



2018 IN-DEPTH VULNERABILITY AND NEEDS ASSESSMENT REPORT



July 2018

Table of Contents

ACKNOWLEDGEMENTS	vii
EXECUTIVE SUMMARY	viii
CHAPTER ONE: INTRODUCTION.....	1
1.1. Background	1
1.2. Objectives.....	1
CHAPTER TWO: METHODOLOGY	3
2.1. Selection of Districts to be Assessed	3
2.2. Study Design.....	3
2.3. Target Population.....	4
CHAPTER THREE: THE CONTEXT	8
3.1. The Economy	8
3.2. Hazards and Vulnerability	9
3.3. Sectoral Performance	9
CHAPTER FOUR: FINDINGS	23
4.1. GENERAL DEMOGRAPHICS	23
4.2. LIVELIHOODS	23
4.3. ASSET OWNERSHIP	24
4.4. AGRICULTURE AND FOOD SECURITY	25
4.5. HEALTH.....	39
4.6. NUTRITION.....	41
4.7. WATER, SANITATION AND HYGIENE (WASH)	44
4.8. EDUCATION	46
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS	48
5.1. Agriculture and Food Security.....	48

5.2. Health.....	49
5.3. Nutrition.....	50
5.4. Water, Sanitation and Hygiene (WASH).....	51
5.5. Education	52
5.6. Development Projects and Safety Nets.....	52
ANNEXES.....	53
Annex 1: Map Showing Assessed Districts.....	54
Annex 2: Table showing Food Consumption Score, HDDS, rCSI and Food Expenditure Share	56
Annex 3: Map Showing Districts Food Security Category	58
<i>3b. Projected Period</i>	59
Annex 4: Food Needs.....	60
4a. Food Needs for Current Period	60
4b. Food Needs for Projected Period	61

List of Figures

Figure 1: Fish production and external fish trade in the past decade.....	15
Figure 2: Livelihood Sources and Change.....	24
Figure 3: Asset Ownership.....	24
Figure 4: IPC Acute Food Insecurity Classification Maps	27
Figure 5: Types of Livestock Available.....	31
Figure 6. Central province market related factors	32
Figure 7. Eastern province market related factors	32
Figure 8. Luapula province market related factors	33
Figure 9. Lusaka province market related factors.....	33
Figure 10: Muchinga Province Market Related Factors	34
Figure 11: North-Western Province Market Related Factors	34
Figure 12: Southern Province Market Related Factors.....	35
Figure 13: Western Province Market Factors	36
Figure 14: Food Expenditure Share	37
Figure 15: Period When Household Stock would last.....	38
Figure 16: Diseases Suffered by Households in First Quarter of 2018	39
Figure 17: Distribution of Household's Health Seeking Behaviour	40
Figure 18: Reasons for Not Seeking Health Care.....	41
Figure 19: Main Source of Water	44
Figure 20: Reasons for Poor Water Quality at Main Water Source	45
Figure 21: Distribution of Sanitation Facilities	45
Figure 22: Use of Scouring Agent for Hand Wash.....	46

List of Tables

Table 1. National Food Balance Sheet for the 2016/2017 Agricultural Marketing Season	10
Table 2: Livestock Population: 2016 - 2017.....	12
Table 3: Livestock Products Production: 2016 - 2017.....	13
Table 4: Capture and Aquaculture Fish Production: 2016 – 2017.....	14
Table 5: Key Social Protection Programmes implemented in 2018.....	21
Table 6: Population Table for the Current Period (May – Sept 2018).....	28
Table 7: Population Table for the Projected Period (Oct 18 – Mar 2019).....	29
Table 8 Reasons cited for Underutilization of Available Arable Land	30
Table 9: Proportion of Children Who Received Tablets 6 Months Before Survey.....	41
Table 10: Proportion of children who received Vitamin A Supplementation capsules the past 6 months before the Survey	42
Table 11: Proportion of children who received any Immunization	42
Table 12: Prevalence of undernutrition among children according to MUAC categories	43
Table 13: Distance to Main Water Source.....	44

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EXECUTIVE SUMMARY

The 2018 In-depth Vulnerability and Needs Assessment sought to analyse the impact of dry spells, floods and pest infestation (fall army worms and stalk borers) experienced in Zambia on society and the economy and the required actions for rehabilitation, recovery and to mitigate these impacts.

In view of this, the 2018 In-depth Vulnerability and Needs Assessment was designed with the purpose of understanding the impact the prolonged dry spells and floods had on selected sectors of the economy. This needs and impact assessment covered fifty-eight (58) districts in all the provinces except the Copperbelt Province. To assess the impact of hazard events experienced during the 2017/2018 rainfall season on society, livelihoods and food security.

The gender of household heads did not differ much with what is seen at the national level with majority of households (80%) being male headed. In terms of marital status, about 60 percent of households were married, 21.3% were single, 6.2% were widowed with the rest either divorced or separated.

The analysis on the Asset Wealth Index has shown that majority of the households in the assessed districts are generally poor with 40% being asset medium and 48 percent asset poor while the remainder (12%) were asset rich.

On the overall maize production, the assessment established a reduction of 33 percent in the assessed districts. The highest declines were observed in Southern Province while the least were in Central Province. Further, results showed that 77% of the assessed households indicated that household own produced stocks will last for 6 months. Out of this, 12.5% indicated that stocks will last for 3 months or less. The results showed that there will be increased demand for food from the market as households deplete own produced stocks.

In addition to own production and market purchases, households access staple food through labour exchange, gifts and relief. Results indicate that between January and April this year, 24 percent of the households acquired staple food through casual labour exchange. This shows the importance of casual labour as one source of staple food for poor households as such an assessment of availability of labour opportunities from better off households can provide further insight into how food security dynamics at household level will evolve.

Zambia for the first time has used the Integrated Food Security Phase classification (IPC) to classify the severity and identify the causes of acute food insecurity. The IPC uses a set of protocols to classify the severity and causes of food insecurity and provide actionable knowledge by consolidating wide-ranging evidence on food insecurity.

About 28% of HHs had poor dietary diversity indicative of IPC Phase 3 or worse. The household dietary diversity score (HDDs) reflects the variety of foods consumed by the household represented by the number of foods groups consumed by the household members over the preceding 24 hours. About 54% of the HHs had poor to borderline FCS. 12 districts namely Sioma, Shangombo, Nalolo, Luampa, Kaoma, Sinazongwe, Chirundu, Petauke, Nyimba,

Mambwe, Katete and Chitambo had more HHs having poor to borderline FCS compared to the average of the analysed districts. Petauke, Nyimba and Katete had more than 70% of its population having poor to borderline FCS. However, in most of these districts, this was a reflection of poor non-diversified diets. About 61% of the HHs were reportedly consuming a maximum of 2 meals a day.

Between May and September 2018, most of the households were not employing recused coping strategies as about 84% indicated that they were not employing any reduced coping strategies while 14% employed stress strategies and the remaining 2% employed crisis strategies.

The food security situation between May and September was generally stable with the majority of the 58 districts being classified in IPC Phase 2 however two districts namely Lunga and Mambwe were classified in IPC Crisis Phase 3. During this period, about 610,067 people will be facing IPC Phase 3 or worse food security situation. This represents 8% of the analysed population in IPC Phase 3 and 3% in IPC Phase 4 Classification.

The food security situation is projected to worsen during the peak hunger period between October and March 2019 with about 19 districts classified in IPC Phase 3, culminating to about 954,119 people in IPC Phase 3 or worse; 11% of the analysed population in IPC Phase 3 and 4% in IPC Phase 4 Classification. This is largely due to erratic rainfall which was characterised by late onset, mid-season dry spells and outbreak of crop pests which led to reduced crop production across the country.

The Assessment results showed that 67 percent of households in assessed districts owned livestock. The types of cattle owned included poultry (57%), cattle, 20.1% and goats (17.4%). Other livestock owned included pigs, sheep and donkey.

In terms of health, the assessment indicated that the common illnesses reported by districts included unconfirmed malaria/fever (47.8%), cough (32%) and non-bloody diarrhoea (9%). There were few cases of bloody diarrhoea (2.5%) and skin infections (0.8%). Results of the Assessment showed that majority of households (88.6%) sought health care from formal institutions (Clinic, Hospital, or village health worker).

Micronutrient such as Vitamin A result from poor diet that provide inadequate amounts of the needed nutrients or from infections impairing intake or use of nutrients by the body. Immunisation is key for prevention of preventable illness particularly in children. It reduces mortality and morbidity. Reduction in diseases support the wellbeing of children. Over 90% of children reported to have received any kind of immunisation. Several districts (Mkushi, Mambwe, Chikankata, Mazabuka, Kalabo, Mulobezi, Sesheke) had less than 80% coverage.

The Assessment revealed that 63.5 percent of the population had access to improved water sources consisting of borehole (50.5%), protected well (8.9%) and piped water (4.1%). The remainder drew water from unimproved sources which were unprotected wells (21%) and open sources such as rivers and lakes (15.5%). When asked about distance to water sources, majority (44.7%) indicated that the water source was about 100 – 500 meters away from their dwelling. Only about 10.1 percent of the population in the Assessed districts reported having water on their

premises while a further 29.4 percent indicated having water sources that were about 100 meters away. In terms of hygiene practices, Assessment results showed a high number of respondents that indicated the practice of hand washing when cooking (83.2 percent) and after use of toilet (85.6 percent).

In terms of education, Results showed that of the households with school going children, a small proportion of about 13.5 percent had their children absent from school between December, 2017 and April, 2018. The households with the highest number of children absent from school were found in Monze (9.9 percent) followed by Kalomo (6.6 percent), Lundazi (5.7 percent) and Samfya (5.5 percent).

CONCLUSIONS AND RECOMMENDATIONS

Agriculture and Food Security

Conclusions

- Maize production was negatively affected by the dry spells and production reduced in comparison to previous season. Other reasons that impacted maize production included lack of inputs; fertilizer, improved seed, inadequate labour and lack of draught power.
- Livelihood diversification has continued to be low for most households with crop production being the main livelihood and trading as the second most.
- Household own – produced stocks for 77 percent of the households will last for 6 months or more. There about 12.5 percent of households whose stock will run out in the next three months.
- The below five-year average maize and maize meal prices will permit market access for poor households without sustainable incomes. Households will have to resort to markets and other sources of food and/or coping strategies for the rest of the consumption season.
- Anticipated adequate pasture and water availability will boost livestock production and productivity thus allowing livestock to serve as coping for the households.
- Livestock disease incidences continue to be the major cause of livestock deaths and the prolonged dry spells experienced in the previous season impacted negatively on pasture and water availability which may have contributed to disease outbreaks such as New castle for chicken.

Recommendations:

Short Term

- A total of 954,119 people (159,020 households) from the assessed districts will require support for the period of eight (8) months (August, 2017 – March, 2018) in thirty - five (35) districts broken down as follows:
 - For the period August to September, 2018 (current period), support will only target 610,067 people (101,678 households) in phase 3 and 4 of food insecurity requiring 10, 163.72 MT of cereal for two months;

- From October 2018 to March, 2019, the caseload of needs expands to 954,119 People (159,020 households) for a period of six (6) months in thirty-five (35) districts requiring 47, 868.85 MT.

It is preferred that the above support be channelled through market based interventions such as vouchers and cash transfers.

Medium to Long Term

Provide support for increased food crop productivity at household level to enable them have adequate own – produced food and cash crops through:

- Mechanization for farmers to put more land under cultivation.
- Support timely land management for improved productivity on the same pieces of land.
- Increased investment in small scale irrigation and water harvesting technologies for off – season production.
- Scaling up of conservation agriculture practices among small scale farmers in areas prone to dry spells and droughts.
- Improving access to markets by:
 - Investing in improvement of road infrastructure specifically feeder roads.
 - Improving storage facilities at homestead level to ensure food materials last longer, help optimize.

Health

Conclusions

- Health seeking behaviour had improved with majority going to formal health facilities though a small proportion opted not to seek for formal care due to lack of money.
- The Assessment also showed that malaria/fever, diarrhoea and cough were the leading cause of illness in the communities.
- It is encouraging to note that majority of households are seeking health care from the formal health systems. This is an opportunity to ensure information sharing regarding behavioural change for aspects such as malaria prevention, prevention of diarrhoea, antenatal and postnatal clinic attendance, and the importance of delivering at health facilities by skilled attendants regardless of the social economic situation.

Recommendations

Short term

- Enhanced programs to address malaria to include social and environmental determinants to ensure targeted interventions. This will include the following:
 - Community sensitization programmes on prevention of malaria.
 - Increase the coverage of indoor-residual spraying districts.
 - Supporting communities to eliminate mosquito breeding grounds.
 - Increased distribution and use of insecticide treated mosquito nets in the affected areas.

- Integrating reproductive health services with other primary health care services such as HIV, Malaria preventions, etc. This can be done both through static or integrated mobile outreach service delivery and through other communication engagement approaches.
- Enhance malaria and diarrhoea surveillance at community level.

Medium to Long – term

- Need for sustained commodity supply for treatment of all infections especially malaria, diarrhoea diseases, and cough.
- There need for a multi-sectoral and multi-disciplinary approach to enhance the health response and take care of determinants of health. This includes incorporating messages on better health seeking behaviours into other interventions such as nutrition, agriculture input support.

Nutrition

Conclusions

- The quality of the diet is a key element in meeting the nutrients needs of the population including micronutrients such as vitamin A, zinc, iron and others. The household dietary diversity gives an adequacy picture for more than two thirds of the households. The reminder of the population is likely not meet their daily food needs to have a quality diet. Therefore, some form of interventions are required to support child growth, improve school performance and promote good pregnancy outcome.
- The findings from the survey showed that there is a high proportion of stunting in children under five. Equally important to note is the high levels of wasting (Weight for Height).
- In order to remedy the high levels of stunting and wasting, there is need for multi – sectoral intervention that address not only direct but also indirect causes of malnutrition such as social protection, water and sanitation, education and agriculture.

