will improve their productivity in vegetable gardening as well as well as production of other winter crops like maize

- Enhanced sensitisation of farmers in good livestock husbandry practices, improved extension services and enhanced livestock disease surveillance system.

- There is need for crop diversification and promotion of growing and consumption of cassava, sorghum, millet in areas that predominantly grow maize especially low producing areas. In addition, the non cereal crops such as cowpeas should also be considered.

5.2 Nutrition

Medium to Long-term

Programmes aiming to reduce and/or prevent malnutrition must focus on increasing access to safe water and sanitation, and reducing disease incidence, particularly Fever/malaria, respiratory infections and diarrhoea.

- Health and hygiene promotion should be strengthened to include all populations, supported by provision of appropriate non-food items such as mosquito nets etc where necessary.
- Food assistance also plays a vital role in ensuring good health and nutrition status, and should be continued for those who are food insecure.
- Nutrition programmes should focus mostly on children under the age of three years, since this is where the majority of acute malnutrition is found.
- Caring practices are a key factor in young child nutrition and health status: exclusive breastfeeding must be promoted and fully explained to mothers and midwives as a key starting point
- Routine immunizations and supplementation of vitamin A for all children should be strengthened, and health clinics supported to provide these vital services. Campaigns to maintain high levels of measles and polio immunization are also a necessary strategy.
- Outreach and early case finding of malnourished children in the communities should be strengthened where possible, to improve coverage of therapeutic feeding programmes.
- Supplementary feeding programmes should focus more on education for caretakers, and be used as an opportunity to raise awareness of appropriate health, hygiene and caring practices, rather than simply a distribution of food
- Routine surveillance activities should be strengthened to allow early detection of changes in nutrition and health status, and to remove the need for large surveys such as this. Such surveillance systems should be integrated into government structures and include food security monitoring indicators as well.
- Support the mitigation of nutritional impact of floods on health especially the under five children

5.3 Health

Short-term

- Intensify information, education and communication to mitigate any possible outbreak of communicable diseases
- Continue monitoring of disease patterns as some effects can appear after the floods.

Medium to Long Term

- Support the provision and distribution of essential drugs and supplies for malaria, diarrhoea and coughs/ARI through programmes
- Scaling up of programmes such as Roll Back Malaria and Domestic Water Chlorination Promotion in all districts.

- Support sustained delivery of essential health services such as immunization, child growth monitoring, maternity, HIV/AIDS, TB including through outreach where appropriate.
- Support integrated disease surveillance and reporting (IDSR), especially measles and other common illnesses.
- Intensification of community sensitization on good hygiene practice e.g. waste disposal.
- Primary health indicators generated by HMIS should be overlayed with environmental predictors such as temperature, rainfall etc in order to provide a comprehensive secondary analysis that could be used for epidermic forecasting and preparedness at district level.

5.4. Water and Sanitation

5.4.1. Water:

Short-term

- Intensify community sensitisation and participation in water programmes such as treatment and protection of water sources through D-WASHE programmes
- Increase availability and affordability of chlorine (as chlorin) in collaboration with MoH under the Domestic Water Chlorination Promotion.

Medium to long term

- Increase access to safe drinking water by constructing water facilities such as boreholes and dams especially in areas with poor access to safe water such as Northern (Mpika, Luwingu, Chinsali, Isoka, Mporokoso), North-western (Mwinilunga, Zambezi, Chavuma, Kabompo) and Western Province (Kalabo and Shangombo).
- Promote rainwater harvesting facilities and spring utilisation to improve access to safe drinking water.
- Strengthening and institutionalisation of WASHE programmes in all districts.

5.4.2. Sanitation:

Short-term

- Intensify community sensitisation and participation in sanitation programmes. This should be an on going programme.
- Promote and encourage construction of strong and recommended structures for sanitary or excreta disposal in areas with no access to improved sanitation such as Southern (Gwembe, Kazungula, Namwala, Sinazongwe), Eastern (Lundazi, Nyimba), Central (Chibombo) and Western (Kalabo)

Medium to long term

- Increase awareness of household and personal hygiene and promote behavioural change initiatives
- Formulation and enforcing of policies that promote construction of strong and recommended structures for sanitary or excreta disposal
- Strengthening and institutionalisation of WASHE programmes in all districts

5.5. Infrastructure

5.5.1. Roads and Bridges/Culverts

Short-term:

- Refer to the In-depth Report on the Washed Away and Affected Drainage Structures by the 2006/7 Heavy Rains, RDA, July 2007

5.5.2 Schools

Short-term

- Repair school infrastructure with blown off roofs

Medium-term

- Rehabilitate school infrastructure which was damaged as a result of floods

Long-term

- Reconstruct schools which collapsed due to the floods including community schools

5.5.3 Habitation (houses)

Short-term

- Community sensitization programs to build durable houses

Medium-term

- Community sensitization programs to help households in flood prone areas to appreciate the need to relocate to non flood prone areas.

5.6 General Recommendation

Short- term

- There is still need for ZVAC to carry out a Comprehensive Vulnerability Assessment and Analysis to establish baseline information that will not only help in disaster preparedness but also in designing relief and social protection interventions. This will help distinguish between the chronic and transitory food insecure areas.

REFERENCES

1. Ministry of Health, Health Management Information Systems (HMIS), 2000-6.
2. Central Statistical Office, Population projections report, 2003.
3. Ministry of Agriculture and Cooperatives 2007 Crop Forecasting Report
4. Tembo G. et al, 2006. Contributions of Livestock to Livelihoods in Zambia

ANNEXES

Annex 1.1: Copy of Household Questionnaire

ZAMBIA In-depth Vulnerability and Needs Assessment	ID No:_____
May 2007 Assessment: Household Interview	Always attempt to interview both husband and wife together
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:	Livelihood Zone Code |__|__|__|
Date of Interview:	Enumerator Code |__|__|__|

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

4	**Household Size** – How many people eat and stay in the household permanently? ***verify sum (questions 5-9)***	**4a –** males |__|__|	**4b** females |__|__|
5	Number of children under 5 years of age **(0- 59 months**)	**5a –** males |__|__|	**5b** females |__|__|
6	Number of children **5-14** years of age	**6a –** males |__|__|	**6b** females |__|__|
7	Number of persons aged **15-19** years	**7a –** males |__|__|	**7b** females |__|__|
8	Number of persons **20-59** years of age	**8a –** males |__|__|	**8b** females |__|__|
9	Number of adults **60** or **older**	**9a –** males |__|__|	**9b** females |__|__|
10	How many of these persons are **chronically unable** to work due to **health** or **disability** reasons?	**10a –** males |__|__|	**10b** females |__|__|
11	Number of **orphaned children** ("**both** parents dead" and "less than 15 years of age") in the household.	**11a –** males |__|__|	**11b** females |__|__|
12	Number of school children who **dropped out** of school in the last 6 months ***if none, go to question 13***	**12a –**males |__|__|	**12b**females |__|__|

12a	Main reason for **Boys** dropping out of school	**1=** Family can't afford fees/costs **2=** Work outside home for food or cash **3=** Help with household activities **4=** Care for sick family member **5=** Hunger **6=** Not interested/Bad pupil **7=** Damaged Roads/Bridges **8=** Collapsed School Buildings **9=** Other _____ _____	|__|
12b	Main reason for **Girls** dropping out of school	**1=** Family can't afford fees/costs **2=** Work outside home for food or cash **3=** Help with household activities **4=** Care for sick family member **5=** Hunger **6=** Not interested/Bad pupil **7=** Damaged Roads/Bridges **8=** Collapsed School Buildings **9=** Other _____	|__|

PRODUCTIVE ASSET OWNERSHIP

		Type of Asset	**Number of Assets Owned Now** (May 07)	**Number of Assets Owned last year** (December 06)	**13.1 Main Reason for change** 1=Sale 2=Purchase 3=Gift 4=Other, specify:
13	Does your household **own** any of the following items? ***Indicate*** **1** = Yes **2** = No *In the boxes* Please do not leave any cell blank!	Hoe |__|	**13a**	**13a1**	**13.1a1** |__|
		Plough |__|	**13b**	**13b1**	**13.1b1** |__|
		Canoe/Boat |__|	**13c**	**13c1**	**13.1c1** |__|
		Bicycle |__|	**13d**	**13d1**	**13.1d1** |__|
		Ox Cart |__|	**13e**	**13e1**	**13.1e1** |__|
		Fishing Net |__|	**13f**	**13f1**	**13.1f1** |__|
		Own Land |__| (with title)	**13g (Ha)**	**13g1 (Ha)**	**13.1g1** |__|
		Other, specify: **13Oth1.**_____ **13Oth2.**_____ **13Oth3.**_____	**13h**_____ **13i** _____ **13j** _____	**13h1**_____ **13i1**_____ **13j1**_____	**13.1h.1** |__| **13.1i1** |__| **13.1j1** |__|

		Animal/Livestock	**Number of Livestock Owned NOW** (May07)	**Number of Livestock Owned last year (Dec 06)**	**15. Main Reason(s) for change** 1=Sale 2=Disease 3=Stolen 4=Consumption 5= Purchase 6= Gift 7= Reproduction 8=Other, specify:____
14	How many livestock does your **household own** now? How many did your household own in December last year? ***(Refer ONLY to livestock that is <u>owned</u> by household)*** **Indicate 1** = Yes **2** = No *in the boxes* Please do not leave any cell blank! **Note: POULTRY = chickens, ducks, guinea fowl, rabbits**	**Cattle** |__|	**14a**	**14a1**	**15a1** |__| **15a2** |__|
		Goats |__|	**14b**	**14b1**	**15b1** |__| **15b2** |__|
		Sheep |__|	**14c**	**14c1**	**15c1** |__| **15c2** |__|
		Donkeys |__|	**14d**	**14d1**	**15d1** |__| **15d2** |__|
		Poultry |__|	**14e**	**14e1**	**15e1** |__| **15e2** |__|
		Pigs |__|	**14f**	**14f1**	**15f1** |__| **15f2** |__|

HOUSEHOLD FOOD SECURITY

15	What is your main staple food? **1**. Maize **2.** Cassava **3.** Millet **4.** Sorghum |__|

CEREAL PRODUCTION – LAST YEAR'S HARVEST 2005/06 (WET SEASON):

15	Did you grow any of the following crops during the 2005/06 rainy season? ***Indicate (√) in the boxes provided)***

a	Type of crop	Produced (2006)	Amount Sold (2006)	Amount Given Away (2006)
	Maize |__|	|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**
	Sorghum |__|	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**
	Millet |__|	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**
	Rice |__|	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**	|__|__|__|. |__|__| **50kg bags**

Cereal Production – WINTER (DRY SEASON) HARVEST 2006

16	Did you cultivate any **winter (dry season) MAIZE** crop during 2006?	**1=** Yes **2=** No – *go to question 16b*	|__|
16a	If yes, what was your **TOTAL MAIZE** harvest during last year's dry season?	|__|__|__|. |__|__| **50kg bags**	
16c	Do you intend to engage in winter Maize production during 2007 dry season? **1 = Yes -** *go to question 16*d **2 = No**	**16b.** If response to question 16 is "No", state the reason why? **1** = Insufficient Moisture … |__| **2** = Lack of money to buy inputs |__| **3** = Limited wet land/Dambo areas |__| **4** = Non availability of seeds from the market |__| **5** = Other (specify)_____ |__|	
16d	What size of land for maize do you intend to cultivate?	|__|__|. |__|__| **limas** |__|__|. |__|__| **acres** |__|__|. |__|__| **hectares**	
16e	Which other winter crops did you grow during the 2006	**1**. Cabbage **2**. Rape **3.** Tomato **4**. Onion **5.** Other (Specify**)**	

Production – ALL -YEAR Root/TUBER HARVEST 2005/6 Season

17	Do you grow **cassava** for your **own consumption** and/or for **sale**?		**1=** Yes for **consumption** **3=** Yes for **sale** **2 =** Yes, **both** **4=** No – *go to question 18*	|__|
17a	Do you eat cassava as a main **staple** food or as a **snack**?	**1=** Staple *go to question 17b* **2=** Snack *go to question 17c* **3=** Both *go to question 17c* |__|		
17b	For how many months of this past year did you eat **cassava** as main staple?		**1 =** <3 mo **2 =** 3-6 mo **3 =** 6-9 mo **4 =** >9 mo	|__|
17c	How much **land** did you have under **MATURE CASSAVA** last year (2005/6)?		|__|__|. |__|__| **hectares**	
18	Do you grow **sweet potatoes** for your **own consumption**?		**1=** Yes **2=** No – *go to question 18b*	|__|
18a	For how many months of this past year did you eat **sweet potatoes**?	**1 =** <3 mo **2 =** 3-6 mo **3 =** 6-9 mo **4 =** >9 mo		|__|
18b	Do you grow **sweet potatoes** for **sale**?		**1=** Yes **2=** No – *go to question 19*	|__|
18c	How much **land** under **SWEET POTATOES** did you **harvest** during the last year (April'05-Mar'06)?		|__|__|. |__|__| **hectares**	

AREA CULTIVATED 2006/7 (WET) SEASON			
19	Did you cultivate any crops during the just ended 2006/7 wet season?	**1** = Yes **2** = No – go to question 19d	|__|
19a	If yes to question 19, specify hectarage cultivated?	|__||__|. |__||__| **hectares**	
19b	During the 2006/07 wet season, did you leave any land that is **usually** cultivated **uncultivated**?	**1** = Yes- go to question 19c **2** = No – go to question 19d	|__|
19c	What are the three main reasons for leaving land uncultivated? **Indicate 1** = Most Important **2** = Important **3** = Least Important	**1**. Lack of household labour **2**. Lack of money to hire **3**. Lack of rainfall/erratic rainfall |__||__| **1st** **4**. Too much rainfall (flooding, water logging) **5**. Presence of pests |__||__| **2nd** **6**. Lack of seed **7**. Lack of draught/tractor power |__||__| **3rd** **8**. Lack of fertilizer **9**. To leave land to fallow as in normal cycle **10**. Other (specify)_____	
19d	Did you use draught/tractor power during 2006/7 agricultural season? (***Refer to livestock that is owned, looked after, borrowed or rented***)	**1** = Yes **2** = No |_ _|	

PRODUCTION – CURRENT (WET SEASON) HARVEST 2006/7

20 — Did you grow any of the following crops? ***Tick (√) in the boxes provided***

Type of Crop	Production	Sales	Give Away	**20 a**. How does this year's harvest / expected harvest (quantities) compare with 2005/6 season? **1**=Less **2**=Same – go to question 25 **3**=More
Maize |___|	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|
Millet |___|	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|
Sorghum |___|	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|
Cassava |___|	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|
Rice |___|	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|__|. |__|__| **50kg bags**	|__|

21	For how many weeks did the household consume green maize?	|____| **weeks**
21a	Has your household had premature staple crop harvests for its own consumption?	**1** = Yes **2** = No – go to question 22 |__|

21b	If yes, **how many kgs** have you harvested early?	**|__|__|. |__|__| kgs**	
Other Direct Sources of Cereal – 2006/7			
Please Note: Approximate conversions: **1 Meda = 5kg, 1 Gallon/Tin = 5 kg, 1 big water bucket/Tin = 18 kg**			
22	Did the household acquire or earn cereal from **casual labour** from ***January 2007 to date***?	**1=** Yes **2=** No – ***go to question 23***	|__|
22a	Approximately how many **kilograms** were acquired/earned?	**|__|__|__|__|__|__| *Kg***	
23	Did any member of this household receive cereal as **gifts** from relatives, neighbours, or friends from ***January 2007 to date***?	**1=** Yes **2=** No – *go to question 25*	|__|
24	Approximately how many **kilograms** were received?	**|__|__|__|__|__|__| *Kg***	
25	Do you have carry **over stocks** from 2005/6 production season as at 1st May	**1 = Yes** **2 = No** – *go to question 25b*	|__|
25a	If response in question 25 is yes, specify quantity	**|__|__|__|__|__|__| *Kg***	
25b	State month when the food stock of the last season ran out	|__|__|	
Food Aid – January 2007 to April 2007			
26	Did any member of this household earn cereal (maize, sorghum, millet and rice) from **Food Aid since *January 2007***?	**1=** Yes, go to question 26a **2=** No – *go to question 27*	|__|
26a	If yes to question 26, under what food aid programme was the cereal received?	**1** = Food For Work **2** = Home Based Care **3** = Anti Retroviral Therapy **4** = General Food Distribution **5** = Other, specify:_____	|__|
26b	Approximately how many **kilograms** were earned?	**|__|__|__|__|__|__| *Kg***	
27	Did any member of this household receive **High Energy Protein Supplement (HEPS)** as **Food Aid** from **January 2007 to date**?	**1=** Yes **2=** No – *go to question 28*	|__|
27a	Approximately how many **kilograms** were received?	**|__|__|__|__|__|__| *Kg***	
28	Did any primary school children receive any **prepared food** at school?	**1=** Yes **2=** No – *go to question* 29	|__|
28a	How frequently did this/these child (ren) receive the food?	**1 =** daily **2 =** once a week **3 =** Twice a week, 4= Three times a week	|__|