Recommendations

Short term

- Integration of nutrition in health-promotion strategies especially those addressing maternal nutrition before and during pregnancy and lactation, these should include interventions that address adolescent nutrition.
- Scaling up coverage and rolling out of stunting-prevention interventions in emergency areas. These may include:
 - Infant and young child interventions.
 - Increased micronutrient intakes especially during the 1,000 most critical days.
 - Interventions for addressing severe acute malnutrition.
- Promotion of consumption of healthy, diversified diets, including high quality nutrient rich foods for both men and women.

Medium to Long – term

- There is need for the promotion of livelihood diversification to include all crops, fisheries and animal products for vulnerable but viable households to address poverty.

Water, Sanitation and Hygiene (WASH)

Conclusions

- Generally, 63% of household were using improved water sources (Water and sanitation section) way below the required target of 88% per population (UNICEF & WHO. 2015) probably, a sufficient proportion level where everyone benefits from having access to improved water sources in the community.
- Access to unimproved waters sources is likely to increase as the prolonged dry spell could have affected groundwater recharge leading to drying of some water sources and thereby forcing people to rely on open sources for water.

Recommendations

Short term (Water)

- Borehole drilling should continue in areas where people are obtaining water from unimproved sources and where the distance from household to the water point is more than 500m.
- Rehabilitation, improvements and maintenance of existing water infrastructure.

Short term (Sanitation and Hygiene)

- Promote community wide sanitation improvement using community – led total sanitation (CLTS) to ensure that all people have access to latrines in order to end open defecation.
- Promote a community wide handwashing campaign to increase the practice of proper handwashing.
- Promoting Community – led Total Sanitation monitoring, maintaining of clean environment, and partnering with traditional leaders, local religious leaders and the influence and opportunities they have in bringing messages of personal cleanliness, hygiene and well-being to their community.
- Scale – up the construction of demonstration latrines at the schools, health centres, rural community centres (markets, faith centers, and traditional chiefs’ palaces).

Medium to Long – term (Water)

- Implement, with support of NGOs, the water harvesting programme at community and household levels for climate change adaptation.

- Promote community level water supply and sanitation technology options, disaster risk reduction and resilience building including climate change adaptation activities, to ensure preparedness and resilience of communities to disasters.

Medium to Long – term (Sanitation and Hygiene)

- Encourage private-sector involvement to build sanitation shops at District/Chiefdom level to sell sanitation facilities and give advice on improved sanitation facility construction, and latrine operation and maintenance.
- Render support to vulnerable groups and households facing technical and physical challenges to the construction of latrines.

Education

Conclusion

The Assessment showed that there was a small proportion of pupils that had been absent from school in the fourth quarter of 2017 and in the first quarter of 2018 which was not unusual.

Recommendation

Short term

- There is need to rehabilitate schools whose infrastructure had been damaged by the rains.
- School feeding programmes need to be scaled – up particularly in areas where shock impacts were high such as North Western, Western, Southern and Eastern provinces.

Development Projects and Safety Nets

Conclusion

The Assessment found that the majority of districts assessed had projects and/or safety net programmes being implemented in their communities.

Recommendations

Short term

- Aid in the proper targeting and delivery of relief materials to the vulnerable populations.
- Continue with the scaling up of social safety net programmes to ensure that all vulnerable communities are covered.

Medium to Long – term

- Complete building the single registry so that this guides targeting at the community level.
- Explore shock responsive social protection programming to ensure that some of the households that fall into vulnerability are taken on by the programmes.

CHAPTER ONE: INTRODUCTION

1.1. Background

The 2018 In-depth Vulnerability and Needs Assessment sought to analyse the impact of dry spells, floods and pest infestation (fall army worms and stalk borers) experienced in Zambia on society and the economy and the required actions for rehabilitation, recovery and to mitigate these impacts.

Zambia experienced prolonged dry spells for the period November, 2017 to 31st January, with some districts reporting more than forty (40) days of dry spells. This may have had a significant effect on food security of the country since production and productivity of maize and other crops is likely to be negatively affected. These prolonged dry spells affected the southern half of the country where rainfall performance was below normal during the period November 2017 to January, 2018.

Further, the dry spells came with high temperatures that led to quick loss of moisture in the soils. This added to the water stress for the crops. Availability of water for domestic chores and livestock was also not readily available. This led to increase in disease thereby taking away from the households the much needed labour for work in the gardens as well as emaciation of livestock due to lack of pasture and water. The hot conditions also led to some districts suffering from pest infestations thereby leading to further crop losses. During February – March, 2018, the country received normal to above normal rainfall and thus some districts in the country suffered from flooding.

In view of this, the 2018 In-depth Vulnerability and Needs Assessment was designed with the purpose of understanding the impact the prolonged dry spells and floods had on selected sectors of the economy. This needs and impact assessment covered fifty-eight (58) districts shown in the map in Annex 1.

1.2. Objectives

1.2.1. General Objective

To assess the impact of hazard events experienced during the 2017/2018 rainfall season on society, livelihoods and food security.

1.2.2. Specific Objectives

Specifically, the assessment is designed to:

- i. Determine the impact of hazard events on society;
- ii. Determine the number and areas affected; and
- iii. Determine relief requirements (food and non – food needs), if any.

1.3 Scope of the In-Depth Vulnerability and Needs Assessment

The broader themes covered in the assessment included the following:

Household Questionnaire themes covered were as follows:

- Household Demographics
- Productive Asset Ownership
- Agriculture Production (Crop and Livestock Production)
- Livelihoods and Expenditure Patterns
- Household Coping Strategies
- Food Sources and Consumption
- Water, Sanitation and Hygiene
- Health
- Nutrition

Community and District Questionnaires themes covered were as follows:

- Description on the rainfall performance
- Review of Hazard Impacts
- Community Income Sources (Livelihoods)
- Agriculture Production (Crops and Livestock)
- Prices for staple foods
- Access and Livelihoods
- Health and Nutrition
- Water, Sanitation and Hygiene
- Safety Nets programmes
- Development Projects

1.3.Limitations of the Survey

The following were the limitations of the survey:

- i. Most of the maps were not well detailed as they missed land mark features for identifying enumeration areas;
- ii. Inaccessibility of some areas; and
- iii. Challenges in determining population and boundaries for the newly created districts leading to either over or underestimations of the district estimates.

CHAPTER TWO: METHODOLOGY

2.1. Selection of Districts to be Assessed

In identifying the areas to be assessed, all the districts of the country were first analysed based on some set criteria of indicators and thresholds. The following key indicators were used in determining the list of hotspot districts covered in the 2018 In-Depth Vulnerability and Needs Assessment:

Integrated Context Analysis

INDICATOR	CRITERIA
WATER REQUIREMENT SATISFACTION INDEX (WRSI)	WRSI was less than 50% (failure) and/or between 50-60 (poor) for dekads in November, 2015 through to February 2016 and mediocre. The cut – off for selection was three dekad or more of WRSI from November dekad 1 through to February Dekad 3 of anything below mediocre.
MAIZE PRODUCTION VARIANCE	All districts with expected negative maize production variance of 40% or more.
POVERTY INCIDENCE	This is a trailing indicator with determination for cut-offs concentrated to the percentage of extremely poor in the district. All districts
FREQUENCY ON RELIEF PIPELINE	Count of number of times the district is on the relief pipeline in the last ten (10) years. All those that had been on the pipeline for more than four (4) times were candidates for Assessment.

2.2. Study Design

The purpose of the report is to provide the information about food security and nutrition situation and vulnerability attributes in Zambia, identifying geographical areas of concern and the population groups that would be most adversely affected by food insecurity shocks or relevant risk factors experienced during the 2017/2018 rainfall season.

The report uses primary data collected from the selected districts collected in May 2018. The report also used secondary data collected from various official sources such as Government - the central statistical office (CSO), Zambia Meteorological Department, Ministries of Agriculture, Health, Community Development and Social Services, Ministry of Water Development, Sanitation and Environmental Protection; United Nations Agencies and other international

organizations. This report follows the Food and Nutrition Security Conceptual Framework, within the context of the *Zambian* context.

2.3. Target Population

2.3.1. Target Population

The target population is the number of people living in the districts identified to have been affected by prolonged dry spells that occurred during the 2017/2018 rainfall season. A total of fifty-eight (58) districts were targeted.

2.2.2. Sampling Frame

Sampling frames are lists or enumeration procedures that allow identifying every individual of the target population (Kish, 1965; Kalton, 1983). The simplest form of a sample frame is a target population list or database in which each individual of the target population is uniquely identified.

Zambia is administratively divided into ten (10) provinces. Each province is in turn subdivided into districts. Each district is further sub-divided into constituencies and wards. For statistical purposes, each ward is subdivided into Census Supervisory Areas (CSAs) which, in turn, are sub-divided into Standard Enumeration Areas (SEAs). The SEAs are geographical areas, classified as either rural or urban, have information on number of households and the population size. This demarcation is done through a mapping exercise.

Prior to the 2010 Census of Population and Housing, the Central Statistical Office (CSO) Zambia conducted a mapping exercise. Based on the Census results, data collected during the mapping exercise was updated.

The national frame has an updated list of Standard Enumeration Areas (SEAs). The frame has 25,631 SEAs and 2,815, 897 households. A listing of SEAs in all the fifty-eight (58) districts was the sampling main frame for the 2018 In-Depth Vulnerability and Assessment Survey. The SEAs were the primary sampling units for the survey.

2.2.3. Sample Allocation

The survey targeted fifty-eight (58) districts in nine (9) provinces. Provision of precise survey estimates for each district required that samples of adequate sizes be allocated to each district. Since it was desired that estimates from each district have the same level of precision, an equal allocation was the most efficient strategy. Therefore, an equal sample of 15 clusters or 150 households was allocated to each of the fifty-eight (58) districts.

2.2.4. Sampling Method

The 2018 In-Depth Vulnerability and Assessment Survey employed probability sampling procedures. A two-stage stratified cluster sample design was used. In the first stage, 15 SEAs were selected in each enumeration area using the stratified systematic sampling procedure with equal allocation. During the second stage, 10 households were selected from each enumeration

area using systematic sampling procedure which means that each possible household had an equal chance of being selected.

2.2.5. Sample Size

A total of 8,368 households in 837 SEAs were covered in the 58 districts with an estimated population of 6,198,194 people.

2.2.6. Weighting Procedure

Sampling weights are needed to compensate for unequal selection probabilities, non-coverage, non-response, and for known differences between the sample and the reference population. Thus sample weights act as boosting factors to represent the number of units in the survey population that are accounted for by the sample unit to which the weight is assigned.

2.2.7. Base Weights

The first type of weight that is normally calculated is the design weight, also known as base weight. Construction of the base weights for the sampled units corrects for their unequal probabilities of selection. The base weight of a sampled unit is the number of units in the population that are represented by the sampled unit for purposes of estimation (UNSTATS, 2005). It is derived as a reciprocal of the probability of selection for inclusion in the sample.

Since a two-stage sample design was used for the 2018 In-Depth Vulnerability and Assessment Survey, the base weights were constructed to reflect the probabilities of selection at each stage.

- a) Probability of selecting a primary sampling unit (1st Stage). The primary sampling unit for the survey was a SEA. Its probability of selection is given by;

$$P_h = \frac{m_h * N_{hi}}{N_h}$$

Where:

P_h = probability of selection for the i-th sampled EA in district h m_h = number of sample EAs selected in district h. N_{hi} = total number of households for the i-th sampled EA in district h. N_h = total number of households in district h.

- b) Probability of selecting a household (2nd Stage)

The probability of selecting a household was given by;

$$P_{hi} = \frac{m_{hi}}{N_{hi}}$$

Where:

P_{hi} = probability of selection for the i-th sampled household in SEA h m_{hi} = number of households selected in SEA h. N_{hi} = total number of households for the SEA h.

- c) Overall probability of selecting a household

The overall probability of selecting a household is given as the product of the probabilities of selection at the first and second stages of selection. The formula is given below;

$$p = p_h * p_{hi}$$

Therefore, the base weight was calculated as below;

$$w_h = \frac{1}{p}$$

Post Stratification Adjustment

The survey collected data on all usual household members. The weighted sum of the total number of household members (household size) is supposed to give a good estimate of the current population in a particular district.

The weighted results generated underestimated and in some cases overestimated the total population when compared to the CSO projected population. This was mainly due to lack of updating of the cartographic frame to reflect population growth over time. The frame was based on 2010 population. This necessitated the adjustment of the base-weights to reflect the 2018 population projections for the districts. The procedure for adjusting the weights based on population projections is given below:

$$r = \frac{Y_{proj}}{Y_{est}}$$

Where

r = adjustment factor

Y_{proj} = the projected population

Y_{est} = the estimated population from the survey

The final weight is given by:

$$w_{adj} = w_h * r$$

Where:

w_{adj} = the adjusted final household weight.

2.2.8. Reliability of Estimates

Reliability of estimates in the 2018 In-Depth Vulnerability and Assessment Survey was affected by both sampling and non-sampling errors.

Sampling error is the part of the difference between a population value and an estimate thereof, derived from a random sample, which is due to the fact that only a sample of values is observed. Sampling errors arise from the fact that not all units of the targeted population are enumerated, but only a sample of them. Therefore, the information collected on the units in the sample may not perfectly reflect the information which could have been collected on the whole population. The difference is the sampling error.

To reduce sampling errors, a sufficient sample size was determined for this survey. Sampling errors were further minimized by using a stratified sample design. The sample was explicitly stratified into 58 strata and implicit stratification was provided ordering or sorting the list of SEAs for each strata.

Non-Sampling error is an error in sample estimates which cannot be attributed to sampling fluctuations. Non-sampling errors may arise from many different sources such as defects in the frame, faulty demarcation of sample units, defects in the selection of sample units, mistakes in the collection of data due to personal variations or misunderstanding or bias or negligence or dishonesty on the part of the investigator or of the interviewer, mistakes at the stage of the processing of the data, etc. OECD Non-sampling errors may have arisen from many factors at all stages of data collection and processing. These include errors resulting from;

- Respondents misunderstanding the questions
- In-correct presentation of the questions
- Question specific non-response;
- Errors in data entry, and
- Errors during coding Sampling

The report therefore contains no quantitative assessments of these errors. Although it was not possible to eliminate all sources of error, a high level of control on all known sources of error was done efficiently and effectively in planning and conducting the survey. Below are the key steps that were taken to minimize or control non-sampling errors during the survey:

- The most recent sampling frame, based on the 2010 Census of Population and Housing was used.
- Thoroughly testing questionnaires before being used in the field.
- Non-responding households were followed up to achieve high response rates.
- High quality editing and cleaning procedures were employed in processing the data.
- International standard procedures and processes were employed at all stages of the survey process.

Calculation of Relief Maize Requirement

To determine the amount of maize equivalent required by affected persons largely, the formula below was used:

$$F = \frac{N * R * M * 6}{1000}$$

Where:

F = Total Maize Equivalent required in Metric Tones

N = Total number of affected households

R = Individual Monthly ration size per person in Kilogram (8.33 kg)

M = Recommended number of months for the food

CHAPTER THREE: THE CONTEXT

3.1. The Economy

Zambian economy underwent recession the last two years with growth slowing down from 7.2% in 2014 to 4.1% in 2017. Growth is projected to strengthen to above 4% in 2018 owing to improved international copper prices and over the medium-term.

During the period 2015 to 2017, Zambia's economy performed relatively well within the region despite the decline in the growth rate from a five-year average of 6 to 4.8 percent. The falling copper prices, exports and foreign direct investment (FDI) have weakened the economy. According to the London Metal Exchange (LME), Copper prices declined by almost a third from their peak in February, 2011 to \$4,595/ton in February, 2016 and are forecast to remain soft until 2018 as global supply currently exceeds demand.

Agriculture, on the other hand, put in a strong performance growing at over 6 percent as a result of a sustained good maize harvest. Economic performance is expected to remain strong in the medium term driven by large investments in infrastructure and increased domestic and foreign investments. Diversifying the economy away from dependence on copper and the creation of decent jobs remain the overarching policy goals of the government. Improving accountability and strengthening the fight against corruption also remain firmly on the government's agenda. The government is committed to expand skills and education while also accelerating interventions in health, water and sanitation in the medium to long term.

Poverty

According to the 2015 Living Conditions Monitoring Survey, poverty remains predominantly a rural phenomenon with poverty levels at 76.6 percent compared to 23.4 percent in urban areas. Accelerating poverty reduction will require large-scale and continuous investments to improve agricultural productivity, the backbone of the rural economy. Sustained allocations and investments in infrastructure such as roads will provide connectivity from rural-producing areas to the urban consuming markets, thereby improving economic integration between the two regions.

Government in 2014 crafted the Social Protection Policy to better provide and coordinate contributory and non-contributory social protection programmes in the country. The National Pensions Scheme Authority has been the main governing body for Zambia's employment insurance scheme while several pilot non-contributory cash transfer programmes for poor and vulnerable groups is being implemented by Government and its stakeholders. However, there is no pension scheme to serve the large majority of informal workers. 30

The Zambian government has developed the Seventh National Development Plan - 2017-2021. This provides an opportunity to prioritize government objectives towards poverty reduction and

strengthening the linkages between budgeting and planning. It is part of the cascading system of planning that commenced with the National Vision 2030 prepared in 2005 and breaks down to rolling annual plans.

3.2. Hazards and Vulnerability

Weather and climate have major impacts on many aspects of people's lives and particularly amongst populations whose livelihoods are directly dependent on natural resources. In September 2017 Zambia Meteorological Department released the 2017/2018 Season Rainfall which indicated that much of Zambia was likely to receive normal to above normal rainfall. During the OND (October, November and December) 2017 period the El Nino Southern Oscillation (ENSO) started in a neutral phase and extended to La Nina as the year ended. This condition was conducive for normal to above normal.

Generally, the rainfall performance in the 2017/2018 rain season has indicated normal to above normal for the whole country with much of western half recording above normal while the rest of Zambia recorded normal rainfall.

Much of the Northern half of the country had an early start of rainfall by 2 to 3 dekads while some parts over Southern and Western Province like Mwanzi, Mulobezi, Sesheke, Livingstone, Kazungula, Chavuma and Zambezi had a late start of 1 to 2 dekads.

The consecutive occurrence of tropical cyclones withdrew moisture from much of southern Zambia leading to prolonged dry spells over the southern half of the country (Western, Southern, Lusaka, Central and Eastern provinces). This continued suppression of rainfall accompanied by anomalously high temperature over southern half of the country during the critical vegetative and flowering season, led to substantial moisture deficits and increased the likelihood for adverse crop impacts (wilting and stress). In terms of rainfall, the southern half of the country received average (normal) to below average (below normal) rainfall in January 2018.

However, during the month of February Floods and Flash floods occurred over Southern and Western provinces resulting in normal to above normal rainfall. Washing away of bridges and collapsing of houses and other infrastructure was also experienced. Sufficient soil moisture was also observed over the whole country as at 31st March, 2018. (Annex 2).

3.3. Sectoral Performance

3.3.1. Agriculture and Food Security

Crop Production and Food Availability

The 2017/2018 rainfall season experienced prolonged dry spells which affected mainly the Southern half of the country. Specifically, five provinces were affected and these include; Central, Eastern, Lusaka, Southern and Western provinces, with a total of 51 districts affected. Thus, crop production levels for cereal crops like maize, sorghum and wheat, oil crops(soya beans and sunflower), legumes(cowpeas), tubers (sweet potatoes and Irish potatoes) are expected to decrease. Production increases are expected for rice, groundnuts, mixed beans, bambara nuts,

tobacco and popcorn. This is in comparison to the previous season. Equally, increases in the production of Maize for seed and silage are expected.

Maize continues to be the main staple food for Zambia. However, this year, maize production is forecast to decrease from 2,394,907 metric tonnes (MT) from 3,606,549 MT in the 2016/2017 season. This represents a decline in production of 33.6 percent and 20 percent when compared to the five-year average. Out of this 1,106,029 MT is expected to be sold which is about 44 percent less compared to the previous season. Most of the maize production is from small and medium scale farmers who are expected to contribute 2,290,076 MT to the total production, while the large-scale farmers are expected to produce 104,831 MT of maize. The country also experienced an outbreak of the Fall Army Worms. However, the infestation was not that severe as the affected maize crop recovered.

The Government implemented the Electronic Voucher (E-voucher) throughout the country in the 2017/18 season. They also implemented the diversification programme through the E - Voucher system, conducted farmer field schools aimed at promoting good agricultural practices.

National Food Supply for the 2017/2018 Season

The National Food Balance for Zambia for the 2018/19 agricultural marketing season shows that the country is expected to produce adequate maize to meet the total national requirement (MoA, 2018). The estimated maize production stands at 2,394,907 MT, with a carryover stock of 844,244 MT giving total availability of 3,239,151 MT. Total requirements for the country stand at 2,897,838 MT leaving an exportable surplus of 341,313 MT. However, an estimated 45,000 MT of rice will have to be imported to meet national requirements.

Table 1. National Food Balance Sheet for the 2016/2017 Agricultural Marketing Season

**National Food Balance for Zambia for the 2018/2019 Agricultural Marketing Season
Based on the 2017/2018 MoA/CSO Crop Forecasting Survey and MoA/CSO/Private Sector Utilization Estimates (Metric Tonnes)**

		Maize	Paddy rice	Wheat (Preliminary)	Sorghum & Millet	Sweet and Irish potatoes	Cassava flour	Total (maize equivalent)
A. Availability:								
(i) Opening stocks (1st May 2018)	1/	844,244	642	67,688	2,230	0	13	913,753
(ii) Total production (2017/18)	2/	2,394,907	43,063	114,463	45,408	196,826	1,025,575	3,607,632
Total availability		3,239,151	43,706	182,151	47,638	196,826	1,025,588	4,521,385
B. Requirements:								
(i) Staple food requirements:								
Human consumption	3/	1,576,483	83,552	409,027	42,868	186,985	882,400	2,980,413
Strategic Reserve Stocks (net)	4/	500,000	0	0	0	0	0	500,000
(ii) Industrial requirements:								
Stockfeed	5/	284,347	0	0	0	0	0	284,347
Breweries	6/	124,671	0	0	0	0	0	124,671
Grain retained for other uses	7/	92,592	3,000	0	2,500	0	0	97,933
(iii) Losses	8/	119,745	2,153	5,723	2,270	9,841	51,279	180,382
(iv) Structural cross-border trade	9/	200,000						200,000
Total requirements		2,897,838	88,706	414,750	47,638	196,826	933,678	4,367,746
C. Surplus/deficit (A-B)	10/	341,313	-45,000	-232,599	0	0	91,909	153,639
D. Potential Commercial exports	11/	-341,313	45,000	232,599	0	0	0	0
E. Food aid import requirements	12/	0	0	0	0	0	0	0

Source: MoA (2018)

Notes:

- 1/ Stocks held by commodity traders, millers, brewers, FRA, DMMU and commercial and small scale farmers as at 1st May 2018
- 2/ Production estimates by MoA/CSO. Cassava production is based on the total area under cassava, using an annual yield figure of 11.7 tonnes per hectare (MAFF Root and Tuber Improvement Programme, 1996). A flour extraction rate of 25% is used.
- 3/ Human staple food consumption represents 70% (1,470 kCal/person/day, CSO) of total diet (2,100 kCal/person/day, National Food and Nutrition Commission), for the national population of 16.1 million people (based on CSO Census projections with 2018 and 2019 average population used).
The food balance shows an overall surplus of staple foods. Food prices may affect the level of food consumption.
- 4/ National strategic requirements expected to be carried over into the next season by FRA. (this amount of 500,000 Mt includes equivalent to 3 months cover)
- 5/ Estimated requirements by major stock feed producers.
- 6/ Estimated requirements by industrial breweries.
- 7/ Estimated retention of grain for other uses by smallholders.
- 8/ Post-harvest losses are estimated at 5% for grains, sweet potatoes and cassava, in line with estimates from other SADC countries.
- 9/ Structural exports represents cross-border trade, mostly to the DRC, that occurs on a continuing basis and that is likely to occur during the 2018/19

marketing season. It does not include Formal trade.

10/ Expected surpluses or deficits that arise after meeting minimum overall staple human consumption requirements as well as industrial requirements.

The total surplus/deficit is expressed as maize equivalent using energy values.

The rice deficit is based on a 3 year rolling average of what is known to be imported each year, as indicated under D.

11/ Commercial imports/exports represent expected regional and international trade by the private sector.

For cassava, the surplus represents cassava that is still in the ground and may not necessarily be harvested

12/ Total estimated requirement for food relief among vulnerable groups, to be imported. This could be met with maize or other grains.

Food Access

At national level, there is expected to be adequate supplies of maize and other staple foods but at local level access will depend on availability of own produced stocks and household purchasing power. Most farming households in northern Zambia will have adequate own produced stocks while in southern Zambia, a number of households are likely to run out of own produced stocks earlier than normal due to reduced harvests as a result of prolonged dry spells experienced in the earlier part of the growing season (December to end of January). Overall, household food access will depend on market access. The Food Reserve Agency is expected to purchase a total of 390,000 MT of maize in addition to the 500,000 MT for the strategic reserve which includes equivalent to 3 months cover.

3.3.2. Livestock and Fisheries

Performance of the Livestock Sector

In 2017, the performance of the Livestock sector in Zambia continued to show positive growth in all categories of livestock. The strongest population growth was registered in the Pig industry at 47%, followed by Poultry at 25%, then the Goats at 18%. Cattle population growth was 8% while Sheep registered a 14% growth.

Table 2: Livestock Population: 2016 - 2017

Type of Livestock	2016	2017	Percentage Change (%)
Cattle	4,984 909	5,388,686	8.10
Sheep	149,420	170,637	14.20
Goats	4,823,910	5,692,213	18.00
Pigs	3,048,403	4,481,152	47.00
Poultry	212,853,400	266,066,750	25.00

Source: Department of Livestock Development, Ministry of Fisheries and Livestock

Livestock Products

The performance of Livestock Products continued to increase in 2017. Milk production increased by 50%, Eggs and Beef production each increased by 15% whereas Pork and Poultry production increased by 13.54% and 5.5% respectively.

This positive performance is largely attributed to increased Investment in Livestock production by both the Government and Private Sector being driven by strong domestic and regional demand for livestock products such as beef, poultry, goats and eggs. Demand of livestock product is being driven by growing middle class, urbanization and the increasing population of Zambia.

Table 3: Livestock Products Production: 2016 - 2017

Type of Product	2016	2017	Percentage Change (%)
Milk (MT)	544,960	1,179,000	50.00
Eggs (000)	1,387,038,000	1,610,484	15.10
Hides (MT)	323,199	335,160	3.20
Beef (MT)	4,227,120	5,307,201	15.00
Pork (kg)	505,318,801	523,839,833	13.54
Poultry (MT)	4,918,640	4,821,790	5.50

Source: Department of Livestock Development, Ministry of Fisheries and Livestock

The population of livestock increased due to programmes the Government had put in place in 2017 such as stocking and restocking of livestock, promotion of animal health practices and increased number of farmers entering into animal production. The other pull factor is the increasing demand of livestock products, as the middle class urbanization and population of Zambia keep on increasing.