INCOME SOURCES & EXPENDITURE PATTERNS: – 2006/7 marketing season					
29. What were the five most important sources of income during the 2006/7 Marketing Season?	Rank Order of Importance from **1** to **5**		**30.** During the last year, on what did you spend the most money?	Rank in order of importance of Expenditures **1**(highest) to **5**(lowest)	
	Dec 05 – Apr 06	Dec 06 – Apr 07		Dec 05 –Apr 06	Dec 06 – Apr 07
Sale of CEREAL Crops	29a |__|	29a1. |__|	Cereals/products (maize, sorghum, millet, rice, bread)	30a |__|	30a1 |__|
Sale of TUBER Crops	29b |__|	29b1 |__|	Tubers (cassava, sweet potato, Irish potato, yam)	30b |__|	30b1 |__|
Sale of COTTON Crop	29c |__|	29c1 |__|	Non-Staple Foods: (vegetables, fruits, salt…)	30c |__|	30c1 |__|
Sale of TOBACCO Crop	29d |__|	29d1 |__|	Meat, poultry,	30d |__|	30d1 |__|
Sale of ANY OTHER Cultivated Crop	29e |__|	29e1 |__|	Fish, fresh and dried	30e |__|	30e1 |__|
Sale of FISH	29f |__|	29f1 |__|	Eggs, milk	30f |__|	30f1 |__|
Sale of 4-legged LIVESTOCK	29g |__|	29g1. |__|	Beer (local)	30g |__|	30g1 |__|
Sale of POULTRY (chickens, ducks…)	29h |__|	29h1 |__|	Beer (clear) and other alcoholic beverages	30h |__|	30h1 |__|
Sale of WILD FOOD or GAME MEAT	29i |__|	29i1 |__|	Tobacco and cigarettes	30i |__|	30i1 |__|
Sale of CHARCOAL	29j |__|	29j1 |__|	Household items (soap, paraffin, clothes…)	30j |__|	30j1 |__|
Sale of HANDICRAFTS	29k |__|	29k1. |__|	Cost of hired AGRICULTURAL labour	30k |__|	30k1 |__|
Proceeds from MINING or GEMSTONES	29l |__|	29l1 |__|	Cost of hired NON-AGRICULTURAL labour	30l |__|	30l1 |__|
Brewing and SALE of BEER	29m |__|	29m1. |__|	Agricultural inputs: SEED (only)	30m |__|	30m1 |__|
FORMAL Employment	29n |__|	29n1 |__|	Agricultural inputs: fertilizer, pesticides, etc.	30n |__|	30n1 |__|
CASUAL/OCCASIONAL Employment	29o |__|	29o1 |__|	Healthcare costs	30o |__|	30o1 |__|
PETTY TRADE	29p |__|	29p1 |__|	Education fees and costs	30p |__|	30p1 |__|
Gifts from family, friends, neighbours	29q |__|	29q1 |__|	Transport costs	30q |__|	30g1 |__|
Remittances from within Zambia or overseas	29r |__|	29r1 |__|	(Traditional) Ceremonies, Weddings	30r |__|	30r1 |__|
Pensions	29s |__|	29s1 |__|	Funerals	30s |__|	30s1 |__|
OTHER IGA (sale of handicraft,.)	29t |__|	29t1 |__|	Other (specify)	30t |__|	30t1 |__|

Food Purchases during the last Consumption Year: 2006/7			
3 1	Since 2006/7 consumption season, have you purchased **CEREAL** for your household consumption?	**1 = Yes** **2 = No –** *go to question 33*	|__|

31a	If yes to question 31, Tick the month (√)?	**31a1**. Apr 06 |__| **31a11**.Feb 07 |__| **31a2**. May 06 |__| **31a12** Mar07 |__| **31a3**. Jun 06 |__| **31a13** Apr07 |__| **31a4**. Jul 06 |__| **31a5**. Aug 06 |__| **31a6**. Sep 06 |__| **31a7**. Oct 06 |__| **31a8**. Nov 06 |__| **31a9**. Dec 06 |__| **31a10**.Jan 07 |__|	
31b	How much cereal have you purchased so far.	|__|__|__|__|__|__| **KG**	
32	Compared to last consumption year (2006/07), do you expect to purchase **More**, **Same**, or **Less** cereals?	**1 =** Less **2 =** Same *(go to question 33)* **3 =** More **4 =** Never purchase cereals *(go to question 33)*	|__|
32a	If respondent doesn't expect to purchase the **SAME** amount of cereals: **What is the main reason?**	**1.** Will need **less** cereals: will have **better** harvest than last year **2.** Will need **more** cereals: harvest is **worse** than last year **3.** Will be able to buy **less** cereals: have lower **income** **4.** Will be able to buy **less**: expect less to be **available** **5.** Will be able to buy **more** cereals: **income** higher than last year **6.** Will be able to buy **more**: more is **available** on the market **7.** Rarely/do not eat cereals: consume tubers instead	|__|
33	Since 2006/7 marketing season until now, did anyone in your household **purchase CASSAVA** or **SWEET POTATOES** to **eat**?	**1=** Yes **2=** No – *go to question 34*	|__|
33a	Do you **normally** buy these every year?	**1=** Yes -go to question 34 **2=** No	|__|
33b	Why did you buy **tubers/roots** this past year?	**1=** Could not afford to buy cereals **2=** Could afford cereals, but could not find any cereals to buy **3=** Some but not enough cereals available at markets **4=** Cereal crop failure made purchases necessary **5=** Tuber crop failure made purchases necessary **6=** Total crop failure made purchases necessary **7=** As a snack	|__|__|

Agricultural Inputs – 2006/7 Production Season

34	Where did you get your seeds from? *Tick(√) where appropriate*	**1 = Reserved from** previous harvest |__| **2 =** MACO/FSP |__| **3 =** MCDSS/PAM |__| **4 =** Cooperatives |__| **5 =** Purchased |__| **6 =** Gifts from friends and relatives |__| **7 =** NGOs |__|	**8 =** Not Applicable |__| **9 =** Other, specify_____

34a	Was the seed for your main **cereal** crop adequate?	**1 =** Yes (*go to question 35)* **2 =** No *- go to question 34b* **3 =** No cereal crops (*go to question 36)* **4 =** Other, specify:_____	|__|
34b	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	|__|
35	Did you have access to fertilizer for your main **cereal** crop in the last growing season?	**1 =** Yes (*go to question 36)* **2 =** No – *go to question 35a*	|__|
35a	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: _____	|__|
36	Could you identify the **3 main limitations** to your last growing season's **cereal** production? **Use Code = 12 if ""Other", and please specify the reason here:** _____	**0=** The production was very good – no limitations *(go to question 39)* **1=** Lack of seeds **2=** Lack of labour power **3=** Lack of draught power |__|__| **1st** **4=** Lack of fertilizer and/or manure **5=** Too little/irregular rainfall |__|__| **2nd** **6=** Excessive rainfall – water logging or flooding **7=** Too many pests |__|__| **3rd** **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=** If other, specify_____	
37	Did you have adequate seeds for your main **legume** (beans, cowpeas, and groundnuts) crop during the last growing season?	**1 =** Yes (*go to question 38)* **2 =** No (*go to question 37a)*	|_ _|
37a	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: _____	|_ _|
38	Did you apply **manure** to any of your field crops during the last growing season?	**1 =** Yes **2 =** No	|_ _|
38a	Did you use any conservation farming methods on any of your field crops during the last growing season?	**1 =** Yes **2 =** No	|_ _|

HEALTH, WATER AND SANITATION										
39	Did anyone in the household get sick over the last two (2) weeks?				**1 =** Yes, go to question 39a **2 =** No, *(go to question 40)*				|_ _|
39a	If yes to question 39, specify **how many**, disease suffered/suffering from, where seek **health care** and **reason** for not going to health facility ***indicate accordingly in the boxes provided.***	**Age**	**Male**	**Male** Disease (a)	Where seek health care (b)	Reason for not seeking (c)	**Female**	**Female** Disease (a)	Where seek health care (b)	Reason for not seeking (c)
		0-5 months	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		0-5 months	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		6- 59 months	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		6- 59 months	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		5- 14 years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		5- 14 years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		15-19 years	|_ _ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		15-19 years	|_ _ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		20-59 years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		20-59 years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		60+ years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|
		60+ years	|_ __|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|	|_ _|

(a) **Disease(s)**

1. Fever/Malaria **2.** Diarrhea **3.** Cough **4.** Scabies **5.** Others, specify: _____

(b) **Where seek health care**

1. **Did not seek** any health care
2. **Traditional Healer**
3. **Formal Care** (clinic/hospital/village health worker)
4. **Private** (formal health care)0
5. **Pharmacy/dispensary**
6. **Own medicate** (purchase drugs from *tuntemba*)
7. **Others, specify:** _____

(c) Main reason for not going to the **health facility**?

1. **No money** to pay for treatment (fees and drugs)
2. **No transport**, too far, or too expensive
3. **Poor quality**/lack of confidence/lack of staff or drugs
4. Prefer not to go – **religious or cultural reasons**
5. **Too ill** to be moved
6. **Home Based Care**
7. **Health facility not accessible**
8. **Other, specify:**_____ _____

40	How many **adults** (16years and above) in the household have **been ill for more than 3 months** during the past 12 months?	**1.** One **2.** Two **3.** Three or more **4.** No adults were chronically ill - *go to question 41* **5.** Not applicable	|_ __|
40a	If any, Is the **head of household** one of the adults who has been ill continuously for more than 3 months last year?	**1 =** Yes **2 =** No	|_ __|
41	How many household members died in the past 6 months	**1=** One **2=** Two **3=** Three or more **4.** No one died – *go to question 42*	|_ __|

41a	At what age did they die?	**41a1** |___|___| **months** **41a2** |___|___| **months** **41a3** |___|___| **months (age in months)** **41a4** |___|___| **years** **41a5** |___|___| **years** **41a6** |___|___| **years**		
41b	If aged 16 years and above in question 41b, Was the adult(s) that died continuously **ill** for **more than 3 months**? **1** = yes **2** = No go to question 42	**41b1** |___| **41b2** |___| **41b3** |___|		
41c	Was the person who died after being ill for more than 3 months the **head-of-household**?		**1 =** Yes **2 =** No	|__|
42	Is soap **usually** available in your household?		**1 =** Yes If yes go to question 42b **2 =** No	|__|
42a	If **No** to question 42, specify what else you use in the absence of soap:----------			
42b	Do people who prepare food always wash their hands, with soap before preparing food?		**1 =** Yes **2 =** No	|__|
43	Do members of the household always wash their hands with soap before eating?		**1 =** Yes **2 =** No	|__|
44	Do members of the household always wash their hand with soap after using latrines/toilets?		**1 =** Yes **2 =** No	|__|
45	What is the main source of drinking water?	**1=** river or lake **2=** unprotected spring, **3=** protected spring **4=** unprotected shallow well, **5=** protected shallow well **6=** unprotected deep well **7=** protected deep well **8=** village borehole pump **9=** Other, specify _____		|__|
46	Do you treat the water before drinking?		**1=**Yes, go to 46a |__| **2=**No – *go to question 47*	
46a	If yes, how do you treat your water? Tick (√)		**1** Use of Chlorine |__| **2** Boiling |__| **3** Filtering |__| **4** Other, specify:_____|__|	
47	What is the distance of the water source from your house?		**1**. Less than 1 km **2**. 1-2 km **3**. 3-4km **4.** 5+ km	|__|
48	Compared to the same period last year (May 2006), how is the quantity of water at your main source?		**1 =** Less **2 =** Same **3 =** More	|__|

49	Has your main water source ever dried up?	**1 =** Yes **2 =** No ***go to question50***	|__|
49a	Which year did your water source dry up?	|__|__ |__|__|	

50	Does your household conduct any irrigation? **1 =** Yes **2 =** No |__|	**50a.** If "No" to question 50 state the reason why? **1** Field too far from water source |_ _| **2** No pumps/pipes |_ _| **3** No manpower to draw water | __| **4** Other, specify:_____ | __|	**50b** If yes to question 50, indicate **the** water source being used for irrigation? Tick (√) appropriately **1** River |_ _| **2** Dam |_ _| **3** Shallow well |_ _| **4** Hand dug well |_ _| **5** Borehole/ Pump |_ _| **6** Lake | __| **7** Spring |_ _| **8** Dambo |_ _| **9** Other (specify) |_ _|

51	What type of sanitary disposal facilities does your household use?	**1** = Sanplat Latrine **2** = VIP Latrine **3** = Flash Toilets **4** = Shared Latrines **5** = Traditional latrine **6** = Bucket **7** = No facility (bush, river , cat method e.t.c) |_ _|

COPING STRATEGIES FROM DECEMBER 2006 – MAY 2007

(A) FOOD CONSUMPTION STRATEGIES

52	How many main meals does your household normally have in a day?	**1** = One **2** = Two **3** = Three **4** = More than three	|_ _|
52a	How many main meals did your household have yesterday?	**1** = One **2** = Two **3**= Three **4** = More than three	|__|
53	Has the household borrowed food, or money to buy food in the past 6 months?		**1=** Yes **2=** No |__|
54	Has the household received food or burrowed money to buy food from any of the following, in the past 6 months? **(Tick where appropriate)**.		Relatives, Friends, Neighbors |_ _| Wealthy Person in the village |_ _| Church/Religious Organisation |_ _|
55	Has the household received food relief from any other source in the past 6 months?		**1=** Yes **2=** No |__|
56	Has the household relied on less preferred foods in the past 6 months?		**1=** Yes **2=** No |__|
57	Have the household members regularly reduced the number of meals eaten per day?		**1=** Yes **2=** No |__|
58	Have household members regularly skipped entire days without eating due to lack of money or food?		**1=** Yes **2=** No |__|
59	Has the household relied on the consumption of wild foods (fruits, vegetables, tubers, cereals) more than normal during this time of the year?		**1=** Yes **2=** No **3=** never eat |__|

60	Has the household relied on the consumption of own-caught fish more than normal during this time of the year?	**1=** Yes **2=** No **3=** never catch |__|
61	Has the household relied on the consumption of game meat more than normal during this time of the year?	**1=** Yes **2=** No **3=** never eat |__|
62	Has the household eaten meals consisting only of vegetables?	**1=** Yes **2=** No |__|
63	Has the household slaughtered more domestic animals than normal for food?	**1=** Yes **2=** No **3=** never slaughter **4=**Not Applicable |__|

	(B) EXPENDITURE STRATEGIES	
64	Has the household been forced to take any children **ages 6-15** out of school?	**1=** Yes **2=** No |__|
65	Has the household reduced overall expenditures on education?	**1=** Yes **2=** No |__|
66	Has the household reduced expenditures on healthcare?	**1=** Yes **2=** No **3=** No ill members **4=** Not Applicable |__|
67	Has the household reduced expenditures on hired labour or draught animals?	**1=** Yes **2=** No **3=** Never hire |__|
68	Has the household reduced expenditure on purchased agriculture inputs e.g. seeds, fertilizer?	**1=** Yes **2=** No **3=** Never buy |__|
69	Has the household reduced expenditure on veterinary medicines?	**1=** Yes **2=** No **3=** Never buy these |__|
70	Other, specify: ……	**1=** Yes **2=** No |__|
	(C) INCOME STRATEGIES	
71	Has the household sold more than the usual amount of livestock/poultry?	**1=** Yes **2=** No **3=** never sell **4=** don't own |__|
72	Has the household sold other household assets (furniture, electronics) to buy food?	**1=** Yes **2=** No **3=** don't own |__|
73	Has the household sold productive assets (hoes, ploughs, draught animals) to buy food?	**1=** Yes **2=** No **3=** don't own |__|
74	Have additional household members had to find casual work to get food, or money to buy food?	**1=** Yes **2=** No |__|
75	Have additional household members entered the Income Generating Activity (IGA) sector for the first time e.g. sale of handicrafts,	**1=** Yes **2=** No |__|
76	Has the household had crops or livestock stolen?	**1=** Yes **2=** No **3=** not applicable |__|