However, the following are notable; (1) Sheep and Goat production have continued to grow due to the current shift of meat preferences towards sheep and goat meat in the face of health challenges being faced by a good percent of the Zambian population particularly those living in urban areas. Partly also, the stocking and restocking of sheep and goats is bearing results, (2) Milk production increased as Government continued to implement programmes aimed at increasing the productivity of milking animals which included measures such as stocking dairy animals, establishment of dairy enterprises through matching grant facilities, (3) Extension services were intensified as a good number of farmers were trained in Livestock management and breeding practices. Various projects have been helping farmers in improving their enterprise by providing matching grants and extension services, (4) The Government continued with the programme of improving animal nutrition especially in the dry season by promoting pasture and range management. The E-SLIP project has been championing this, (5) Government continued with development of livestock infrastructures such as livestock breeding centres to facilitate stocking and restocking of livestock, Milk collection centres, Livestock service centres, and Liquid Nitrogen plant for artificial insemination, (6) In order to manage and control disease outbreaks, Government continued undertaking Disease Control (Primary Health care – Compulsory Dipping) and Compulsory Vaccination activities with the view of improving quality of Livestock products and productivity of livestock (7) Government continued with promotion of

improved Village chicken production by smallholder livestock farmers in Zambia. This is being done by implementing programmes aimed at improving poultry productivity and increasing production. Government is encouraging smallholder farmers to form groups in specific areas in the country so that they are linked to livestock marketing points.

Performance of the Fisheries Sector

In Zambia, demand for fish outstrips production because of its nutrition importance and growing Zambian population. Thus, Government has focused on growing the sector by encouraging both local and foreign Investment into the sector. Given that there has been a decline in the per capita fish catch in the natural water bodies, Government is promoting fish farming especially among the rural population as a means of income generation, employment, and poverty reduction.

In order to increase fish production that would satisfy demand, annual per capita fish production should increase from 6kg to 12kg. Furthermore, technology and management of capture fisheries must change to support such increase.

The specific interventions that contributed to the development of the aquaculture subsector in 2017 include promotion of community fingerling production centres/nurseries, fish farms, and hatcheries at Aquaculture Research Stations. These infrastructures were rehabilitated to make fingerlings available to small scale fish farmers who may not afford to secure the same from private hatcheries. In addition, the aquaculture extension delivery was intensified.

Under capture fisheries, priority was given to the sensitization and training of fishers, fish processors, traders and other stakeholders in sustainable utilization of fisheries resources and conservation of aquatic biodiversity.

Capture Fisheries Production

The Capture Fisheries production increased by 4.95% from 83 918 MT in 2016 to 88 075 MT in 2017. This is attributed to the increased catch of Kapenta on Lake gKariba, sustained production from Lake Mweru, Lake Tanganyika, Lake Bangweulu and Kafue Flats floodplain fishery areas probably due to the increased enforcement of fisheries laws by the Marine Unit of the Zambian Army. The presence of the Marines in Luapula and Northern Province has resulted into Fishers abiding by the provision of the Fisheries Act.

Table 4: Capture and Aquaculture Fish Production: 2016 – 2017

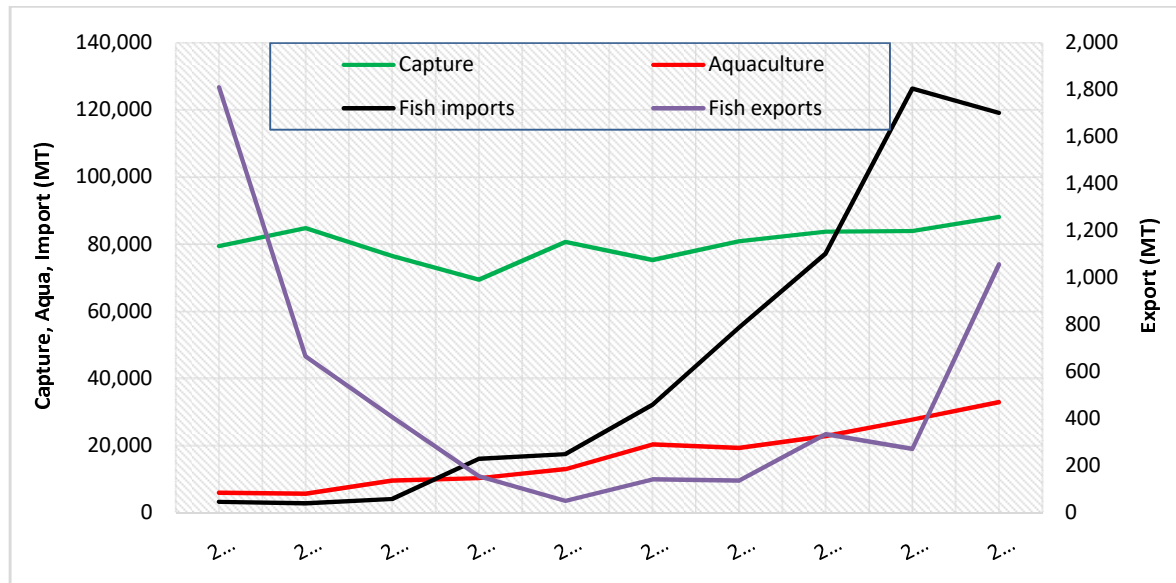
Description	2016	2017	Percentage Change (%)
Capture Fisheries	83,918	88,075	4.95
Aquaculture Fisheries	27,658	32,888	18.91
Total	111,576	120,963	8.41

Source: Department of Fisheries, Ministry of Fisheries and Livestock

As observed in Table 3, there has been a significant increase in Aquaculture production by 18.91% from 27,658 MT in 2016 to 32,888 MT in 2017. This increase is attributed to increased

production by commercial farmers- both the cage and pond facility operators. Furthermore, there has been vigorous promotion of fish farming among smallholder farmers by the Government, an effort which has started to yield fruits as a good number of smallholder farmers have embraced fishing farming.

Figure 1: Fish production and external fish trade in the past decade



The quantity of exported fish as captured largely through the formal channels increased hugely by 290% from 271 MT in 2016 to 1,057 MT in 2017. It should be noted that not all exported quantity of fish is locally produced but there are some quantities which come from imported fish and then exported especially to DR Congo. Thus, the estimated locally produced fish exported is about 96,000 MT. The major fish export destinations in the decreasing order of importance are - DR Congo, Asia and Malawi. The other countries of destination with marginal quantities are Australia, Namibia, Botswana, Zimbabwe, South Africa, Europe and America.

Fish imports of slightly decreased by 5.8% from 126,345 MT in 2016 to 119,069 MT in 2017. This decrease is largely attributed to increased local production from Aquaculture and Capture Fisheries. Namibia is the major exporter of fish to Zambia followed by Asia. In 2017, Namibia supplied about 87.6% of fish imported in the country, Asia was second with 9.3% mainly supplying frozen fish while Zimbabwe (farmed fish) was third at 2.1 %.

3.3.3. Nutrition

Zambia is one of the many African countries with the highest burden of under nutrition in children under five. Thousands of children and women suffer from one or more forms of malnutrition, including low birth weight, wasting, stunting and underweight and multiple micronutrient deficiencies such as vitamin A, Iron, Zinc and Iodine deficiencies. Although Zambia is making some progress in addressing the high levels of malnutrition, the indicators for under nutrition have remained high and well above the World Health Organization (WHO)

thresholds. Over nutrition is also on the rise in Zambia. Overweight and obesity is gradually becoming a problem, making Zambia have a double burden of malnutrition.

It should be noted that under nutrition including micronutrient deficiencies can easily occur or made worse if they are already present during an emergency situation. This results from food insecurity due to loss of crops and animal and compromised environment leading to diseases such as diarrhoea. Since good nutrition especially micronutrient determine birth outcome, health and development of infants and young children care should be taken to ensure that it is addressed during emergencies.

It is globally recognized that adequate nutrition is the pillar of any social and economic developmental programme for any country and has the potential to reduce poverty. The government of Zambia is aware that investment in nutrition for its people and in particular for infants, young children and women is essential for future development: The following sub-sections describe the key challenges of nutrition in Zambia which require concerted efforts of all different actors interested in nutrition to reduce hunger and poverty.

Stunting

According to the Demographic Health Survey (ZDHS 2013-2014), Chronic malnutrition (stunting) among children below the age of 5 years stands at 40 percent, with 17 percent severely stunted. The same survey indicates that stunting is more in children below the age of 24 months (54 percent). Stunting is also being seen in children below the age of six (6) months (14 percent)³. Stunting among Zambian children starts in early months, rapidly increases after six (6) months of age and reaches the peak of 54 percent at 18 to 23 months of age. This trend is due to poor quality of complementary feeds provided to the children after 6 months of age.

Wasting

According to the ZHDS 2013-2014, Zambia has consistently maintained the wasting levels among children under five between 5 percent and 6 percent from 1992 to 2014 period which shows a peak at 9 to 11 months of age. Wasting prevalence in Zambia varies slightly between urban (4 percent) and rural children (6 percent).

Under weight

The ZDHS 2013-2014 shows that the prevalence of underweight among children under five years of age in Zambia has decreased from 25 percent in 1992 to 15 percent in 2014. Underweight (BMI <18.5) of women of the reproductive age group stands at 10 percent, while the most affected children are infants below 24 months (10 percent)⁵. The prevalence is slightly higher among children in rural areas (16 percent) compared to those in urban areas (13 percent).

Undernutrition among women

Zambia has recorded almost a static level of under-nutrition (10 percent) among women of child bearing age since the 1990s. But this is not the case for overweight/obesity which increased from 12 percent in 1992 to 23 percent in 2014 (ZDHS 2013-2014). Malnutrition (under and over) affects the well-being of women reducing among others, their ability to provide the most needed care practices that promote the health of their families especially children. When child care is

compromised, it affects the future reproductive and productive outcomes of an individual and ultimately the overall development of the country.

Micronutrient malnutrition

In Zambia, micronutrient deficiencies are highly prevalent among infants and young children aged 6-24 months and pregnant and lactating women. The most common micronutrient deficiencies include Vitamin A, iron, and zinc. The 2003 survey on micronutrient malnutrition showed that 53.3 percent of children and 13.4 percent of women were deficient. In terms of iron deficiency anaemia, this remains a major public health concern. Prevalence of anaemia was 55.0 percent among under-five children with children below two years reporting the highest levels of anaemia.

Causes of Poor Nutritional status in Zambia

The causes of malnutrition have been associated with many poor food and nutrition practices, food insecurity and poor environmental aspects occurring at different periods along the life cycle. Evidence show that malnutrition starts way back in pregnancy mostly due to poor nutrition of the mother. Poor maternal nutrition may result in low birth weight babies who may continue with poor growth if the care and feeding practices provided to them is suboptimal. The effects of poor nutrition are worsened further in times of emergencies including moderate events.

The Zambian diet has an over-reliance on maize which is not only insufficient to fulfil energy needs and diversity but also not able to meet adequate quantity and quality of protein and micronutrient. A study by NFNC showed that rural areas could only consume 4 out of the 13 food groups depicting poor diet diversity. In addition, the Zambian diet is mainly vegetarian. Study results show that 27 percent to 65 percent of the population cannot afford a minimum cost of a nutritionally adequate diet. Further, the increased disease burden in the community affects the consumption and causes the loss of essential micronutrient in the body contributing to under nutrition.

Interventions to Address Under Nutrition

Zambia has continued to experience high undernutrition levels especially stunting for over several decades. Several interventions have been implemented addressing the underlying causes of malnutrition as depicted by the UNICEF Conceptual framework to reduce undernutrition. The interventions include infant, adolescent and maternal nutrition; and micronutrient prevention programmes such vitamin A supplementation among children under-five, deworming and iron supplementation among pregnant women, food fortification, management of severe acute malnutrition, nutrition in emergencies. Indirect nutrition interventions mostly to address food security and diseases issues are also implemented by various stakeholders in the country. These include agriculture to address food production, processing and storage including bio-fortification; water, sanitation and hygiene; social protection; education including school health and nutrition; and other interventions that may affect nutrition. Due to many stakeholders involved in addressing nutrition, a multi-sectoral approach is used.

3.3.4. Health

Zambia has embarked on a transformation agenda for the health sector and launched the 2017-2021 National Health Strategic Plan (NHSP) which provides the framework for building a robust and resilient health system through a primary health care approach across the continuum of care covering the provision of promotive, preventive, curative, rehabilitative, and palliative health services as close to the family as possible. The NHSP 2017-2021 aims at reducing morbidity, mortality, disability and socioeconomic disruptions due to outbreaks and other health emergencies.

A key priority is ensuring public health security. In this vein the Government established the Zambia National Public Health Institute (ZNPHI) in August 2016 in line with the Africa Union Resolution AU/Dec.554 (XXIV) which established the Africa CDC and called for all AU Member States to have a National Public Health Institute.

The ZNPHI is a specialized public health authority and technical arm of the Ministry of Health mandated to promote and protect the health of all Zambians and support health facilities at all levels in improving the health of the people through prevention of infection, surveillance and disease intelligence, and response to emergencies including outbreaks, man-made and natural disasters, and other public health events. The ZNPHI is tasked to detect and respond quickly and effectively to disease threats and outbreaks based on science, policy and data-driven interventions and programs.