77 . 24 HOUR RECALL FOR THE CHILDREN BETWEEN 6 TO 59 MONTHS IN A HOUSEHOLD (*I f "Yes", to all foods in the table below, indicate frequency in boxes provided for each child No.)*

77.a Child number *I f yes, indicate frequency in boxes provided against the child No.* **Y/N = Yes/No**	**77.b Breast milk** **1** = Yes **2** = No **Y/N Freq**	**77.c Infant formula** **1** = Yes **2** = No **Y/N Freq**	**77.d Cow milk or sour milk** **1** = Yes **2** = No **Y/N Freq**	**77.e Goat milk** **1** = Yes **2** = No **Y/N Freq**	**77.f Maize** (porridge, fresh maize **1** = Yes **2** = No **Y/N Freq**	**77.g Other cereals** (sorghum, millet, rice **1** = Yes **2** = No **Y/N Freq**	**77.h Cassava** **1** = Yes **2** = No **Y/N Freq**	**77.i Other roots** (sweet potato, Irish potatoes, yams) **1** = Yes **2** = No **Y/N Freq**	**77.j Groundnuts cashew nut** **1** = Yes **2** = No **Y/N Freq**	**77.k Vegetables** (cassava leaves, carrots, impwa, pumpkins etc.) **1** = Yes **2** = No **Y/N Freq**	**77.l Fruits** (not wildfruit) **1** = Yes **2** = No **Y/N Freq**	**77.m Meat** **1** = Yes **2** = No **Y/N Freq**
1	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|
2	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|
3	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|

77.n Child number **Y/N = Yes/No**	**77.o Chicken** **1** = Yes **2** = No **Y/N Freq**	**77.p Eggs** **1** = Yes **2** = No **Y/N Freq**	**77.p Fish** **1** = Yes **2** = No **Y/N Freq**	**77.q Sugar, Honey** **1** = Yes **2** = No **Y/N Freq**	**77.r Cooking oil, Butter** **1** = Yes **2** = No **Y/N Freq**	**77.s Tea / coffee** **1** = Yes **2** = No **Y/N Freq**	**77.t Other, specify** **1** = Yes **2** = No **Y/N Freq**					
1	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|					
2	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|					
3	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|	_| _|_|					

THIS SECTION ONLY APPLIES TO ALL CHILDREN AGED BETWEEN 6 TO 59 MONTHS LIVING IN THE HOUSEHOLD
(for the last 14 days)

8

78. How many children aged between 6 to 59 months live in your household |__|

78a C hild Name	**78b** Birthday **(DD/MM/YY)**	**78c** Sex **1** = Male **2** = Female	**78d** Is child still breastfeeding **1 =** Yes **2 =** No	**78e** Fever **1 =** Yes **2 =** No	**78f** ARI (cough) **1 =** Yes **2 =** No	**78g** Non-blood Diarrhea for more than 3 days **1 =** Yes **2 =** No	**78h** Skin Infections/ rashes **1 =** Yes **2 =** No	Immunization and Vitamin A Supplementation *(Check on the child health card for immunization and vitamin A supplementation in the past six months)*								
								78i Did the child receive any immunization and vitamin A supplementation (Indicate in boxes provided) **1 = Yes 2 = No**								Did the child receive Vitamin A supplementation in the past 6 months **1 = Yes 2 = No**
								BCG	OPV0	OPV1	OPV2	OPV3	DPT1	DPT2	DPT3	Vitamin A Capsule
1	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
2	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
3	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
4	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
5	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
6	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
7	___/___/___/	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

78.j Child number	78.k Check for Bilateral Oedema Present **1** = Yes **2** = No	78.l *Only if Child has no Oedema		78.m Food texture given **1** = Fluids **2** = Porridge **3** = Mashed **4** = Solids	78.n Number of times fed per day	78.o Did the child have measles **1** = Yes **2** = No	78.p Did the child have measles vaccine **1** = Yes **2** = No	78.q Age when started eating other foods **1** = Below 6 months **2** = After 6 months
1	|__|	|__|__|.|__|__|**cm**	|__|__|.|__|__|**kg**	|__|__|__|__|__|	|__|__|	|__|	|__|	|__|
2	|__|	|__|__|.|__|__|**cm**	|__|__|.|__|__|**kg**	|__|__|__|__|__|	|__|__|	|__|	|__|	|__|
3	|__|	|__|__|.|__|__|**cm**	|__|__|.|__|__|**kg**	|__|__|__|__|__|	|__|__|	|__|	|__|	|__|
4	|__|	|__|__|.|__|__|**cm**	|__|__|.|__|__|**kg**	|__|__|__|__|__|	|__|__|	|__|	|__|	|__|

Annex 1.2. Copy of Community Questionnaire

In Depth Vulnerability and Needs Assessment – 2006/07 Season.

Community Focus Group Discussion

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, etc

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

1. Describe how the rainfall pattern was in this community during the 2006/2007 production season **|__|**

1= normal **2**= Floods3= Water logging **4**= Prolonged dry spells

2. What was the effect of rainfall performance on the following?

Areas Impacted	**Level of Effect** 0 = No effect 1 = Low (≤40)%) 2 = Moderate (41-60%) 3 = Severe (61-100%) (Use proportional piling)	**Comments/ Reasons**
Crop (production)		
Crop (stocks)		
Livestock (disease)		
Livestock (pasture)		
Health facility and Services		

Water (quality i.e. colour, taste & odour & availability)		
Sanitation (access)		
Market Access		
Income source		
Infrastructure (Roads, Bridges)		
Land		

Note: **Probe for both negative and positive effects**

3. Are there any food **security** programmes (e.g. food aid distribution; input distribution - seeds, fertiliser etc, cash transfer and/or vouchers) currently running in the community? If yes, approximately what **proportion** of households are benefiting from each programme? **What** are people receiving? How long is the programme expected to **last** (months from today)? Which

organisation is carrying out the programme**? (NOTE: BE SURE TO ENQUIRE ABOUT FOOD AID AS WELL AS OTHER PROGRAMMES.)**

Type of programme	Organisation Implementing	No. of HH benefiting	Total No. of HHs in SEA	Percentage of HH benefiting in SEA	Quantity received/HH	When Started mm/yy	Expected end mm/yy/Ongoing
food relief distribution							
Home Based Care (HBC)							
Anti Retroviral Therapy (ART)							
Food For Work / Food For Assets							
General Food Distribution (GFD)							
Input support (e.g. Food Security Pack FSP)							

extension services				1 = Adequate |__| 2 = Inadequate			
other (specify):							

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

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

7= District authorities

8= Church organisation **9**= other (specify)

4. What are the major livelihoods in this community (compare current to May 2006)? Please rank in the order of importance as provided below;

Livelihood (Food and Income Sources)		
Rank Order	**May 2007**	**May 2006**
1		
2		
3		

5. Food Crop and Livestock Availability

5a. What is the current general staple food and livestock availability in the area compared to April 2006?

Food Type	Own Production 1 = Less, 2 = Same3 = more	Other indirect sources ***(e.g. Casual work, barter system, Food Aid, inter district etc)*** **1 = Less, 2 = Same 3 = More**	Comments (reason for change?)
Maize			
Sorghum/Millet			
Cassava (areas under mature cassava)			
Groundnuts / Cowpeas			
Other Specify			
Livestock	**Own Production**	**Other sources**	**Comments (Reason for change?)**

Cattle			
Goats			
Pigs			
Poultry			
Other Specify			

5b. When is the main staple food from own production expected to run out (indicate month)?.....

5c. When does the main staple food from own production usually ran out in a normal year (indicate month)?.....

5d. How do you describe the current food availability in the community? 1. Adequate 2. Inadequate 3. Extremely inadequate |__|

6. Access and Livelihoods

6a Are there functional markets in this ward? **1** = Yes **2 =** No |__|

6b How many are they |_ _|

6c Are these markets easily accessible? **1** = Yes **2 =** No |__|

6d If No, Why **1**= impassable roads **2** =damaged bridges **3** = destruction of market infrastructure **4** = too far |__|

6e. How far are these markets? **1**= Less than 1km **2**= 1 – 2km **3**= 3 – 4km 4. 5+km |__|

6f Where does most of the food on the market come from? **1. Within ward 2. Outside the ward** |__|

6g. Is the staple food readily available on the market in this community? **1** = Yes **2 =** No |__|

(Find out about neighbouring communities as well since it may still be accessible from there)

6h. **C**ompare the current prices of staple foods to those of April 2006)? Please use the table below;

Commodity	**Unit of measure**	**Measure in kg**	**April -06 (price)**	**April - 07(price)**	**Reason for price variation**
Maize					
Sorghum					

Millet					
Rice					
Cassava					

6i. How have selling prices for livestock (live weight) been in the last five months (Dec 06 – May 07)? Please use the table below;

Type of Livestock (fully grown)	**Price Now**	**Dec 2006 (price)**	**Reason for price variation**
Cattle			
Goats			
Sheep			
Pigs			
Poultry			
Other			

6j. SEASONAL CALENDAR

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

2**. Note which activities are carried out by 1 = men and which by 2 = women 3 = Both (in the 'Who?' column).**

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

Food source/Income activity		Who?	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rainfall														
Main Crops for consumption:														
Main Crops for sale:														
Livestock:														
Milk production														
Livestock sales														
Employment:														
- Local labour (e.g. on farms)														

- Off-farm employment (e.g.													
Labour migration (where to?)													
Wild foods/Game:													
Collection and consumption, by type													
Fishing:													
Food purchases:													
Annual 'hunger' season:													
Mining													

7.0 Health and Nutrition

7a. What is the total number of under-five (0-59 months) population in the clinic catchment area (To be collected from the DHMT/RHC)?

[ ]

7b. How many under-fives (0-59), were treated for the common childhood illnesses? Please use the table below highlighting the common childhood illnesses(RHC);

Childhood Illness	**First Quarter**		
	2005	**2006**	**2007**
Fever/Malaria			
Cough/ARI			
Diarrhoea (non blood)			
Measles			

7c. What was the under weight ratio of under five children in the community (No. Underweight/Total children weighed)(RHC)

	First Quarter		
	2005	**2006**	**2007**
Under weight ratio			

8.0 Water and Sanitation

8a. What are the three most common water sources in this community? Rank with most commonly used as **First**

1 = Borehole **2** = Well (protected) 3 = Well (unprotected**)** **4** = River 5 = Spring 6**f** = Other; specify

First |__| **Second** |__| **Third** |__|

8b. What percentage of the commonly used water sources (domestic) were affected by floodwaters/prolonged dry spell during 2006/07 rainy-season? (Use proportion piling) 1. Flood Waters [ ] 2. Prolonged dry spell [ ]

8c Have there been changes in drinking water sources for the households in community. **1** = Yes **2** = No |__|

8d. Is the treatment of drinking water common in the community? **1**=Yes **2**=No |__|

8e. If yes to Q 8d, what is the mode of treatment? Rank by commonly used water treatment method

a=Using chlorine	**b**=Boiling	**c**=Filtering	**d**=Decanting	**e**=other, specify
1|__|	**2**|__|	**3**|__|	**4** |__|	**5** |_ _|

8f. How is the quality of water being used for domestic purposes (Taste, Colour, Suspended particles)? **1**= Good **2** = Fair **3** = Poor |__|

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

1 = VIP **2** = Sanplat **3** = Sewerage System (flash toilet) **4** = Traditional Latrines **5** = No facility

8h. What percentage of commonly used sanitary facilities were affected by rains, where applicable? (Use proportional piling) |__|__|

9.0 Infra structure

9a. What types of infrastructure are available in the community? **(Circle Appropriately)**

1 = Gravel road **2** = Paved road **3** = Bridge/culverts **4** = Clinics **5** = Schools **6** = Markets **7** = Church / Community Hall **8** Dip Tanks **9**. Boreholes

10. Storage sheds **11.** Other specify_____

9b. What was the effect of rainfall performance on the following? (Use Proportional piling)

Infrastructure	Level of Effects 1 = Low 2 = Moderate 3 = Severe 4. = No effect	Describe the current condition of the infrastructure in view of the rainfall intensity during the 2005/06 season (List affected areas by ward)
Gravel Road		
Paved Road		
Bridges/culvert		
Houses		
Clinics		
Schools		
Markets		
Church / Community Hall		
Dip Tanks		

Boreholes		
Storage Sheds		
Others (specify)		

9c. what type of infrastructure projects are being implemented in this community? List the projects

1……

2……

3……

4……

10. What measures have you put in place to prepare for these disasters like floods and drought/prolonged dry spells?

1. ……

2. ……..

3……

Annex 1.3. Copy of District Questionnaire

In Depth Vulnerability and Needs Assessment – 2006/07 Season.

District Focus Group Discussion

Composition of Interviewees:

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

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

4. Describe how the rainfall pattern was in this community during the 2006/2007 production season **|__|**

1= normal **2**= Floods 3= Water logging **4**= Prolonged dry spells

5. What was the effect of rainfall performance on the following?

Areas Impacted	Level of Effect 0 = No effect 1 = Low (≤40)%) 2 = Moderate (41-60%) 3 = Severe (61-100%) (Use proportional piling)	Comments/ Reasons
Crop (production)		
Crop (stocks)		
Livestock (disease)		
Livestock (pasture)		
Health facility and		

Services		
Water (quality i.e. colour, taste & odour & availability)		
Sanitation (access)		
Market Access		
Income source		
Infrastructure (Roads, Bridges)		
Land		

Note: **Probe for both negative and positive effects**

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

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

extension services				1 = Adequate |__| 2 = Inadequate			
Infra structure rehabilitation (e.g roads, bridges, water / sanitation							
other (specify):							

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

1= Government **2**= International NGO **3**= National (local) NGO **4**= WFP **5**= FAO **6**= Village Association Committees **7**= District authorities

8= Church organisation **9**= other (specify)

4. What are the three (3) major livelihoods in this district? (Compare current to May 2006)? Please rank in the order of importance as provided below;

Livelihood (Food and Income Sources)		
Rank Order	**May 2007**	**May 2006**

1		
2		
3		

5. Food Crop and Livestock Availability

5a. What is the current general staple food and livestock availability in the district compared to April 2006?

Food Type	Own Production 1 = Less, 2 = Same3 = more	Other indirect sources ***(e.g. Casual work, barter system, Food Aid, inter district etc)*** **1 = Less, 2 = Same 3 = More**	Comments (reason for change?)
Maize			
Sorghum/Millet			
Cassava (areas under mature cassava)			
Groundnuts / Cowpeas			

Other Specify			
Livestock	Own Production	**Other sources**	**Comments (Reason for change?)**
Cattle			
Goats			
Pigs			
Poultry			
Other Specify			

5b. When is the main staple food from own production expected to run out (indicate month)?.....

5c. When does the main staple food from own production usually ran out in a normal year (indicate month)?.....

5d. How do you describe the current food availability in the community? 1 . Adequate 2. inadequate 3. extremely inadequate |__|

6. Access and Livelihoods

6a Are most markets in the district easily accessible? **1** = Yes **2 =** No |__|

6b If No, Why **1**= impassable roads **2** =damaged bridges **3** = destruction of market infrastructure **4** = too far |__|

6c. Where does most of the food on the market come from? **1. Within the district 2. Outside the district** |__|

6d. Is the staple food readily available on the market in this district (irrespective of where its coming from)? **1** = Yes **2 =** No |__|

6e. **C**ompare the current prices of staple foods to those of May 2006. Please use the table below;

Commodity	**Unit of measure**	**Measure in kg**	**May -06 (price)**	**May-07 (price)**	**Reason for price variation**
Maize					
Sorghum					
Millet					
Rice					
Cassava					

6f. How have selling prices for livestock (live weight) been in the last five months (Dec 06 – May 07)? Please use the table below;

Type of Livestock (fully grown)	Price Now	Dec 2006 (price)	Reason for price variation
Cattle			
Goats			
Sheep			
Pigs			
Poultry			
Other			

6g. SEASONAL CALENDAR

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

2**. Note which activities are carried out by 1 = men and which by 2 = women 3 = Both (in the 'Who?' column).**

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

Food source/Income activity		Who?	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rainfall														
Main Crops for consumption:	1.													
	2.													
	3.													
Main Crops for sale:	1.													
	2.													
	3.													
Livestock:														
Milk production														
Livestock sales														
Employment:														
Local labour (e.g. on farms)														

Off-farm employment (e.g. brick-													
Labour migration (where to?)													
Wild foods/Game:													
Collection and consumption, by type													
Fishing:													
Food purchases:													
Annual 'hunger' season:													
Mining													

7.0 Health and Nutrition

7a. What is the total number of under-five (0-59 months) population in the clinic catchment area (To be collected from the DHMT)?

[ ]

7b. How many under-fives (0-59), were treated for the common childhood illnesses? Please use the table below highlighting the common childhood illnesses;

Childhood Illness	**First Quarter**		
	2005	**2006**	**2007**
Fever/Malaria			
Cough/ARI			
Diarrhoea (non blood)			
Measles			

7c. What was the under weight ratio of under five children in the district (No. Underweight/Total children weighed) -DHMT

	First Quarter		
	2005	**2006**	**2007**
Under weight ratio			

8.0 Water and Sanitation

8a. What are the three most common water sources in this community? Rank with most commonly used ranked first

1 = Borehole **2** = Well (protected) 3 = Well (unprotected**)** **4** = River 5 = Spring 6**f** = Other; specify

First |__| **Second** |__| **Third** |__|

8b. What percentage of the commonly used water sources (domestic) were affected by floodwaters/prolonged dry spell during 2006/07 rainy-season? (Use proportion piling) 1. Flood Waters [ ] 2. Prolonged dry spell [ ]

8c Have there been changes in drinking water sources for most households in the district? **1** = Yes **2** = No |__|

8d. Is the treatment of drinking water common in the community? **1**=Yes **2**=No |__|

8e. If yes to Q 8d, what is the mode of treatment? Rank by commonly used water treatment method

a=Using chlorine **b**=Boiling **c**=Filtering **d**=Decanting **e**=other, specify

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

8f. How is the quality of the water being used for domestic purposes (Taste, Colour, Suspended particles)? **1**= Good **2** = Fair **3** = Poor |__|

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

1 = VIP **2** = Sanplat **3** = Sewerage System (flash toilet) **4** = Traditional Latrines **5** = No facility

8h. What percentage of commonly used sanitary facilities were affected by rains, where applicable? (Use proportional piling) |__|__|

9 Infra structure

9a. What was the effect of rainfall performance on the following? (Use Proportional piling)

Infrastructure	Level of Effects 1 = Low 2 =Moderate 3 = Severe 4 = No effect	Describe the current condition of the infrastructure in view of the rainfall intensity during the 2005/06 season (List affected areas by ward)
Gravel Road		
Paved Road		
Bridges/culvert		
Houses		
Clinics		
Schools		
Markets		
Church / Community Hall		
Dip Tanks		
Boreholes		
Storage Sheds		
Others (specify)		

9c. what type of infrastructure projects are being implemented in this community? List the projects

1.....

2.....

3.....

4.....

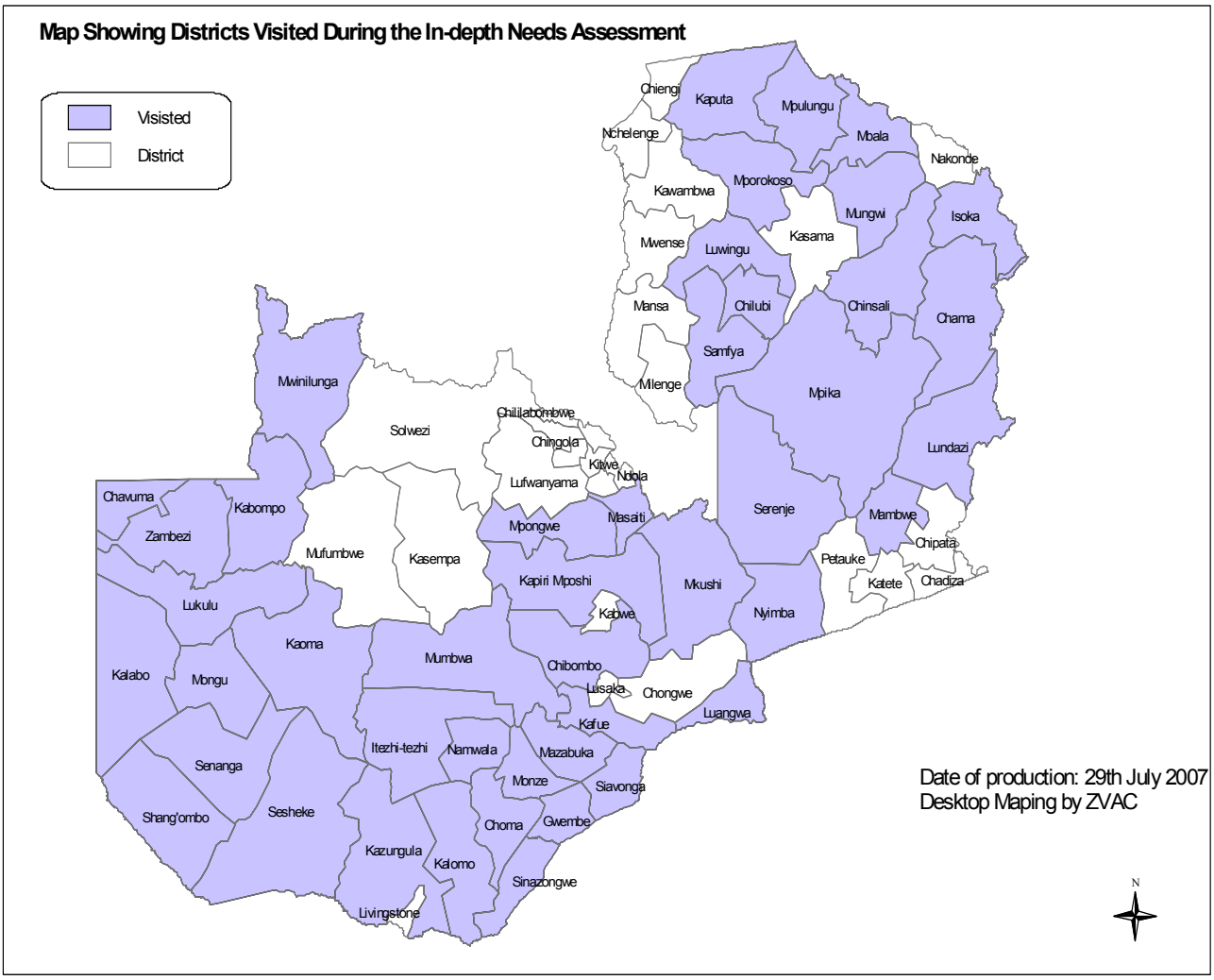
10. What measures have you put in place to prepare for flood and drought/prolonged dry spell disasters?

1.
.....

2.
.....

3.
.....

Annex 2 Map showing Districts visited



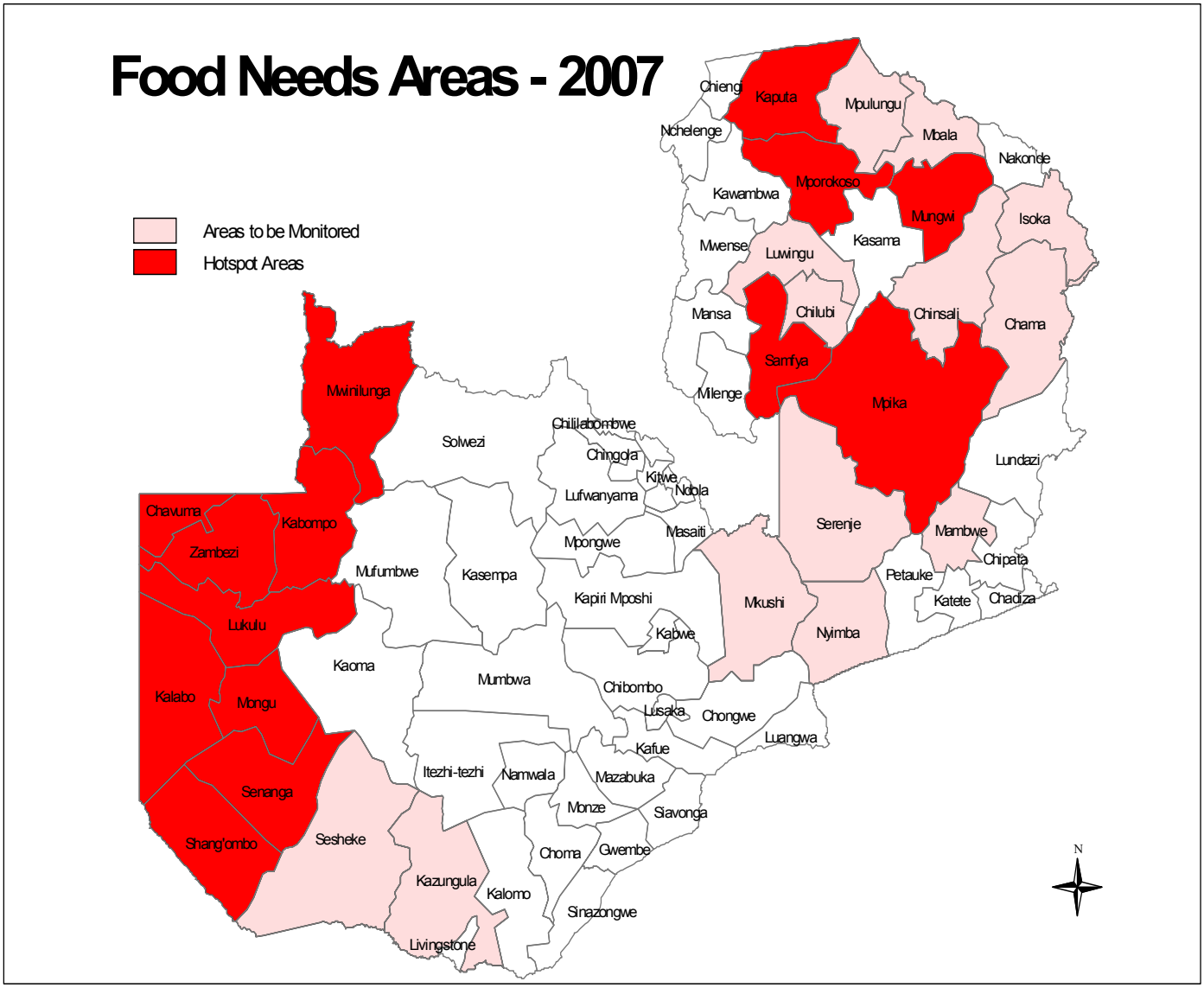
Annex 3: Districts Targeted for food Relief Distribution and monitoring

District Names	Number of Affected Persons	Amount of Maize (MT)
Samfya	59,642	4,294.25
Mungwi	49,074	3,533.32
Mpika	61,336	4,416.20
Chavuma	7,362	530.09
Kabompo	18,273	1,315.63
Mwinilunga	29,841	2,148.54
Zambezi	16,072	1,157.17
Kalabo	27,034	1,946.42
Lukulu	16,812	1,210.44
Mongu	38,143	2,746.30
Senanga	25,762	1,854.89
Shangómbo	16,852	1,213.34
Kaputa	41,562	2,992.45
Mporokoso	33,101	2,383.29
Total	**440,866**	**31,742**

Districts under Monitoring

District Names	Current Status
Sesheke	Placed under Monitoring
Kazungula	Placed under Monitoring
Mpulungu	Placed under Monitoring
Luwingu	Placed under Monitoring
Isoka	Placed under Monitoring
Chilubi	Placed under Monitoring
Nyimba	Placed under Monitoring
Chama	Placed under Monitoring
Mambwe	Placed under Monitoring
Kapiri Mposhi	Placed under Monitoring
Mkushi	Placed under Monitoring
Serenje	Placed under Monitoring
Mbala	Placed under Monitoring

Annex 4: Map showing Food Needs Areas and areas put under Monitoring



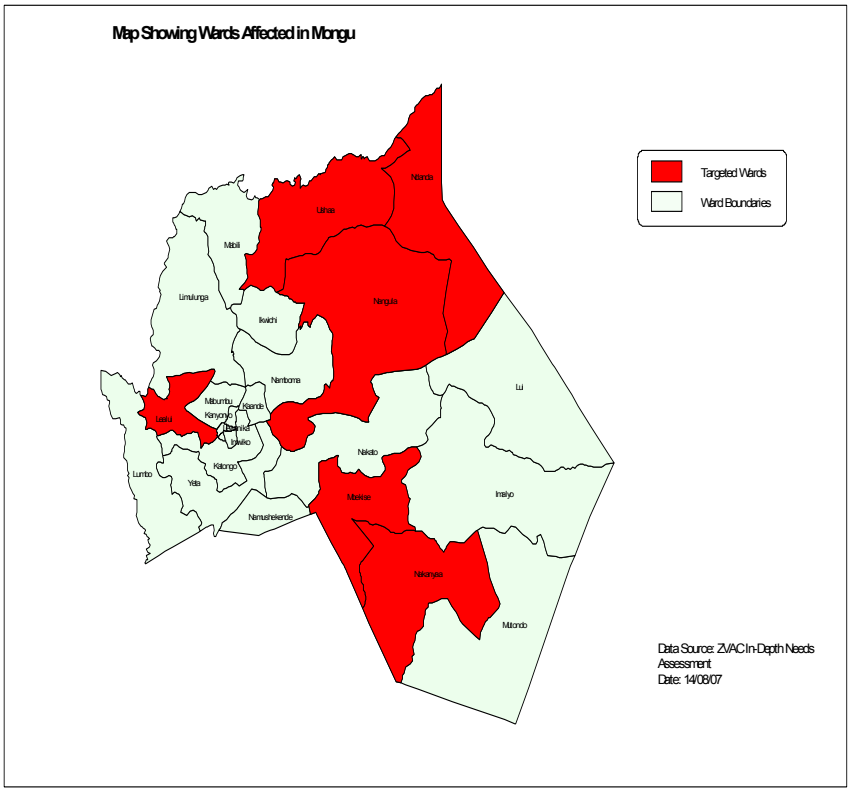
Annex 5: Ward Food Needs Table

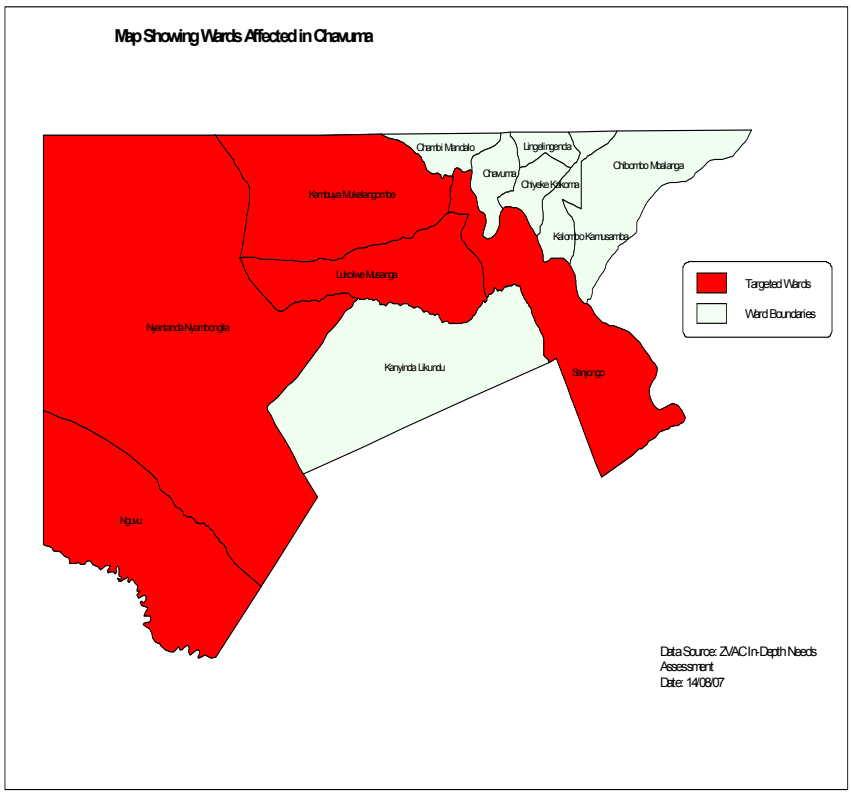
Ward Names	Ward Population Affected	Ward Food Needs
SAMFYA		
Kasongole	8,597	619
Masonde	5,306	382
Chifunabuli	1,423	102
Nkutila	27,439	1,976
Kapata	5,420	390
Katanshya	3,068	221
Chikuntila	3,026	218
Kasansa	5,363	386
Total	**59,642**	**4,294**
MUNGWI		
Ward Names	Ward Population Affected	Ward Food Needs
Chamfubu	13,569	977
Fibwe	11,100	799
Iyaya	8,817	635
Kalungu	15,588	1,122
Total	**49,074**	**3,533**
MPIKA		
Mupamadzi	18,567	1,337
Lulimala	5,974	430
Chifungwe	7,439	536
Muchinga	20,535	1,478
Munikashi	3,159	227
Chambeshi	3,390	244
Lulingila	2,273	164
Total	**61,336**	**4,416**
CHAVUMA		
Nyantanda Nyambongila	3,712	267
Nguvu	1,151	83
Lukolwe Musanga	608	44
Sanjongo	902	65
Kambuya Mukelangombe	989	71
Total	**7,362**	**530**