Through the ZNPHI, the Ministry of Health endeavours to build resilient capacity for 1) surveillance and disease intelligence, 2) effective preparedness and efficient management of public health emergencies, 3) efficient Public Health Laboratory network, and 4) generation, management and dissemination of scientific data to support evidence-based formulation of national policies, strategies and programs for public health actions.

To date the Institute has made significant progress in strengthening systems for surveillance, preparedness, and response to disease outbreaks and other public health threats. ZNPHI has provided technical leadership and coordination during the recent outbreaks and alerts of public health concern. The response to the 2017/18 cholera outbreak, which has been managed in an unprecedented, coordinated and effective manner, is a case in point that demonstrates the critical role and necessity of the Institute in assuring the public health security of Zambia.

3.3.5. Water, Sanitation and Hygiene (WASH)

Sustainable development can only be achieved when key components of Water, Sanitation and Hygiene (WASH) are considered. In Zambia, more than one third of the population does not have access to clean water and more than half lacks access to proper sanitation facilities. Water and sanitation facilities in basic schools are generally poor. The Government's Educational Statistical Bulletin indicates that more than 25 percent of basic schools do not have access to a safe water supply (borehole-piped, borehole-pump, piped water, or protected well) and improved sanitation facilities. Not having access to clean and safe water leads to diseases like diarrhoea and cholera.

The National Water Policy (2010) and the Water Resources Management Act (2011) introduced the principles of Integrated Water Resources Management (IWRM) and provides new institutional and legal framework for the management of water resources in Zambia. The sector has prioritized infrastructure development in rural areas in order to improve the livelihood of the rural population where the majority of the poor live. The sector is also developing the National Water Supply and Sanitation Policy that will facilitate effective development and management of the water supply, sanitation and solid waste subsector in Zambia. The Water Supply and Sanitation Act No. 28 of 1997 will also be reviewed.

According to the 2013-14 ZDHS, the proportion of people using improved drinking water source at national level is 89.2 percent for urban and 46 percent for rural. Further, the proportion of population with access to improved sanitation at national level is 39.2 percent for urban and 19.7 percent for rural.

WASH Solutions

In 2018, the seventh national development plan (7NDP) puts forward four key priorities for the provision of water and sanitation. The four key activities include;

- i. Enhance water storage through rainy water harvesting and catchment protection
- ii. Promote management aquifers and enhance groundwater resources availability
- iii. Source Financing for the water resources development programmes
- iv. Strengthen institutional and human capacity

3.3.6. Education

Government's thrust on education is to achieve increased and equitable access to quality education at all levels through a variety of policy decisions, initiatives/strategies and programmes which are as well articulated in the strategic plan. This includes the abolition of school fees at primary level, support to alternative modes of delivery and introduction of bursaries to cater for the most vulnerable.

The Ministry of General Education has continued with policy, legislative and administrative reform processes to conform to the current situation and needs, as well as future national and global demands. The reforms are on 1996 Education Policy, Education Act of 2011, Early Childhood Policy development, Devolution of Early Childhood, Primary as well as Youth and Adult Literacy Education Functions to Local Authorities and restructuring of the Ministry. The Ministry has continued to roll-out the revised school curriculum at Grades 3, 7 and 12, as well as the procurement and supply of teaching /learning materials which includes computers.

Strategies to support vulnerable children in education system continues to be implemented and these include; School Feeding Programme targeting 1, 052, 000 learners in 38 vulnerable districts and Keeping Girls in School (KGS) project which is providing bursary to 14, 353 secondary school girls from vulnerable households in 16 districts. This initiative is part of the Girls Education and Women's Empowerment and Livelihood (GEWEL) project being implemented in collaboration with Ministry of Community Development and Social Services as well as Ministry of Gender.

Other coping strategies include: re-entry policy for girls who fall pregnant, provision of counselling and guidance services, menstrual hygiene management in schools and rehabilitation of schools' infrastructure damaged by natural calamities.

3.3.7. Social Protection

Poverty and vulnerability continue to persist in Zambia with the country recording a stubbornly high rates. According to the 2015 Living Conditions Monitoring Survey, poverty remains predominantly a rural phenomenon with poverty levels at 76.6 percent compared to 23.4 percent in urban areas. Most of the rural populations rely on subsistence agriculture (52.3%), these households use traditional agricultural methods and have limited access to markets and other resources that would enhance their productivity hence they generate very little income to propel them out of poverty. This compromises their capacity to be resilient in the wake of disasters such as droughts, floods, pest infestation, epidemics and/or periods of price fluctuations. In addition, poor nutrition, which in part is a function of food insecurity in poor households, further erodes their human capital potential. This reinforces the intergenerational transfer of poverty and keeps these households trapped in a vicious cycle of poverty. Therefore, social protection serves as an important means of 'graduating' or moving households from such a state of high vulnerability and poverty to one of resilience, with an increased capacity to invest in productive assets and hence improved livelihood security.

In order to remedy the situation, Zambia has been implementing a number of social protection interventions, targeting the critically poor and most vulnerable people in order to improve their welfare and livelihoods. The current social protection programming is based on social assistance, social security, livelihoods and empowerment and protection.

Social Assistance

The Government and other stakeholders have been implementing several social assistance interventions targeting specific categories of beneficiaries. These have taken the form of non-contributory transfers either in cash or in-kind, fee waivers, and subsidies with a view of reducing poverty.

These interventions specifically target those who lack the inherent capacity to work, rather than those who are failing to meet their needs through shortcomings in various aspects of their circumstances such as limited access to markets, insufficient capital or land. This form of assistance provides supplementary support to help such households have more secure access to food and other basic needs, including through investments in human capital.

Programmes of this nature include the Public Welfare Assistance Scheme (PWAS), Social Cash Transfer Scheme (SCT), Supporting Women's Livelihoods (SWL), nutrition and supplementary feeding interventions such as the Home-Grown School Feeding Programme, bursaries and scholarships, and the resettlement and rehabilitation of people with disabilities (PWDs) and Orphans and Vulnerable Children (OVCs).

Livelihood and Empowerment

Livelihood and empowerment programmes seek to provide support to households and groups who lack sufficient capacity to generate adequate reliable income that strengthen their livelihoods.

These forms of livelihood and empowerment interventions typically include provision of finance, agricultural inputs and entrepreneurship skills including public works to promote community infrastructure and assets. In Zambia, specific programmes implemented include the Farmer Input Support Programme, Food Security Pack, Women Empowerment Fund, Functional Literacy and Skills Training, Community Self Help Initiatives.

Protection

In Zambia, experiences of vulnerability resulting from the violation of human rights are common, particularly amongst the poor. Vulnerability is further reinforced by eventualities such as HIV/AIDS; widowhood; orphan-hood; human trafficking, Gender Based Violence. These events are often associated with various manifestations of appropriation, exploitation or abuse that affect the most vulnerable, and entrench the problems being experienced by the surviving family members.

Specific programmes implemented include the rehabilitation of street children, provision of places of safety and children’s homes, anti-sexual and gender based violence, anti-human trafficking and child labour, Correctional Services and legal aid services

Below is a table of key Social protection Programmes implemented in 2017 showing the coverage and caseloads.

Table 5: Key Social Protection Programmes implemented in 2018

No.	Programme	Coverage as of June 2018		Case loads
1	Social Cash Transfer programme	10 Provinces	109 Districts	532,188
2	Public Welfare Assistance	10 Provinces	109 Districts	200,000
3	School Feeding Programme	10 provinces	38 Districts	1,052,000
4	Farmer Input Support Programme	10 provinces	109 Districts	600,000
5	Food security Pack programme	10 Provinces	109 Districts	32,000
6	Women Empowerment Programme	10 Provinces	109 Districts	

CHAPTER FOUR: FINDINGS

4.1. GENERAL DEMOGRAPHICS

Headship:The gender of household heads did not differ much with what is seen at the national level with majority of households (80%) being male headed. In terms of marital status, about 60 percent of households were married, 21.3% were single, 6.2% were widowed with the rest either divorced or separated.

Education Level of Household Head:On the education level attained by the household heads, the assessment report indicated that majority (58 percent) of the household heads interviewed had attained at least primary education. Furthermore, the assessment indicated that 21 percent of the household heads had reached secondary level, 2 percent had attained tertiary education while 15 percent of the households had no formal education. School going children on the other hand accounted for 41 percent.

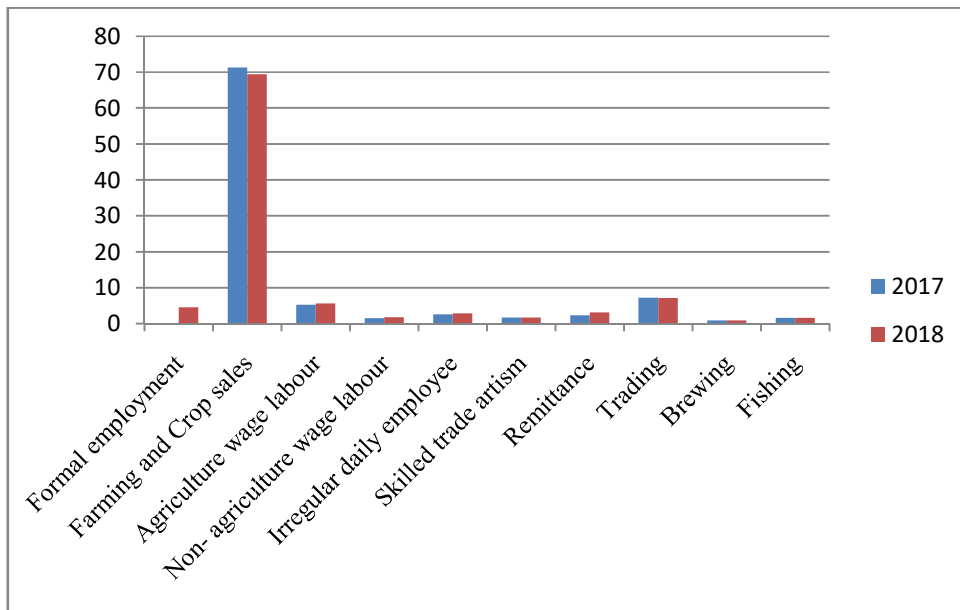
Employment:The assessment revealed that most of the household heads (41percent) were unemployed compared to 22 percent that were informally employed. The survey indicated that most of the households were involved in some kind of generating activities which is a good indicator for resilience.

The assessment showed that majority (60 percent) of the households had household members ranging from 4- 8 followed by household sizes between 1- 4 at 30 percent and 9 percent accounting for household sizes between 9- 12. The survey further showed that most of the households were keeping orphans with the majority being single orphans (7 percent) while double orphans accounted for 1 percent with the dependency ration at 4 percent. In terms of chronic illness and disability, the chronic illness incidence was 2 percent while the disability prevalence level stood at 1 percent.

4.2. LIVELIHOODS

A comparative assessment of the main sources of livelihoods at national level for the last two years (2017 and 2018) have remained relatively stable as shown of **figure 2**. For instance, the assessment showed that the main sources of livelihood during the period under review were mainly farming and crop sales (68%), trading (6%) and agricultural wage (6%) with no significance differences between the two consecutive seasons.

Figure 2: Livelihood Sources and Change



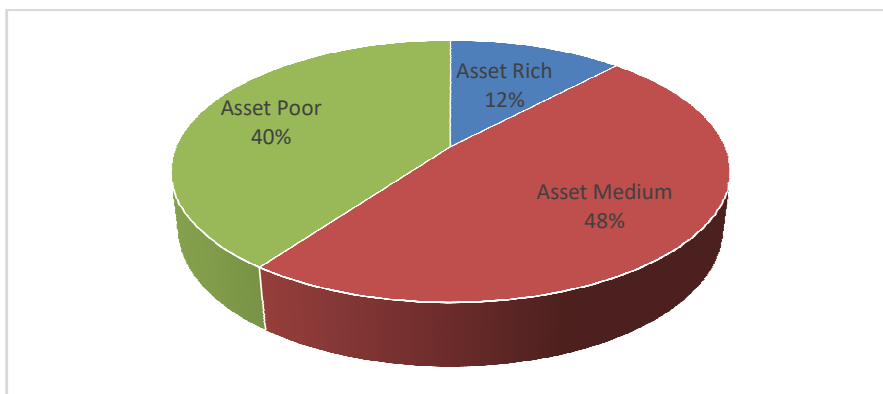
Source: ZVAC 2018

Figure 3 above shows that the most of the people in the assessed districts were engaged in farming and crop sales which had a mean score of 68%, trading had a means score of 8% with agricultural wage labor and formal employment having a mean score of 6% respectively. The livelihood sources that had a lower mean score included pension (0 %), money lending (0%), brewing (1%), remittances, skilled labor and non-agriculture wage labor accounted for 2% each.

4.3. ASSET OWNERSHIP

The analysis on the AWI has shown that majority of the households in the assessed districts are generally poor with 40 percent being asset medium and 48 percent asset poor. There are however households that are asset rich (12 percent) in the same assessed districts.

Figure 3: Asset Ownership



The research revealed that there were no significant changes in asset ownership at both national and district level. The ownership of assets such as ploughs, hoes, bicycles and ox-carts remained constant. However, changes were observed in livestock ownership, between 2017 and 2018. The research revealed that 73% of households that owned cattle indicated that 13% had less in 2018 and 12% had more. In terms of ownership of chickens, 5% of households indicated no change, 72% had less in 2018 and only 23% had more.

4.4. AGRICULTURE AND FOOD SECURITY

Food Security

Zambia for the first time has used the Integrated Food Security Phase classification (IPC) to classify the severity and identify the causes of acute food insecurity. The IPC uses a set of protocols to classify the severity and causes of food insecurity and provide actionable knowledge by consolidating wide-ranging evidence on food insecurity.