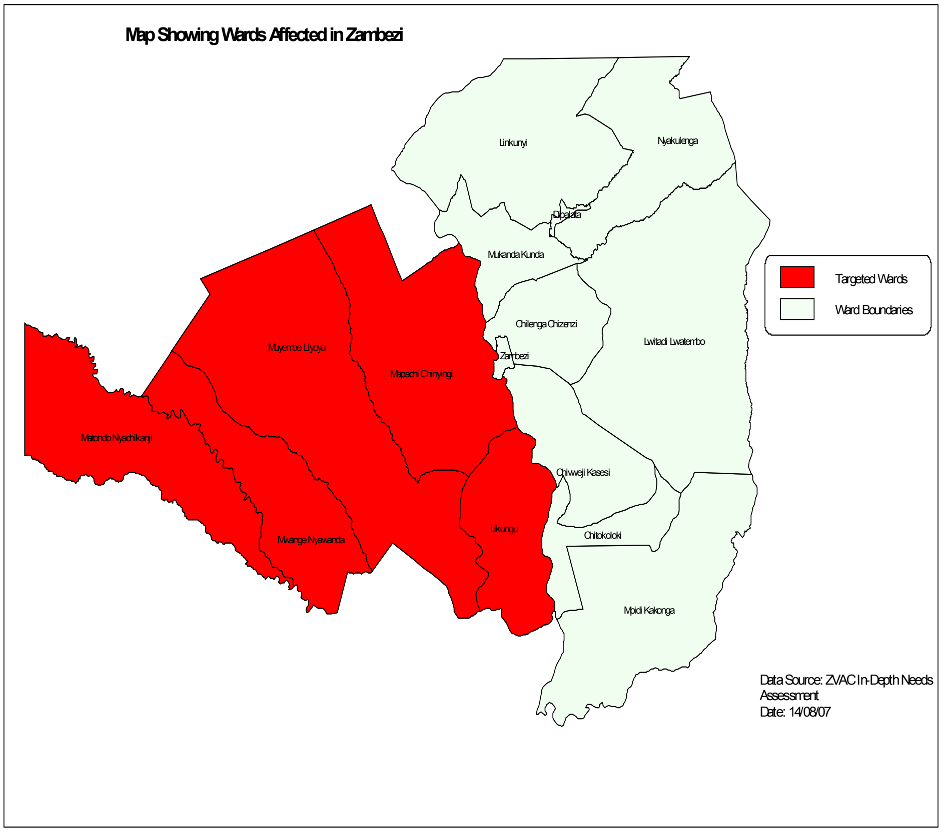
Ward Names	Ward Population Affected	Ward Food Needs
KABOMPO		
Loloma	870	63
Kaula	2,538	183
Kayombo	891	64
Dihamba	2,663	192
Lusongwa	3,696	266
Manyinga	891	64
Kawanda	529	38
Kashinakaji	6,194	446
Total	**18,273**	**1,316**
MWINILUNGA		
Kamapanda	7,173	516
Kanongesha	7,614	548
Nyakaseya	1,294	93
Mulumbi	2,012	145
Mukangala	2,807	202
Ikelenge	1,648	119
Mundwiji	1,280	92
Lumwana	6,013	433
Total	**29,841**	**2,149**
ZAMBEZI		
Muyembe Liyoyu	5,520	397
Matondo Nyachikanji	2,924	211
Mwange Nyawanda	2,237	161
Likungu	1,688	122
Mapachi Chinyingi	3,703	267
Total	**16,072**	**1,157**
KALABO		
Nambolomoka	3,608	260
Lueti	6,270	451
Lutwi	2,982	215
Ndoka	1,727	124
Maala	2,152	155
Lwambi	1,648	119
Licha	4,365	314
Libonda	3,135	226
Siluwe	1,148	83
Total	**27,034**	**1,946**

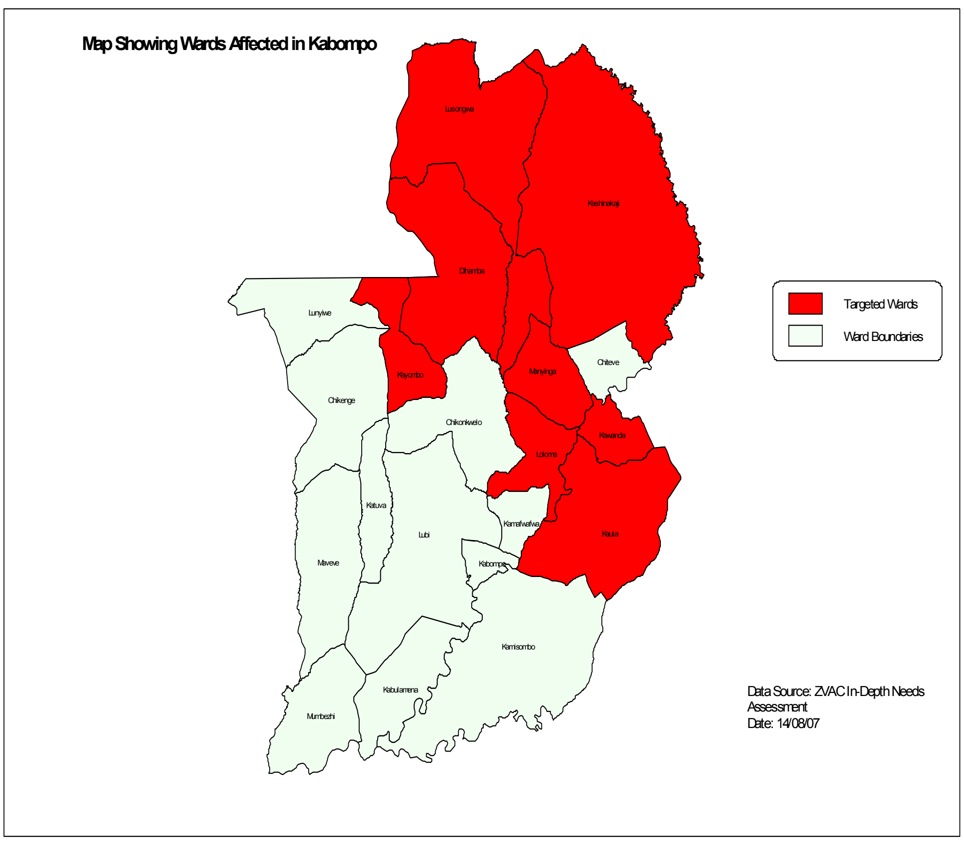
Ward Names	Ward Population Affected	Ward Food Needs
LUKULU		
Lutembwe	3,561	256
Mitete	1,402	101
Lupui	2,480	179
Matala	1,246	90
Nyaala	3,187	229
Kashizhi	3,093	223
Kakwacha	1,842	133
Total	**16,812**	**1,210**
MONGU		
Ushaa	6,286	453
Lealui	1,740	125
Nakanyaa	6,989	503
Mbekise	4,213	303
Nangula	12,339	888
Ndanda	6,576	474
Total	**38,143**	**2,746**
SENANGA		
Lyamukumba	3,215	231
Silowana	3,647	263
Wanyau	1,584	114
Imatongo	973	70
Makoka	11,201	806
Mwanambinyi	5,142	370
Total	**25,762**	**1,855**
SHANGOMBO		
Beshe	3,470	249.8
Mutomena	1,965	141.5
Sipuma	1,206	86.8
Sioma	2,173	156.4
Mulonga	5,179	372.9
Simu	2,860	205.9
Total	**16,852**	**1,213.3**
MPOROKOSO		
Mukubwe	6,853	493
Fungwa	4,331	312
Chipili	8,210	591
Kaleulu	4,351	313
Chubo	10,488	755
Munkonge	7,329	528
Total	**41,562**	**2,992**

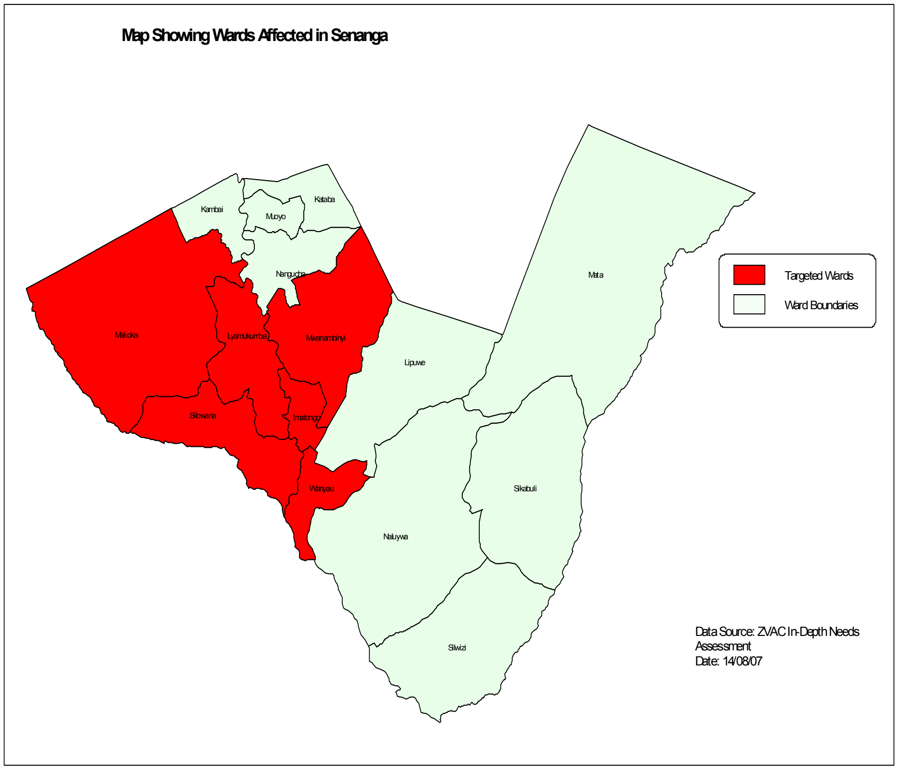
Annex 6: Maps Showing Severely Affected Wards

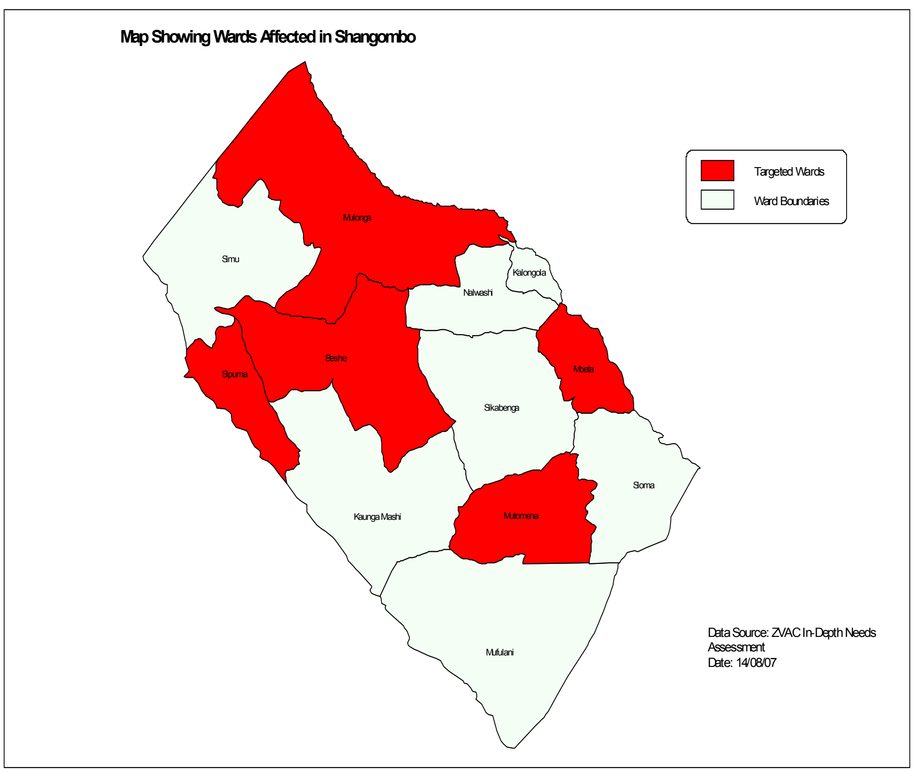




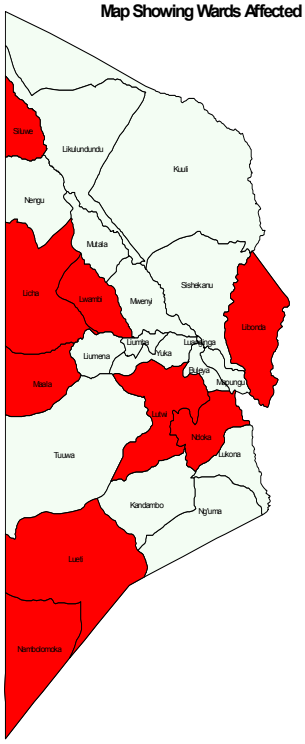

Map Showing Wards Affected in Zambezi
Linkunyi
Nyakulenga
Dipalata
Mukanda Kunda
Chilenga Chizenzi
Lwitadi Lwatembo
Zambezi
Muyembe Liyoyu
Mapachi Chinyingi
Matondo Nyachikanji
Chiwweji Kasesi
Chitokoloki
Likungu
Mwange Nyawanda
Mpidi Kakonga
Targeted Wards
Ward Boundaries
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07


Map Showing Wards Affected in Kabompo
Lusongwa
Kashinakaji
Dihamba
Lunyiwe
Kayombo
Manyinga
Chiteve
Chikenge
Chikonkwelo
Kawanda
Loloma
Katuva
Kamafwafwa
Lubi
Kaula
Maveve
Kabompo
Kamisombo
Kabulamena
Mumbezhi
Targeted Wards
Ward Boundaries
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07


Map Showing Wards Affected in Senanga
Kambai
Muoyo
Kataba
Nangucha
Makoka
Lyamukumba
Mwanambinyi
Lipuwe
Mata
Silowana
Imatongo
Wanyau
Sikabuli
Naluywa
Silwizi
Targeted Wards
Ward Boundaries
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07


Map Showing Wards Affected in Shangombo
Mulonga
Simu
Kalongola
Nalwashi
Beshe
Sipuma
Mbeta
Sikabenga
Sioma
Mutomena
Kaunga Mashi
Mufulani
Targeted Wards
Ward Boundaries
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07

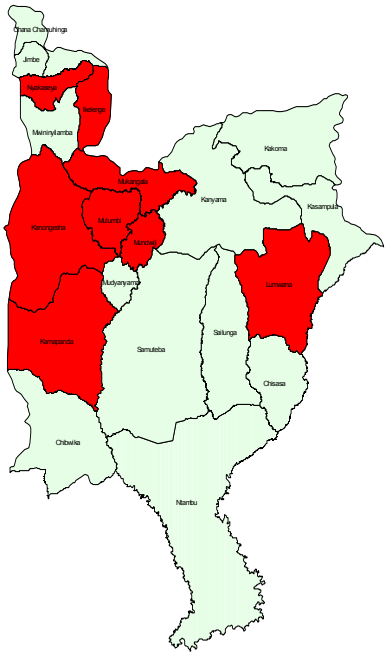
Map Showing Wards Affected in Kalabo



Targeted Wards
Ward Boundaries

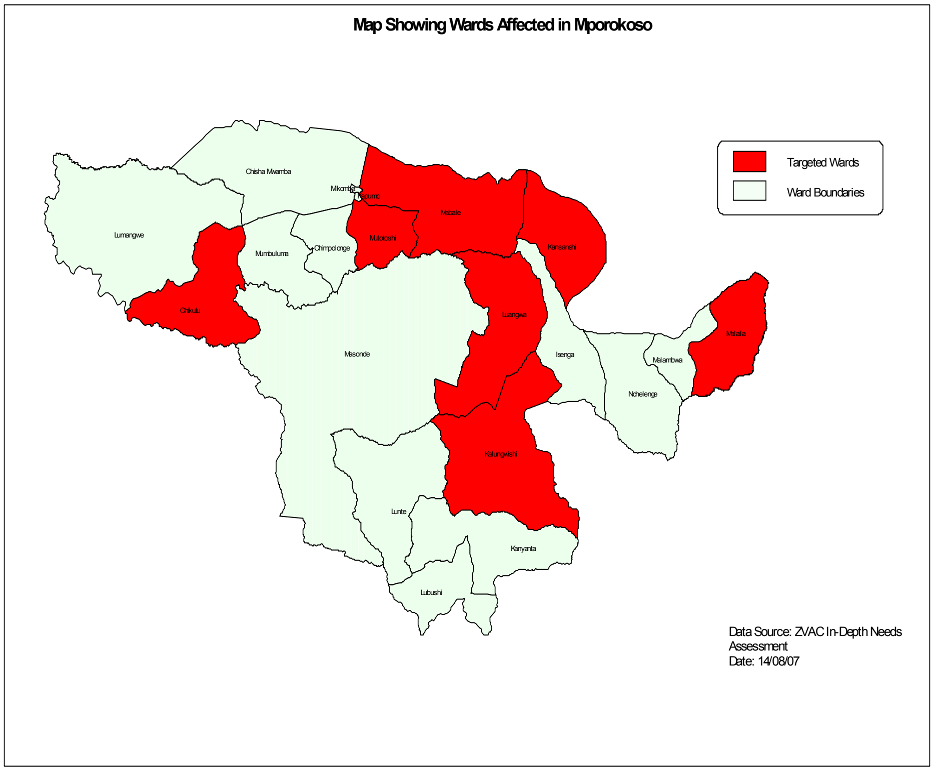
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07

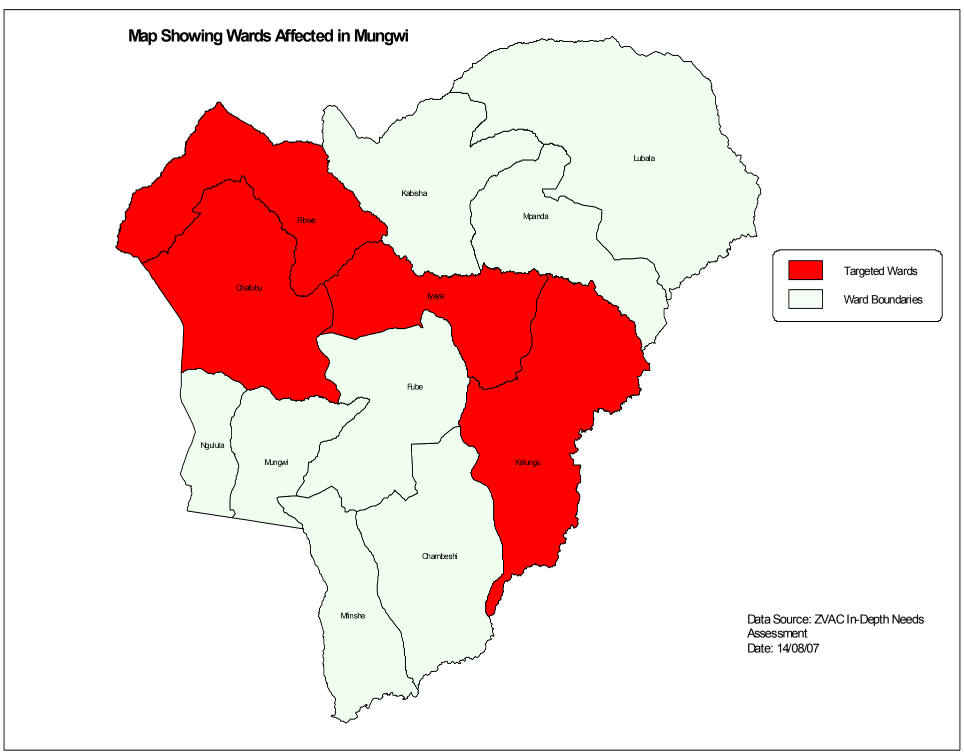
Map Showing Wards Affected in Mwinilunga



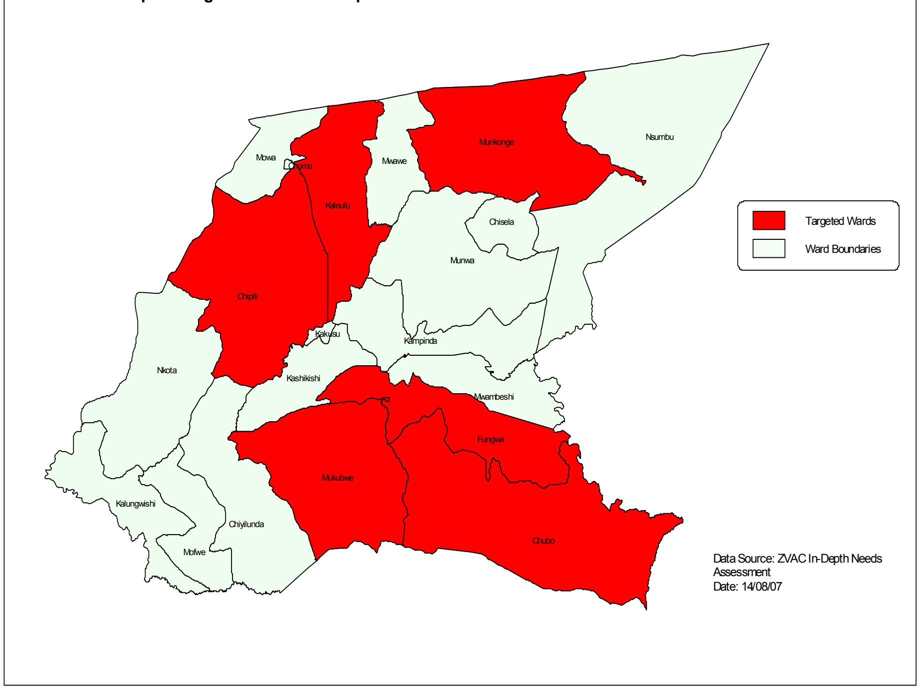
Targeted Wards
Ward Boundaries

Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07

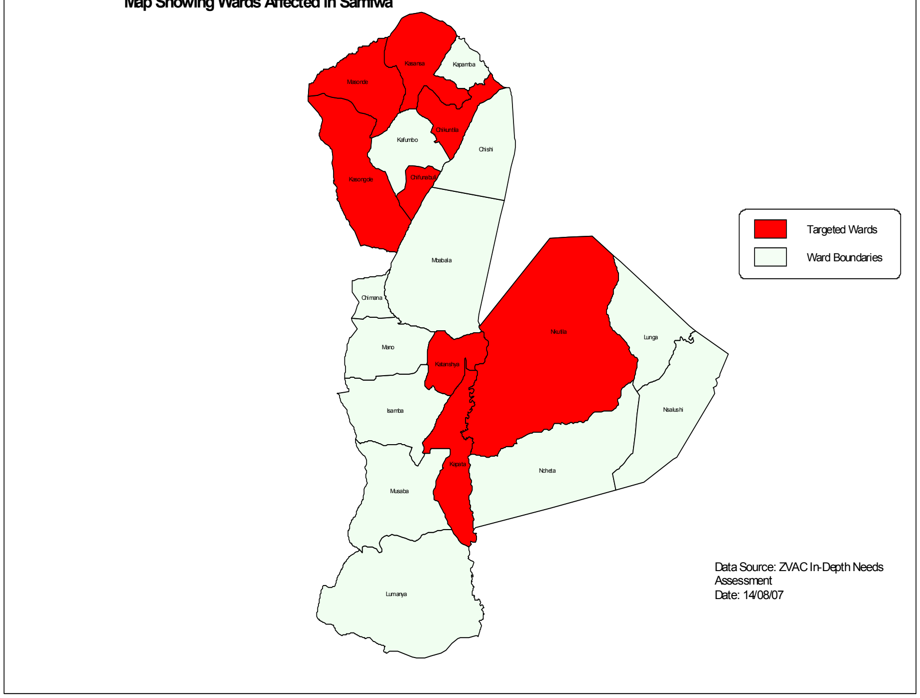

Map Showing Wards Affected in Mporokoso
Targeted Wards
Ward Boundaries
Chisha Mwamba
Mkomba
Kapumo
Mabale
Kansanshi
Lumangwe
Mutotoshi
Mumbuluma
Chimpolonge
Chikulu
Luangwa
Malaila
Masonde
Isenga
Malambwa
Nchelenge
Kalungwishi
Lunte
Kanyanta
Lubushi
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07


Map Showing Wards Affected in Mungwi
Lubala
Kabisha
Mpanda
Fibwe
Targeted Wards
Ward Boundaries
Chafubu
Iyaya
Fube
Ngulula
Mungwi
Kalungu
Chambeshi
Mfinshe
Data Source: ZVAC In-Depth Needs Assessment
Date: 14/08/07