The IPC is a multi-stakeholder process based on building technical consensus, convergence of evidence and comparability over space (provinces, regions) and time (current, projected). The IPC classifies areas with acute food insecurity into five phases (1 - 5) corresponding to None/Minimal, Stressed, Crisis, Emergency and Catastrophe/Famine respectively. These IPC Acute Phase have specific response objectives.

58 districts were analysed for acute food insecurity using two periods namely May – September 2018 and October 2018 to March 2019 representing periods which are similar in terms of how households acquire their food.

Key Highlights

Climatic shocks such as prolonged dry spells and late onset of rains impacted negatively on agriculture production during the 2017/18 agriculture season, while flash flooding in some southern districts in Zambia led to widespread leaching and loss of crop nutrients. These factors contributed to reduced crop production in main districts in Zambia. Nationally maize production fell about 34% while small grains also registered a decline in production.

The prolonged dry spell affected mostly the southern half of Zambia where rainfall performance was below normal. About 28 districts had prolonged dry spells of between 31 and 40 days mostly in the Central, Eastern, Lusaka, Southern and Western provinces. In addition to the dry spells, Fall Army Worm and stalk borer outbreaks also impacted on crop production.

The food security situation between May and September was generally stable with the majority of the 58 districts being classified in IPC Phase 2 however two districts namely Lunga and Mambwe were classified in IPC Crisis Phase 3. During this period, about 610,067 people will be facing IPC Phase 3 or worse food security situation. This represents 8% of the analysed population in IPC Phase 3 and 3% in IPC Phase 4 Classification.

The food security situation is projected to worsen during the peak hunger period between October and March 2019 with about 19 districts classified in IPC Phase 3, culminating to about

954,119 people in IPC Phase 3 or worse; 11% of the analysed population in IPC Phase 3 and 4% in IPC Phase 4 Classification. This is largely due to erratic rainfall which was characterised by late onset, mid-season dry spells and outbreak of crop pests which led to reduced crop production across the country.

Overview of Food Security Situation

Zambia experienced an erratic 2017/18 rainfall season characterised by late onset and prolonged mid-season dry spells from end of November, 2017 to 31st January 2018, which affected crop performance and consequently resulted in reduced cereal production in a number of districts. In Most households reported Fall Armyworm and Stalk borer infestation.

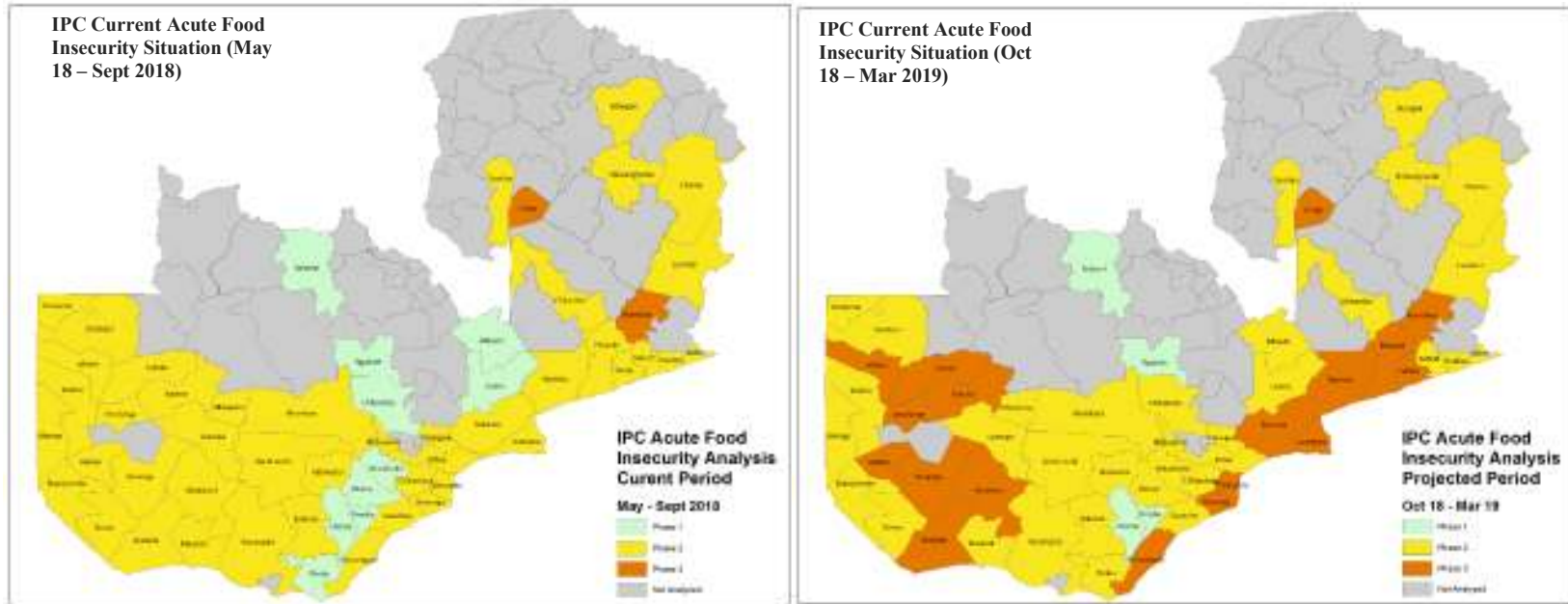
A Rapid Assessment undertaken in February to assess the impact of the mid-season dry spell, flooding and pests infestations showed that on average about 60% of the maize crop was adversely affected with most of it having premature tasselling.

The reduction in crop production resulted in a decline in the proportion of HHs with food stocks of more than 9 months from about 80% during the 2017/18 consumption year to 63% during the 2018/19 consumption year. About 61% of the HHs were reportedly consuming a maximum of 2 meals a day.

28% of HHs had poor dietary diversity indicative of IPC Phase 3 or worse. About 54% of the HHs had poor to borderline FCS. 12 districts namely Sioma, Shangombo, Nalolo, Luampa, Kaoma, Sinazongwe, Chirundu, Petauke, Nyimba, Mambwe, Katete and Chitambo had more HHs having poor to borderline FCS compared to the average of the analysed districts. Petauke, Nyimba and Katete had more than 70% of its population having poor to borderline FCS. However, in most of these districts, this was a reflection of poor non-diversified diets.

During the current period (May – September 2018), most of the households were not employing reduced coping strategies as about 84% indicated that they were not employing any reduced coping strategies while 14% employed stress strategies and the remaining 2% employed crisis strategies.

Figure 4: IPC Acute Food Insecurity Classification Maps



Food Consumption: In the two worse off districts (Phase 3), the majority of HHs were consuming poor to borderline diets, while also consuming two meals a day. Lunga had 77% of HHs having poor FCS and, 54% eating 0 to 2 food groups whilst Mambwe had 17% facing poor FCS.

Livelihood Change: While 14% and 15% households of households reported an increase in goats and pigs numbers in Mambwe, households in Lunga reported a decrease in chicken ownership.

Food Availability: Mambwe registered a 16% reduction in area planted to maize and a 60% decrease in production as compared to 2017 while Lunga crop production declined by 58% due to flooding.

Food Access: Mambwe has about 20% of HHs spending more than

Food Consumption: For the projected period, it is expected that more districts will slip into IPC Phase 3 classification as HH stock run out due to decreased cropping. HHs are expected to increase consumption on less preferred foods, reduce number of meals and employ more coping strategies.

Livelihood Change: The projected period, coincide with the peak hunger period in Zambia. Prices are expected to firm up putting pressure on the poor HHs to increase their coping mechanisms.

Food Availability: More HHs are expected to rely on purchases as stock deplete however prices are not expected to be more than the five-year average.

Food Access: More HHs resources are expected to be channelled towards food

Population in need of assistance

By using convergence of evidence, IPC identifies populations in each of the five phase for both current period and projected period as shown in the table below,

Table 6: Population Table for the Current Period (May – Sept 2018)

Province	District	District Rural population (#pp)	% of population requiring urgent action to protect livelihoods, decrease food gaps and acute malnutrition (IPC Phse 3+4)		IPC Phase 1		IPC Phase 2		IPC Phase 3		IPC Phase 4	
			#	%	HH group is able to meet essential food and non-food needs without engaging in atypical, unsustainable strategies to access food and income, including any reliance on humanitarian assistance.		HH group has minimally adequate food consumption but is unable to afford some essential nonfood expenditures without engaging in irreversible coping strategies		HH group has food consumption gaps with high or above usual acute malnutrition; OR HH group is marginally able to meet minimum food needs only with accelerated depletion of livelihood assets that will lead to		HH group has large food consumption gaps resulting in very high acute malnutrition and excess mortality; OR HH group has extreme loss of livelihood assets that will lead to large food consumption gaps in	
					# people	% pop.	# people	% pop.	# people	% pop.	# people	% pop.
Central Province	Chibombo	111,291	6,677	6	90,146	81	14,468	13	3,339	3	3,339	3
	Chitambo	59,923	9,588	16	37,751	63	12,584	21	7,790	13	1,798	3
	Itezhi-tezhi	100,189	13,025	13	74,140	74	13,025	13	3,006	3	10,019	10
	Luano	105,192	6,312	6	85,206	81	13,675	13	3,156	3	3,156	3
	Mkushi	105,143	6,309	6	85,166	81	13,669	13	3,154	3	3,154	3
	Mumbwa	305,295	36,635	12	177,071	58	91,589	30	24,424	8	12,212	4
	Ngabwe	26,814	1,609	6	23,060	86	2,145	8	804	3	804	3
	Sub-Total	1,306,736	78,404	6	574,964	44	156,808	12	39,202	3	26,135	2
Eastern Province	Chadiza	130,815	6,541	5	103,344	79	19,622	15	3,924	3	3,924	3
	Katete	198,543	11,913	6	133,024	67	33,752	17	25,811	13	5,956	3
	Lundazi	415,596	66,495	16	290,917	70	62,339	15	41,560	10	20,780	5
	Mambwe	92,781	13,917	15	45,463	49	23,195	25	16,701	18	7,422	8
	Nyimba	99,159	15,865	16	68,420	69	14,874	15	12,891	13	2,975	3
	Petauke	381,396	72,465	19	213,582	56	95,349	25	49,581	13	22,884	6
	Sinda	184,619	35,078	19	103,387	56	46,155	25	24,000	13	11,077	6
	Vubwi	54,342	3,261	6	42,930	79	8,151	15	1,630	3	1,630	3
Sub-Total	1,557,251	249,160	16	996,641	64	295,878	19	171,298	11	77,863	5	
Luapula Province	Lunga	28,176	8,735	31	15,215	54	4,226	15	5,072	18	3,663	13
	Samfya	205,293	26,688	13	106,752	52	71,853	35	16,423	8	10,265	5
	Sub-Total	233,469	16,343	7	121,404	52	77,045	33	4,669	2	11,673	5
Lusaka Province	Chirundu	67,146	12,758	19	38,945	58	15,444	23	7,386	11	5,372	8
	Chongwe	183,368	29,339	16	117,356	64	36,674	20	23,838	13	5,501	3
	Kafue	157,685	18,922	12	75,689	48	63,074	40	14,192	9	4,731	3
	Luangwa	29,508	5,607	19	15,049	51	8,852	30	4,721	16	885	3
	Rufuns a	66,185	7,280	11	42,358	64	16,546	25	5,295	8	1,986	3
	Shibuyunji	59,112	7,093	12	34,285	58	17,734	30	4,729	8	2,364	4
	Sub-Total	563,004	73,191	13	320,912	57	157,641	28	56,300	10	16,890	3
Muchinga Province	Chama	149,073	16,398	11	110,314	74	22,364	15	11,926	8	4,472	3
	Shiwangandu	73,297	8,063	11	50,575	69	14,659	20	5,864	8	2,199	3
	Sub-Total	222,370	24,461	11	160,106	72	37,803	17	17,790	8	6,671	3
North Western Province	Chavuma	40,219	4,424	11	27,751	69	8,044	20	3,218	8	1,207	3
	Solwezi	164,519	8,226	5	133,260	81	23,033	14	4,936	3	3,290	2
	Zambezi	98,890	15,822	16	68,234	69	14,834	15	7,911	8	7,911	8
Sub-Total	303,628	27,327	9	230,757	76	45,544	15	15,181	5	12,145	4	
Northern Province	Mungwi	191,809	30,689	16	113,167	59	47,952	25	24,935	13	5,754	3
	Sub-Total	191,809	26,853	14	113,167	59	47,952	25	23,017	12	3,836	2
Southern Province	Chikankata	67,386	7,412	11	46,496	69	13,477	20	5,391	8	2,022	3
	Choma	292,882	17,573	6	246,021	84	29,288	10	8,786	3	8,786	3
	Gwebembe	76,234	14,484	19	40,404	53	21,346	28	9,910	13	4,574	6
	Kalomo	267,492	42,799	16	171,195	64	53,498	20	34,774	13	8,025	3
	Kazungula	148,648	23,784	16	102,567	69	22,297	15	19,324	13	4,459	3
	Mazabuka	192,414	11,545	6	155,855	81	25,014	13	5,772	3	5,772	3
	Monze	111,460	12,261	11	90,283	81	8,917	8	8,917	8	3,344	3
	Namwala	364,608	40,107	11	240,641	66	83,860	23	29,169	8	10,938	3
	Pemba	79,391	4,763	6	66,688	84	7,939	10	2,382	3	2,382	3
	Siaovonga	60,800	9,728	16	29,792	49	21,280	35	7,904	13	1,824	3
	Sinazongwe	124,222	18,633	15	68,322	55	37,267	30	16,149	13	2,484	2
Zimba	97,116	5,827	6	78,664	81	12,625	13	2,913	3	2,913	3	
Sub-Total	1,882,653	207,092	11	1,336,684	71	338,878	18	150,612	8	56,480	3	
Western Province	Kalabo	92,345	14,775	16	45,249	49	32,321	35	12,005	13	2,770	3
	Kaoma	215,615	34,498	16	127,213	59	53,904	25	28,030	13	6,468	3
	Limulunga	55,310	8,297	15	19,359	35	27,655	50	6,084	11	2,212	4
	Luampa	49,937	5,493	11	36,953	74	7,491	15	3,995	8	1,498	3
	Lukulu	70,742	12,734	18	29,712	42	28,297	40	7,074	10	5,659	8
	Mitete	72,348	13,023	18	30,386	42	28,939	40	7,235	10	5,788	8
	Mulobezi	36,291	5,807	16	21,412	59	9,073	25	4,718	13	1,089	3
	Mwandi	39,938	4,393	11	27,557	69	7,988	20	3,195	8	1,198	3
	Nalolo	62,920	11,955	19	32,089	51	18,876	30	8,180	13	3,775	6
	Nkeyema	56,636	6,230	11	39,079	69	11,327	20	4,531	8	1,669	3
	Senanga	80,668	14,520	18	45,981	57	20,167	25	10,487	13	4,033	5
	Sesheke	121,135	19,382	16	59,356	49	42,397	35	15,748	13	3,634	3
	Shangombo	63,545	8,896	14	41,940	66	12,709	20	6,990	11	1,906	3
	Sikongo	50,313	8,050	16	24,653	49	17,610	35	6,541	13	1,509	3
	Sioma	54,209	3,253	6	34,694	64	16,263	30	1,626	3	1,626	3
Sub-Total	1,049,604	146,945	14	587,778	56	314,881	30	115,456	11	31,488	3	
Grand Total		7,310,524	804,158	11	4,459,420	61	1,462,105	20	584,842	8	219,316	3