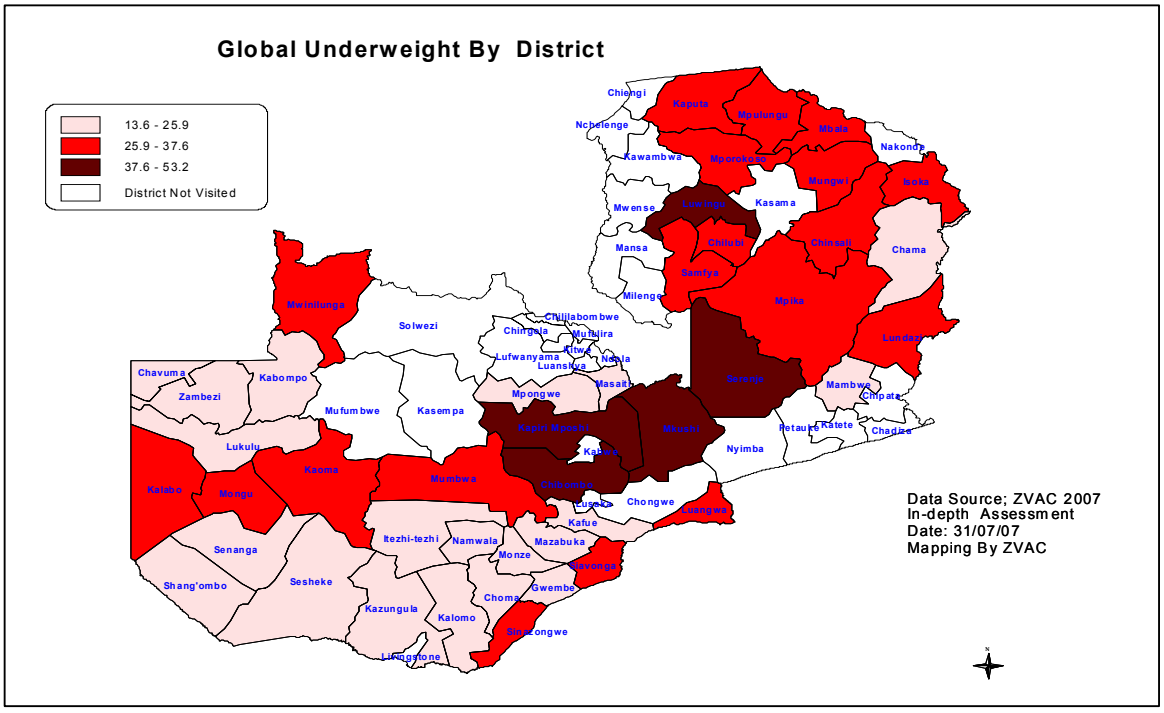
Map Showing Wards Affected in Kaputa

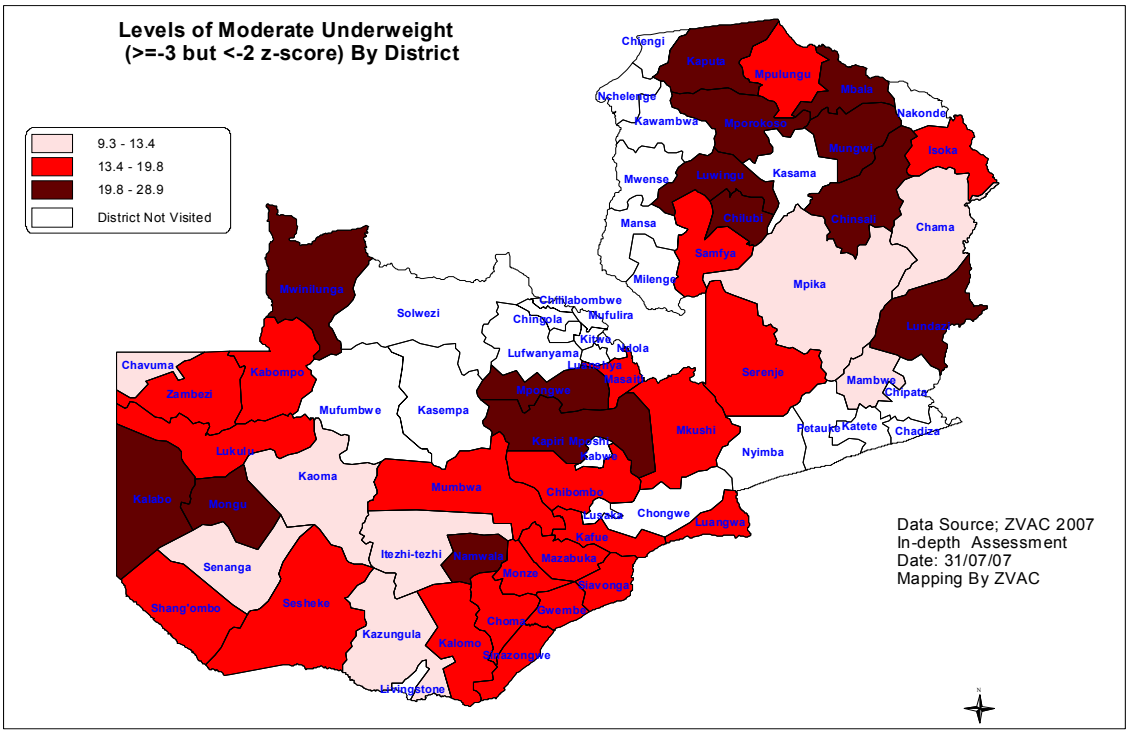


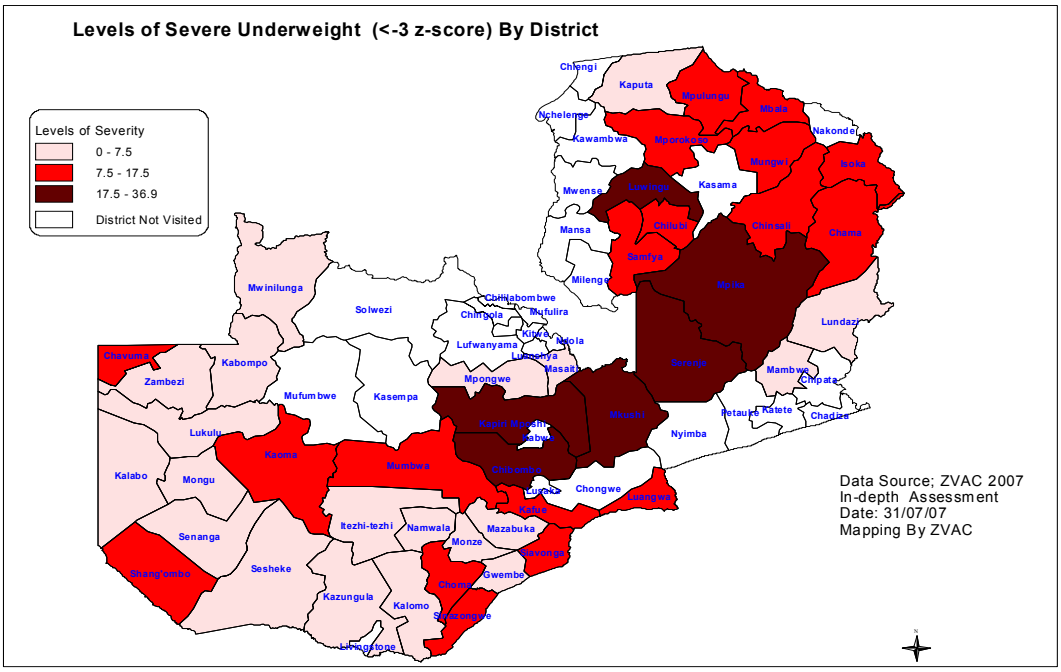
Map Showing Wards Affected in Samfwa

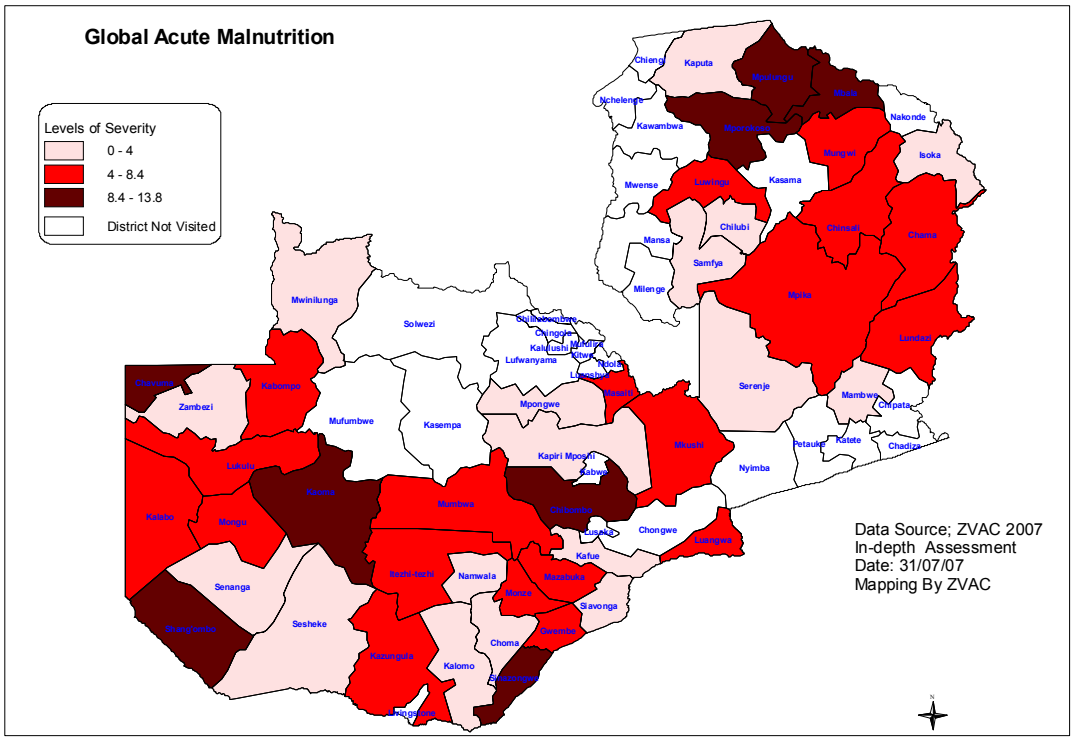


Annex 7: District Nutritional Prevalence






Levels of Severe Underweight (<-3 z-score) By District
Levels of Severity
0 - 7.5
7.5 - 17.5
17.5 - 36.9
District Not Visited
Chienji
Kaputa
Moulungu
Mpika
Nchelenge
Kawambwa
Mporokoso
Nakonde
Mungwi
Isoka
Mwense
Luwingu
Kasama
Mansa
Chilubi
Chinsali
Chama
Samfya
Milenge
Mpika
Mwinilunga
Solwezi
Chibombwe
Chingola
Mufulira
Kitwe
Ndola
Lufwanyama
Luanshya
Masaiti
Lundazi
Chavuma
Kabompo
Zambezi
Mufumbwe
Kasempa
Mpongwe
Serenje
Mambwe
Chipata
Kapiri Mposhi
Mkushi
Petauke
Katete
Chadiza
Lukulu
Kaoma
Nyimba
Kalabo
Mongu
Mumbwa
Chibombo
Lusaka
Chongwe
Luangwa
Kafue
Itezhi-tezhi
Namwala
Mazabuka
Monze
Siavonga
Senanga
Sesheke
Shang'ombo
Gwembe
Choma
Kazungula
Kalomo
Siavonga
Livingstone
Data Source; ZVAC 2007
In-depth Assessment
Date: 31/07/07
Mapping By ZVAC


Global Acute Malnutrition
Levels of Severity
0 - 4
4 - 8.4
8.4 - 13.8
District Not Visited
Chienji
Kaputa
Moulungu
Mpika
Nchelenge
Kawambwa
Mporokoso
Nakonde
Mungwi
Isoka
Mwense
Luwingu
Kasama
Mansa
Chilubi
Chinsali
Chama
Samfya
Milenge
Mpika
Mwinilunga
Solwezi
Chibombwe
Chingola
Kalulushi
Mufulira
Kitwe
Ndola
Lufwanyama
Luanshya
Masaiti
Lundazi
Chavuma
Kabompo
Zambezi
Mufumbwe
Kasempa
Mpongwe
Serenje
Mambwe
Chipata
Kapiri Mposhi
Mkushi
Petauke
Katete
Chadiza
Lukulu
Kaoma
Nyimba
Kalabo
Mongu
Mumbwa
Chibombo
Lusaka
Chongwe
Luangwa
Kafue
Itezhi-tezhi
Namwala
Mazabuka
Monze
Siavonga
Senanga
Sesheke
Shang'ombo
Gwembe
Choma
Kazungula
Kalomo
Siavonga
Livingstone
Data Source; ZVAC 2007
In-depth Assessment
Date: 31/07/07
Mapping By ZVAC

Annex 8: Targeted population for Health needs in the affected Districts

Malaria

District Name	2007 Projected Population	% of Affected Population (District)	No. of Persons Affected
Chibombo	303,170	38.2	115,811
Kapirimposhi	240,685	35.2	84,721
Mkushi	140,294	42	58,923
Mumbwa	200,441	17.3	34,676
Serenje	169,570	36.8	62,402
Masaiti	117,554	43.9	51,606
Mpongwe	78,343	32.3	25,305
Chama	98,006	52.8	51,747
Lundazi	307,255	47.6	146,253
Mambwe	58,958	46.1	27,180
Nyimba	88,689	47.4	42,039
Samfya	198,808	37.6	74,752
Kafue	168,971	41.4	69,954
Chilubi	24,346	52.7	12,830
Chinsali	81,625	46.7	38,119
Isoka	157,348	35.8	56,331
Kaputa	118,748	47.8	56,762
Luwingu	104,488	53.4	55,797
Mbala	95,235	58.5	55,712
Mpika	175,246	36.6	64,140
Mporokoso	94,575	45.7	43,221
Mpulungu	80,904	63.7	51,536
Mungwi	140,211	41	57,487
Chavuma	36,812	45	16,565
Kabompo	91,363	46.3	42,301
Mwinilunga	149,204	50.9	75,945
Zambezi	80,359	56.3	45,242
Choma	236,543	38.2	90,359
Gwembe	43,792	36.2	15,853
Kalomo	215,874	38.3	82,680
Kazungula	85,612	33.1	28,338
Mazabuka	252,302	38.2	96,379
Monze	204,077	45	91,835
Namwala	110,413	36.8	40,632
Siavonga	70,158	35.3	24,766
Sinazogwe	105,258	51.2	53,892

Kalabo	135168	34.3	46,363
Kaoma	198766	30.5	60,624
Lukulu	84,058	31.4	26,394
Mongu	190715	46.3	88,301
Senanga	128812	30	38,644
Sesheke	92213	43.4	40,020
Shangombo	84260	42.8	36,063
		Total	2378498

Diarrhoea

District Name	2007 Projected Population	% of Affected Population (District)	No. of Persons Affected
Chibombo	303,170	16.2	49,114
Kapirimposhi	240,685	6.4	15,404
Mkushi	140,294	13.8	19,361
Mumbwa	200,441	12.3	24,654
Serenje	169,570	9.2	15,600
Masaiti	117,554	5	5,878
Mpongwe	78,343	9.2	7,208
Chama	98,006	7.1	6,958
Lundazi	307,255	9.2	28,267
Mambwe	58,958	6.1	3,596
Nyimba	88,689	12.1	10,731
Samfya	198,808	16.1	32,008
Kafue	168,971	17.6	29,739
Chilubi	24,346	8.4	2,045
Chinsali	81,625	7.3	5,959
Isoka	157,348	8.5	13,375
Kaputa	118,748	14	16,625
Luwingu	104,488	6.8	7,105
Mbala	95,235	15.3	14,571
Mpika	175,246	7	12,267
Mporokoso	94,575	5.1	4,823
Mpulungu	80,904	13.7	11,084
Mungwi	140,211	9.7	13,600
Chavuma	36,812	12	4,417
Kabompo	91,363	8.2	7,492
Mwinilunga	149,204	6.4	9,549
Zambezi	80,359	8	6,429
Choma	236,543	8.9	21,052
Gwembe	43,792	6.3	2,759

Kalomo	215,874	19.2	41,448
Kazungula	85,612	17.6	15,068
Mazabuka	252,302	16.2	40,873
Monze	204,077	10.1	20,612
Namwala	110,413	22.4	24,733
Siavonga	70,158	5.9	4,139
Sinazogwe	105,258	7.3	7,684
Kalabo	135,168	11.2	15,139
Kaoma	198,766	16.4	32,598
Lukulu	84,058	8.6	7,229
Mongu	190,715	11.1	21,169
Senanga	128,812	9.3	11,980
Sesheke	92,213	13.1	12,080
Shangombo	84,260	15.2	12,808
		Total	669,228

Cough/ARI

District Name	2007 Projected Population	% of Affected Population (District)	No. of Persons Affected
Chibombo	303,170	22.1	67,001
Kapirimposhi	240,685	24	57,764
Mkushi	140,294	27.1	38,020
Serenje	169,570	31.6	53,584
Masaiti	117,554	26.6	31,269
Chama	98,006	23.9	23,423
Lundazi	307,255	27	82,959
Mambwe	58,958	29.6	17,452
Kafue	168,971	21	35,484
Kaputa	118,748	20.8	24,700
Luwingu	104,488	22.7	23,719
Mpika	175,246	27.9	48,894
Mporokoso	94,575	32.6	30,831
Mungwi	140,211	35.7	50,055
Choma	236,543	19.1	45,180
Gwembe	43,792	21.8	9,547
Kazungula	85,612	23	19,691
Mazabuka	252,302	21.3	53,740
Kalabo	135168	19.1	25,817
Lukulu	84,058	19	15,971
Senanga	128812	22	28,339
Sesheke	92213	22.1	20,379

		Total	803,818

Scabies

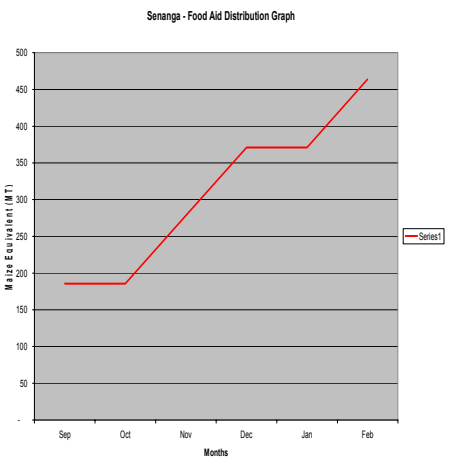
District Name	2007 Projected Population	% of Affected Population (District)	No. of Persons Affected
Chibombo	303,170	1.7	5,154
Kapirimposhi	240,685	0.8	1,925
Mkushi	140,294	2.2	3,086
Mumbwa	200,441	1.2	2,405
Masaiti	117,554	1.4	1,646
Mpongwe	78,343	1.5	1,175
Chama	98,006	2.5	2,450
Lundazi	307,255	1.6	4,916
Kafue	168,971	0.3	507
Chinsali	81,625	3.6	2,939
Isoka	157,348	2.8	4,406
Kaputa	118,748	1.7	2,019
Luwingu	104,488	2.3	2,403
Mbala	95,235	0.8	762
Mpika	175,246	2.9	5,082
Mporokoso	94,575	1.1	1,040
Mpulungu	80,904	1.8	1,456
Mungwi	140,211	4.2	5,889
Chavuma	36,812	1	368
Kabompo	91,363	1.5	1,370
Zambezi	80,359	1.1	884
Choma	236,543	1.3	3,075
Gwembe	43,792	1.7	744
Kalomo	215,874	1.7	3,670
Kazungula	85,612	2	1,712
Namwala	110,413	1.6	1,767
Siavonga	70,158	1	702
Sinazongwe	105,258	0.6	632
Kaoma	198766	1.6	3,180
Mongu	190715	0.6	1,144
Senanga	128812	0.7	902
Sesheke	92213	0.7	645
		Total	70,056

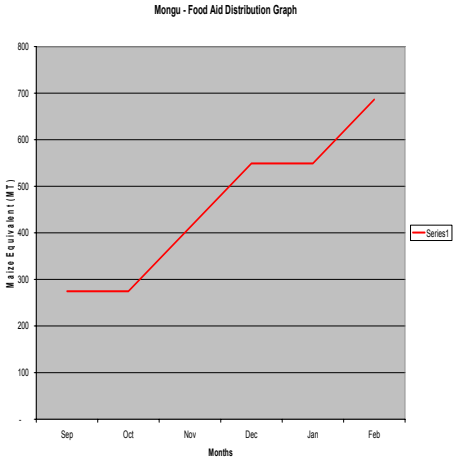
Annex 9: Water and Sanitation Needs

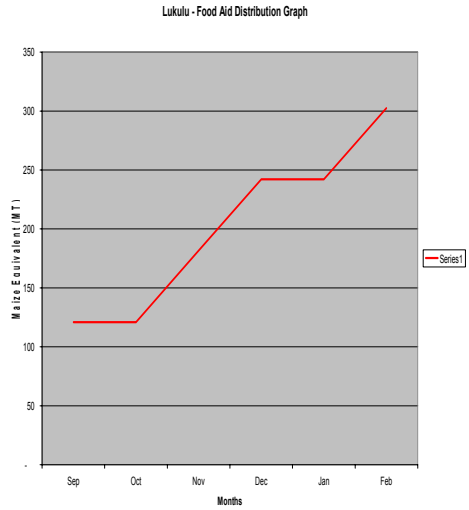
DISTRICT	TOTAL Population	AFFECTED HHs BY DISTRICT					
		Water requirements				Sanitation requirements	
			Recurrent		Capital		Capital
		Affected popln	Chlorin (200ml x 3/month/HH)	Granular Chlorin(HtH) (50kg/month/500 HH)	'Boreholes'	Affected popln	'Simple pit latrines'
Chibombo	46,591	22,364	67,091	45	537	16,307	
Kapiri	41,120	19,738	59,213	39	474	14,392	
Mkushi	23,722	11,387	34,160	23	273	8,303	
Mumbwa	30,042	14,420	43,260	29	346	10,515	
Serenje	26,283	12,616	37,848	25	303	9,199	
Masaiti	23,018	11,049	33,146	22	265	8,056	
Mpongwe	14,508	6,964	20,892	14	167	5,078	
Chama	16,495	7,918	23,753	16	190	5,773	
Lundazi	51,415	24,679	74,038	49	592	17,995	
Mambwe	11,034	5,296	15,889	11	127	3,862	
Nyimba	15,060	7,229	21,686	14	173	5,271	
Samfya	44,351	21,288	63,865	43	511	15,523	
Kafue	21,160	10,157	30,470	20	244	7,406	
Luangwa	4,426	2,124	6,373	4	51	1,549	
Chilubi	13,984	6,712	20,137	13	161	4,894	
Chinsali	27,806	13,347	40,041	27	320	9,732	
Isoka	19,556	9,387	28,161	19	225	6,845	
Kaputa	22,190	10,651	31,954	21	256	7,767	
Luwingu	19,414	9,319	27,956	19	224	6,795	
Mbala	32,827	15,757	47,271	32	378	11,489	
Mpika	31,000	14,880	44,640	30	357	10,850	
Mporokoso	17,205	8,258	24,775	17	198	6,022	
Mpulungu	15,750	7,560	22,680	15	181	5,513	
Mungwi	27,840	13,363	40,090	27	321	9,744	
Chavuma	6,873	3,299	9,897	7	79	2,406	
Kabompo	14,983	7,192	21,576	14	173	5,244	
Mwinilunga	24,942	11,972	35,916	24	287	8,730	
Zambezi	14,303	6,865	20,596	14	165	5,006	
Choma	39,190	18,811	56,434	38	451	13,717	
Gwembe	5,904	2,834	8,502	6	68	2,066	

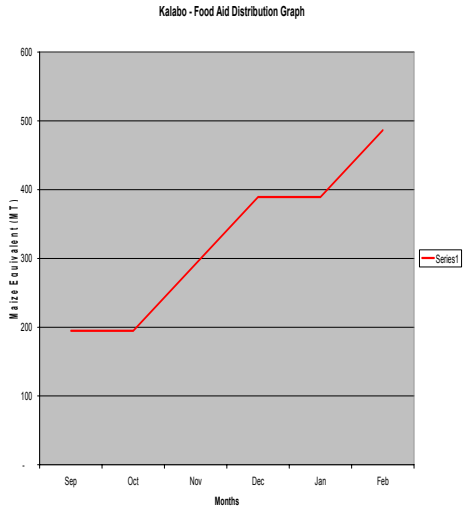
		AFFECTED HHs BY DISTRICT					
			Recurrent	Capital		Capital	
DISTRICT	**TOTAL Population**	Affected popln	Chlorin (200ml x 3/month/HH)	Granular Chlorin(HtH) (50kg/month/500 HH)	'Boreholes'	Affected popln	Affected popln
Itezhitezhi	9,328	4,477	13,432	9	107	3,265	
Kalomo		14,787	44,361	30	355	10,782	
Kazungula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

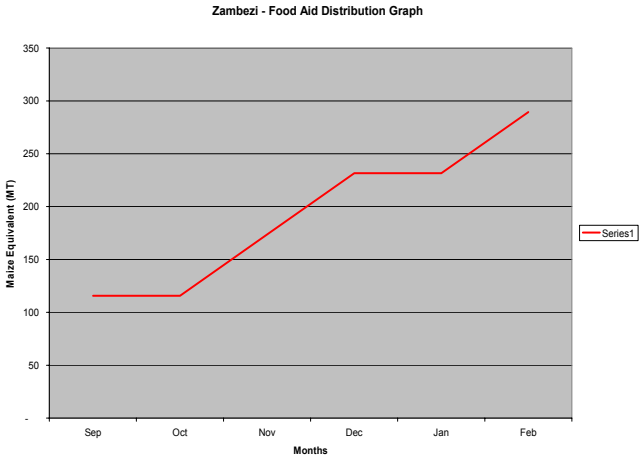
ANNEX 10: Food Aid Distribution Graphs

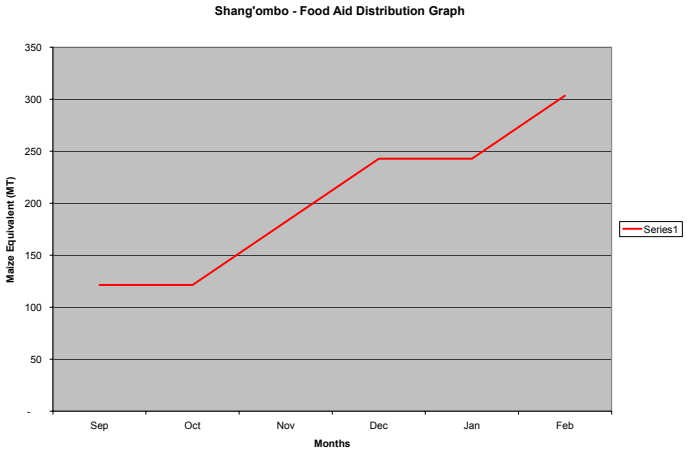


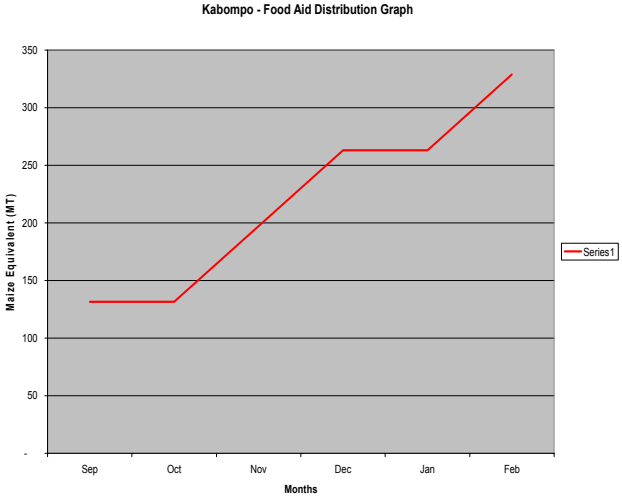


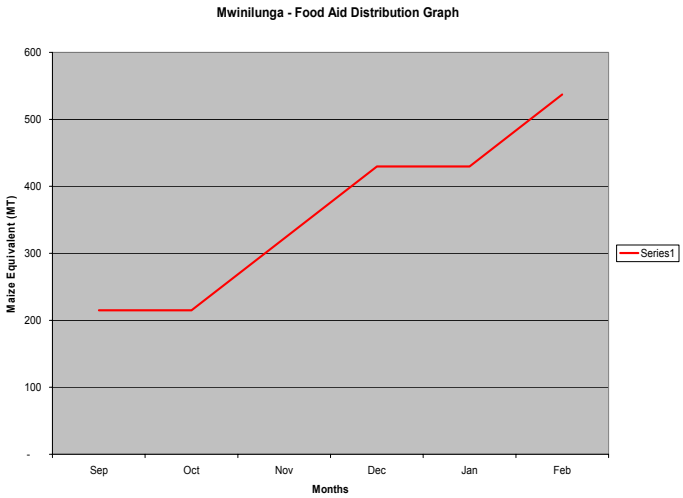


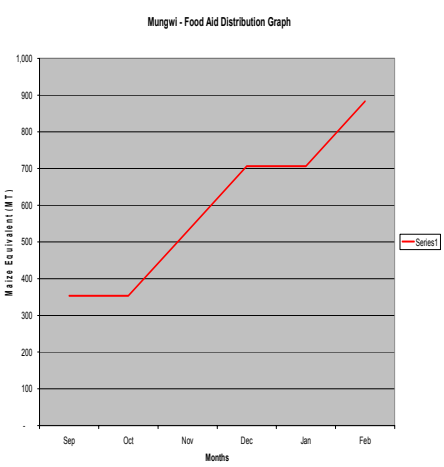


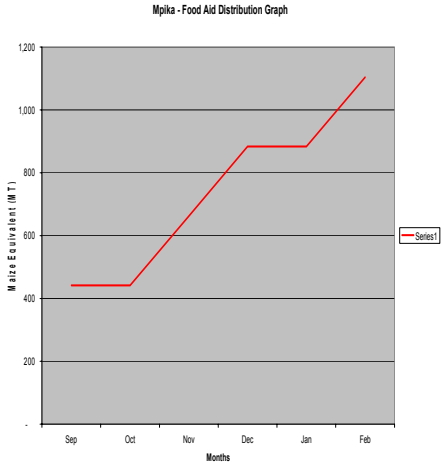

Zambezi - Food Aid Distribution Graph
Maize Equivalent (MT)
350
300
250
200
150
100
50
-
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1

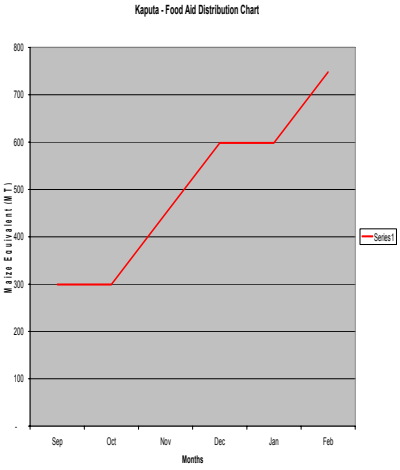

Shang'ombo - Food Aid Distribution Graph
Maize Equivalent (MT)
350
300
250
200
150
100
50
-
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1

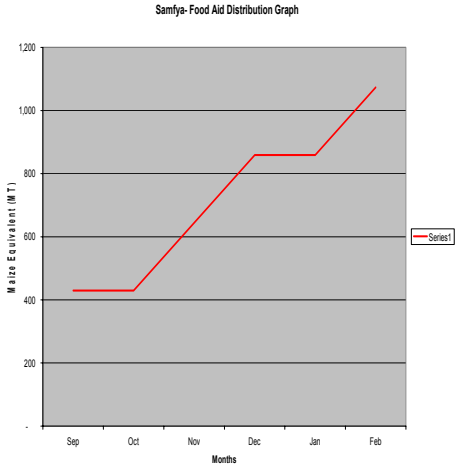

Kabompo - Food Aid Distribution Graph
Maize Equivalent (MT)
350
300
250
200
150
100
50
-
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1


Mwinilunga - Food Aid Distribution Graph
Maize Equivalent (MT)
600
500
400
300
200
100
-
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1


Mungwi - Food Aid Distribution Graph
1,000
900
800
700
600
500
400
300
200
100
-
Maize Equivalent (MT)
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1


Mpika - Food Aid Distribution Graph
1,200
1,000
800
600
400
200
-
Maize Equivalent (MT)
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1


Kaputa - Food Aid Distribution Chart
800
700
600
500
400
300
200
100
-
Maize Equivalent (MT)
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1


Samfya- Food Aid Distribution Graph
1,200
1,000
800
600
400
200
-
Maize Equivalent (MT)
Sep
Oct
Nov
Dec
Jan
Feb
Months
Series1

Annex 11: Seasonal Calender

First Main Crop for Consumption (Maize)

Agronomic Practices Calendar												
Weed End												
Weed Start												
Plant End												
Plant Start												
Land Prep End												
Land Prep Start												
Rain_End												
Rain_Start												

Food Source Calender												
Own Food Avaiablel_End												
Own Food Avail_Start												
Fishing End												
Fishing Start												
Wild Food Collected_End												
Wild Food Collected_Start												
Harvest End												
Harvest Start												
Green Consumption_End												
Green Consumption_Start												

Income Sources Calendar												
Purchasing End												
Purchasing Start												
Migration End												
Migration Start												
Off Farm Labour End												
Off Farm Labour Start												
Farm Labour End												
Farm Labour Start												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Second Main Crop For Consumption (Cassava)

Agronomic Practices

Weed End												
Weed Start												
Plant End												
Plant Start												
Land Prep End												
Land Prep Start												

Harvest End												
Harvest Start												
Green Consumption_End												
Green Consumption_Start												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Annex 12: Districts Visited and Team Composition

Team	Province	Districts	Team Composition
1	North Western	Kabompo, Chavuma, Zambezi, Mwinilunga	**Team leader:** Mr. Kebby Mutale – WFP **Team members:** Patson Sakuwaha – CSO, Samuel Kapandula –CSO Brenda Maliti – NRDC
2	Southern	Siavonga, Sinazongwe, Gwembe, Choma	**Team Leader:** Mr. Meetwel Cheelo –LDHMT **Team Members** Ms Francisca Mubamba – LDHMT, Clauduis Haakapya – CSO Kunda Kataya – CARE
3	Central/ Luapula/ Northern	Mkushi, Serenje, Samfya, Chilubi	**Team Leader:** Mr. Ronald Msoni/Isabel Tembo – PAM **Team Members:** Mr. Victor Bupe – MET, Annah Mwanamwenge –NRDC Robin Saunders – CSO
4	Eastern	Nyimba, Chama, Lundazi, Mambwe,	**Team Leader** Pauline Inambao – NRDC **Team Members:** Chris Chansa –CSO, Vincent Mungalu NAPS Jean Kasengele – LDHMT
5	Southern	Namwala, Itezhi-tezhi, Monze, Mazabuka	**Team Leader:** Lazarous S. Mwale CARE **Team Members:** Winnie Mweemba – NAPS, Sydney Mwenda – CSO Sharon Shebo - Chawama Clinic
6	Northern	Chinsali, Isoka, Mpika	**Team Leader**: Mr. Evans Kapekele - DMMU **Team Members** Juliet Mumba –CSO, Brian Bwalya –CSO Alex Mabvuto Zimba – NFNC
7	Copperbelt /Central	Kapiri Mposhi, Masaiti, Mpongwe	**Team Leader:** Mr. Oscar Silembo – DWA 095 863089 **Team Members:** Idah Chama Mulenga – LDHMT, Lillian Chela – CSO Peggy T. Zulu – MET
8	Western	Mongu, Kalabo, Senanga	**Team leader:** Charles Mugala - CSO 0977325919 **Team members**: Makubesa Yuyi – CSO, Liswaniso Tabakamulumu -CSO Albertina Kapeshi – LDHMT
9	Western/ Central	Kaoma, Lukulu, Mumbwa	**Team Leader**: Mr. Sibajane Munkombwe - LWF **Team Members:** Duntu Mudyenkuku -CSO, Bernard Mundia - CSO

			Betty Siakwale – NFNC
10	Western/ Southern	Sesheke, Shang'ombo, Kazungula, Kalomo	**Team Leader:** Esnart Makwakwa – DMMU **Team Members:** McDonald Mulongwe- CARE, Ms Mercy Mbewe- ZRDF Tebuho Tabakamulamu – CSO
11	Northern	Kaputa, Mporokoso, Luwingu	**Team Leader:** Lyson Mbewe – ZRDF **Team Members:** Ziporah Kamaloni – NRDC, Prisca Sakala – LDHMT Hamaleka Trust(B) – CSO
12	Northern	Mungwi, Mbala, Mpulungu	**Team Leader:** Tipo Ntini - ZRDF **Team Members:** Nelson Lundako –CSO, Florence K. Mtawale – LDHMT Janet Zulu – CSO
13	Central/ Lusaka	Kafue, Luangwa, Chibombo	**Team Leader -** Martin J. Mwanza – CSO **Team Members** Mrs Rita Kakombo NFNC, Rodgers Musonda -CSO Patricia Sakala – NFNC

Annex 13: Report Writing And Editorial Team

1. Ms. Yande Mwape DMMU 2. Mr. Peter Kasonde Consultant-Data Analyst 3. Mr. Allan Mulando WPF 4. Mr. Kebby Mutale WFP 5. Mr. Dominiciano Mulenga DMMU 6. Ms. Chansa Mushinge FEWSNET 7. Mr. Evans Kapekele DMMU 8. Ms Paulin T. Inambao NRDC 9. Mr. Sibajane Munkombwe LWF	10. Ms. Patricia Sakala NFNC 11. Mr. Oscar Silembo DWA 12. Mrs. Margret Tembo CSO – Consultant-Statistics **13.** Mr Mitwell Cheelo LDHMT