Table 7: Population Table for the Projected Period (Oct 18 – Mar 2019)

Province	District	District Rural population # (pp)	% of population requiring urgent action to protect livelihoods, decrease food gaps and acute malnutrition (IPC Phse 3+4)		IPC Phase 1		IPC Phase 2		IPC Phase 3		IPC Phase 4	
					HH group is able to meet essential food and non-food needs without engaging in atypical, unsustainable strategies to access food and income, including any reliance on humanitarian assistance.		HH group has minimally adequate food consumption but is unable to afford some essential nonfood expenditures without engaging in irreversible coping strategies		HH group has food consumption gaps with high or above usual acute malnutrition; OR HH group is marginally able to meet minimum food needs only with accelerated depletion of livelihood assets that will lead to		HH group has large food consumption gaps resulting in very high acute malnutrition and excess mortality; OR HH group has extreme loss of livelihood assets that will lead to large food consumption gaps in	
					#	%	# people	% pop.	# people	% pop.	# people	% pop.
Central Province	Chibombo	111,291	20,032	18	57,871	52	33,387	30	14,468	13	5,565	5
	Chitambo	59,923	9,588	16	37,751	63	12,584	21	7,790	13	1,798	3
	Itezhi-tezhi	100,189	18,034	18	65,123	65	17,032	17	6,011	6	12,023	12
	Luano	105,192	11,571	11	72,582	69	21,038	20	8,415	8	3,156	3
	Mkushi	105,143	11,566	11	72,549	69	21,029	20	8,411	8	3,154	3
	Mumbwa	305,295	54,953	18	158,753	52	91,589	30	39,688	13	13,265	5
	Ngabwe	26,814	1,609	6	21,719	81	3,486	13	804	3	804	3
	Sub-Total	1,306,736	78,404	6	483,492	37	196,010	15	78,404	6	39,202	3
Eastern Province	Chadiza	130,815	11,773	9	74,565	57	32,704	25	17,006	13	6,541	5
	Katete	198,543	35,738	18	73,461	37	89,344	45	29,781	15	5,956	3
	Lundazi	415,596	74,807	18	182,862	44	166,238	40	33,248	8	33,248	8
	Mambwe	92,781	14,845	16	38,968	42	23,195	25	18,556	20	12,062	13
	Nyimba	99,159	20,823	21	53,546	54	24,790	25	12,891	13	7,933	8
	Petauke	381,396	80,093	21	205,954	54	95,349	25	49,581	13	30,512	8
	Sinda	184,619	38,770	21	99,694	54	46,155	25	24,000	13	14,770	8
	Yubwi	54,342	9,782	18	30,975	57	13,586	25	7,064	13	2,717	5
Sub-Total	1,557,251	295,878	19	763,053	49	482,748	31	186,870	12	109,008	7	
Luapula Province	Lunga	28,176	8,735	31	15,215	54	4,226	15	5,072	18	3,663	13
	Samfya	205,293	36,953	18	75,958	37	92,382	45	26,688	13	10,265	5
	Sub-Total	233,469	42,024	18	91,053	39	95,722	41	30,351	13	11,673	5
Lusaka Province	Chirundu	67,146	28,201	42	18,801	28	20,144	30	15,444	23	12,758	19
	Chongwe	183,368	29,339	16	117,356	64	36,674	20	23,838	13	5,501	3
	Kafue	157,685	18,922	12	99,342	63	39,421	25	14,192	9	4,731	3
	Luangwa	29,508	9,147	31	10,033	34	10,328	35	5,311	18	3,836	13
	Rufusa	66,185	17,208	26	29,121	44	19,856	30	11,913	18	5,295	8
	Shibuyunji	59,112	10,640	18	30,738	52	17,734	30	7,685	13	2,956	5
	Sub-Total	563,004	106,971	19	298,392	53	140,751	25	73,191	13	33,780	6
Muchinga Province	Chama	149,073	26,833	18	99,879	67	22,361	15	19,379	13	7,454	5
	Shiwangandu	73,297	13,193	18	41,779	57	18,324	25	7,330	10	5,864	8
	Sub-Total	222,370	33,356	15	142,317	64	40,027	18	26,684	12	6,671	3
North Western Province	Chavuma	40,219	7,239	18	20,914	52	12,066	30	5,228	13	2,011	5
	Solwezi	164,519	8,226	5	133,260	81	23,033	14	4,936	3	3,290	2
	Zambezi	98,890	15,822	16	68,234	69	14,834	15	7,911	8	7,911	8
	Sub-Total	303,628	27,327	9	215,576	71	48,580	16	15,181	5	12,145	4
Northern Province	Mungwi	191,809	30,689	16	113,167	59	47,952	25	24,935	13	5,754	3
	Sub-Total	191,809	26,853	14	109,331	57	46,034	24	23,017	12	3,836	2
Southern Province	Chikankata	67,386	12,129	18	38,410	57	16,847	25	8,760	13	3,369	5
	Choma	292,882	17,573	6	237,234	81	38,075	13	8,786	3	8,786	3
	Gwembe	76,234	14,484	19	40,404	53	21,346	28	9,910	13	4,574	6
	Kalomo	267,492	50,823	19	149,796	56	66,873	25	42,799	16	8,025	3
	Kazungula	148,648	23,784	16	102,567	69	22,297	15	19,324	13	4,459	3
	Mazabuka	192,414	11,545	6	132,766	69	48,104	25	5,772	3	5,772	3
	Monzie	111,460	17,834	16	49,042	44	44,584	40	14,490	13	3,344	3
	Namwala	364,608	58,337	16	178,658	49	127,613	35	47,399	13	10,938	3
	Peimba	79,391	4,763	6	64,307	81	10,321	13	2,382	3	2,382	3
	Siavonga	60,800	12,768	21	26,752	44	21,280	35	10,336	17	2,432	4
	Sinazongwe	124,222	24,844	20	62,111	50	37,267	30	19,876	16	4,969	4
Zimba	97,116	8,740	9	68,952	71	19,423	20	5,827	6	2,913	3	
Sub-Total	1,882,653	244,745	13	1,129,592	60	470,663	25	188,265	10	56,480	3	
Western Province	Kalabo	92,345	17,546	19	37,861	41	36,938	40	14,775	16	2,770	3
	Kaoma	215,615	45,279	21	94,871	44	75,465	35	38,811	18	6,468	3
	Limulunga	55,310	27,655	50	16,593	30	11,062	20	22,124	40	5,531	10
	Luampa	49,937	7,990	16	29,463	59	12,484	25	6,492	13	1,498	3
	Lukulu	70,742	21,223	30	17,686	25	31,834	45	15,563	22	5,659	8
	Mitee	72,348	21,704	30	18,087	25	32,557	45	15,917	22	5,788	8
	Mulobezi	36,291	11,250	31	15,968	44	9,073	25	6,532	18	4,718	13
	Mwandi	39,938	4,393	11	25,560	64	9,985	25	3,195	8	1,198	3
	Nalolo	62,920	16,359	26	24,539	39	22,022	35	11,326	18	5,054	8
	Nkeyema	56,636	10,761	19	26,053	46	19,823	35	7,363	13	3,398	6
	Senanga	80,668	19,360	24	37,107	46	24,200	30	14,520	18	4,840	6
	Sesheke	121,135	31,495	26	35,129	29	54,511	45	21,804	18	9,691	8
	Shangombo	63,545	12,074	19	35,585	56	15,886	25	8,261	13	3,813	6
	Sikongo	50,313	9,559	19	20,628	41	20,125	40	8,050	16	1,509	3
	Sioma	54,209	9,758	18	25,478	47	18,973	35	5,421	10	4,337	8
Sub-Total	1,049,604	230,913	22	430,338	41	367,361	35	178,433	17	52,480	5	
Grand Total		7,310,524	1,096,579	15	3,655,262	50	1,900,736	26	804,158	11	292,421	4

Limiting Factors to food security

There are generally four factors that limit attainment of food security at both national, and, more particularly, household levels: availability of food, access to food, utilization of food and stability of food supply. These will be looked in more detail in the following sections.

Availability of Food

The climatic shocks that included the prolonged dry period and late onset in some areas resulted in a reduction in both the area planted to crops and crop production in most districts. Maize production registered a decline of about 34% compared to the 5-year average to about 2.4 million tonnes. Most of the decline in maize production was experienced in the small and medium-scale farming sectors.

90.3% of the households reportedly grew crops and of these 84.5% grew maize, followed by groundnuts at 34.7%, sweet potatoes at 20.3% cassava at 15.9%, sunflowers at 8.9%, millet at 3.5% and sorghum at 3.8%.

Land Availability and Cultivation

The results of the assessment showed that 93 percent of the households in the assessed districts had access to arable land. The average size of arable land in the districts stood at 3.74 hectares per household. Districts in Central, Northwestern, Southern and Western provinces had the largest size of arable land amongst the assessed areas with Mkushi, Solwezi, Nkeyema and Namwala having 12.96, 11.05, 8.15 and 5.40 hectares, respectively while the smallest average available arable land was in Lunga and Chavuma with 1.04 and 1.33 hectares, respectively. The results also showed that the reduction in arable land cultivated in the 2017/18 agricultural season is about 69% on average compared to the 2016/17 season. This reduction is highest in Mulobezi (83%) and lowest in Luangwa (43%). Further, results showed that the majority of households are not utilizing their arable land fully mainly due to lack of inputs, prolonged dry spell and the lack of labour (Table 6). The other impediments were prolonged dry spells and pest problems.

Table 8 Reasons cited for Underutilization of Available Arable Land

Reasons	Percent
Planned Fallow	1.2
Flooding	13.7
Prolonged dry spell	20.9
Field Rented Out	3.1
Lack of Labour	15.5
Pest Problem	27.1
Illness in the Family	1.2
Lack of Inputs	14.1
Lack of Drought Power	3.2

Supply Situation Expected during the 2018/2019 Season

At the national level, despite a reduction in maize production in 2018, maize availability is expected to be sufficient in the 2018/19 marketing year (May 18/April 19). This is because, Zambia has large national stocks estimated to be around 0.8 million tonnes, following the record 2017 output. Of this volume, the Food Reserve Agency was estimated to hold 0.6 million tonnes.

Livestock Availability and Production

67% of households in assessed districts owned livestock. The types of cattle owned included poultry (57%), cattle, 20.1% and goats (17.4%). Other livestock owned included pigs, sheep and donkey (refer to figure 5 below).

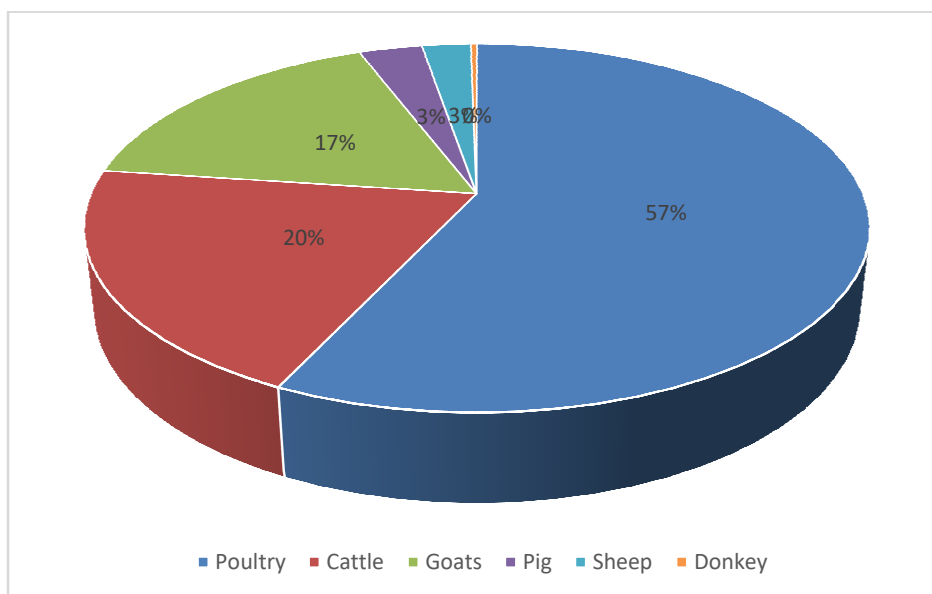


Figure 5: Types of Livestock Available

According to the survey results, pasture availability in the assessed districts was about the same compared to the same period last year (Figure 5 below). In order to have good quality livestock and livestock products it is paramount to ensure access to good quality pasture all year round. When asked about availability of water for livestock, 65% of respondents indicated that there would be sufficient water.

Agricultural Markets

When asked about the operations of the market, above half (55%) of the population in the identified districts pointed out availability of sufficient food (main staples) on the local markets. Slightly above a quarter (28%) indicated the possibility of change in supply in the next 6 months with 20% indicating neighbouring communities as the source. The majority expect sources of supply to be from outside the district. Moreover, only 43% indicated having physical access to operational markets. Constraints identified to be inhibiting physical access include: none existence and long distance to markets, poor infrastructure such as roads and bridges. Overall, current and expected market dynamics vary across provinces and districts within.

Central Province

In the Central Province, less than half of the households in Chitambo, Luano and Mkushi indicated sufficient availability of the main staples on local markets (Figure 1). This proportion dropped further when asked about the supply of the main staples in the next six months, with those in Luano district being the least (31%). Furthermore, few, below 50%, think the sources of supply will change in the next 6 months, with Mkushi accounting for a very small proportion (10%). The proportions are much higher in Itezhi-tezhi (45%) and Chibombo (38%). More than half of those that expect change in the source of supply, expect supplies to come out of the district. Over 40% have to physical access to operational markets, except for those in Itezhi-tezhi.

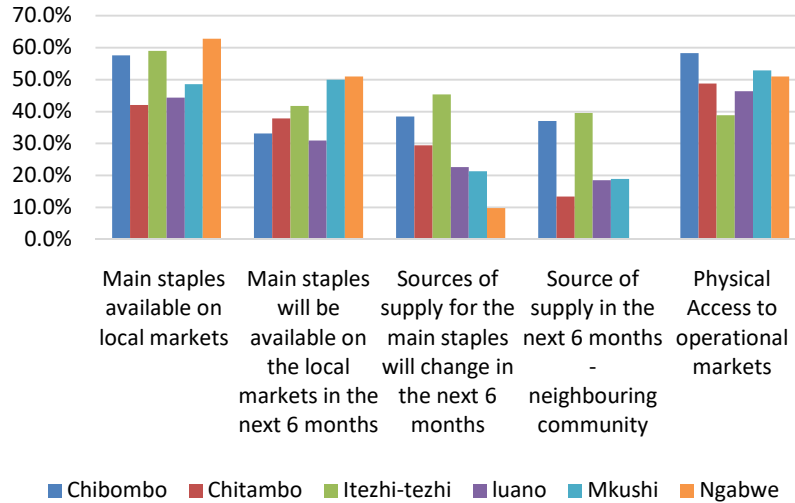


Figure 6. Central province market related factors

Eastern Province

Among the districts assessed for vulnerability in the Eastern province, Katete, Mambwe, Nyimba and Petauke had a low proportion of households indicating availability of the main staple on the local markets (Figure 2). For example, less than 10% of the households in Nyimba and Petauke indicated availability of the main staples on the local markets. This holds for the next 6 months, with less than half seeing any possible change with regards to the source of supply. The majority, over 60%, indicated the source of supplies in the next 6 months will be outside the district. Physical access to operational markets is relatively high for Chadiza (44%) and Lundazi (45%), whereas it is low for Nyimba (6.3%).

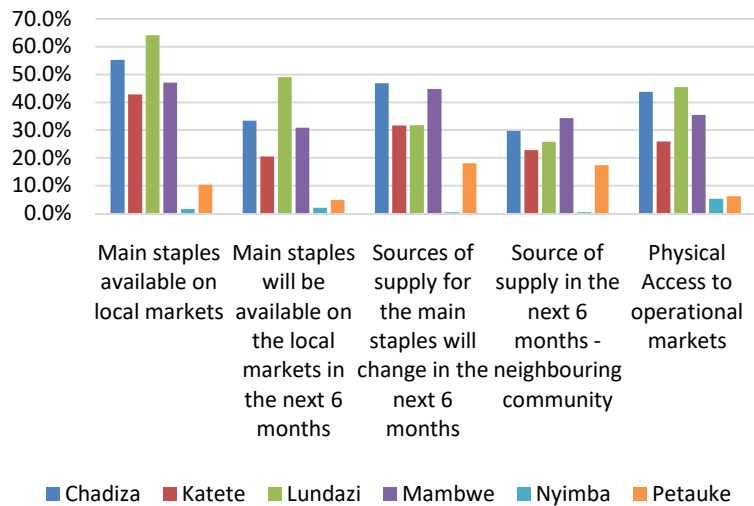


Figure 7. Eastern province market related factors

Luapula Province

Within Luapula Province, more than three quarters of the households in Lunga and Samfya districts pointed out that there is sufficient food, main staples, on the local markets (Figure 3). And that the situation is likely to stay the same in the next 6 months. Very few, less than 10%, felt that the sources of supply will change in the 6 next months with neighboring communities as the source. In addition, more than half indicated having physical access to operational markets.

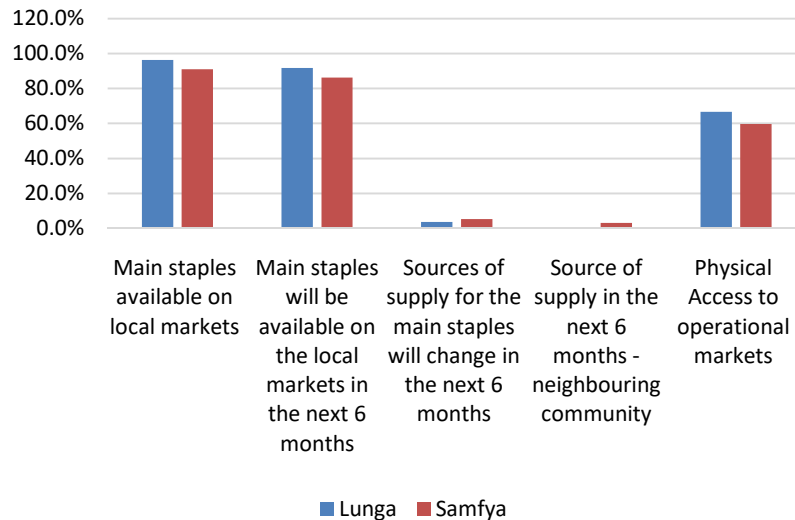


Figure 8. Luapula province market related factors

Lusaka Province

In Lusaka province, over 40% of the households in the identified vulnerable districts indicated availability of sufficient food (main staples) on the local markets (Figure 4). The proportion is highest for Kafue (86%) and lowest for Luangwa district (40%). When asked about the availability in the next 6 months, less than half of the households confirmed availability of the main staples in sufficient amounts, with an exception of those in Kafue (57%) and Shibuyunji (61%) districts. Few, below 50%, households also felt there will be change in the sources of supply for the main staples in the next 6 months with the neighbouring communities as the source. Nonetheless, over 50% indicated having physical access to operational markets. This is expected, as production activities in these is good and they are in close proximity to Lusaka -- a hub for business activities.

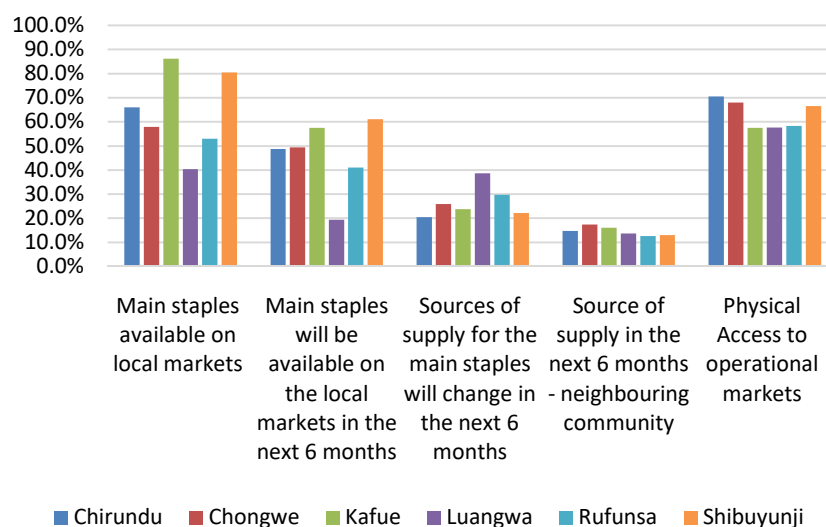


Figure 9. Lusaka Province market related factors

Muchinga Province

For Muchinga province, half of the households in Shiwang’andu (50%) and 38% of those in Chama district indicated sufficient main staples being available on the local markets (Figure 5). Very few, less than a quarter in both districts, indicated availability of the main staples in

sufficient amounts in the next 6 months. And more than half feel sources of supply for the main staples will change in the same period with over 60% indicating that the supply will come from outside the district. A small proportion also indicated having physical access to operational markets. The proportion is smallest for Chama (1.4%). This pattern is not so different for Mungwi district of the Northern Province where less than half of the households indicated sufficient availability of the main staples on the local markets (Figure 6).

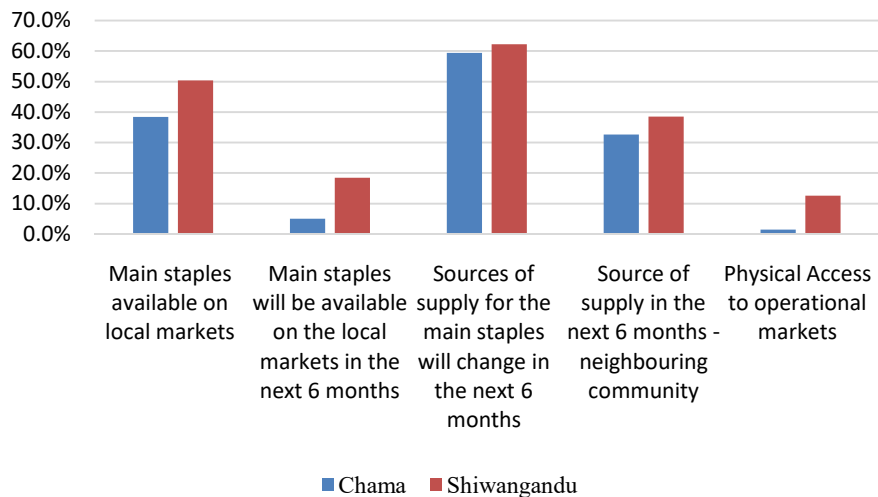


Figure 10: Muchinga Province Market Related Factors

North-western Province

Chavuma, Solwezi and Zambezi districts all had more than 70% of the households saying that there is sufficient food (main staples) available on the local markets (Figure 7). When asked about the next 6 months, there was a reduction in the proportion. Nevertheless, more than half still felt the availability of the main staples on the local markets will be sufficient. Very few, less than 10%, felt that the sources of supply for the main staples will change in the next 6 months with neighbouring communities being the source. Moreover, over 70% have physical access to operational markets.

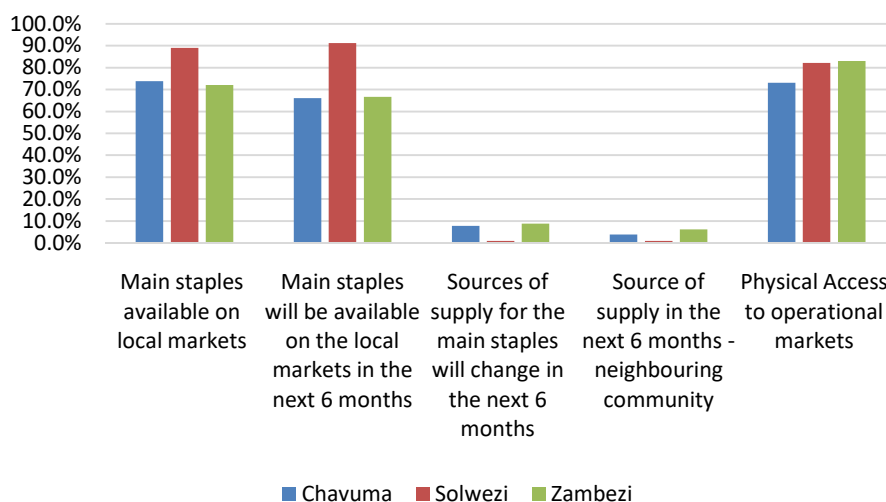


Figure 11: North-Western Province Market Related Factors

Southern Province

Five out of the eleven districts identified as vulnerable in the Southern Province, had less than half of the households indicating sufficient availability of the main staples on the local markets (Figure 8). These five districts include: Chikankata, Kalomo, Mazabuka, Siavonga and Zimba. With the addition of Kazungula a low proportion, less than 50%, felt sufficient food – main staples will be available in the next 6 months on the local markets. Furthermore, less than half indicated change in the source of supply with the majority pointing out that supplies will come from outside the district. Access to operational markets appears not to be so good in Kalomo (21%), Kazungula (23%) and Zimba (14%).

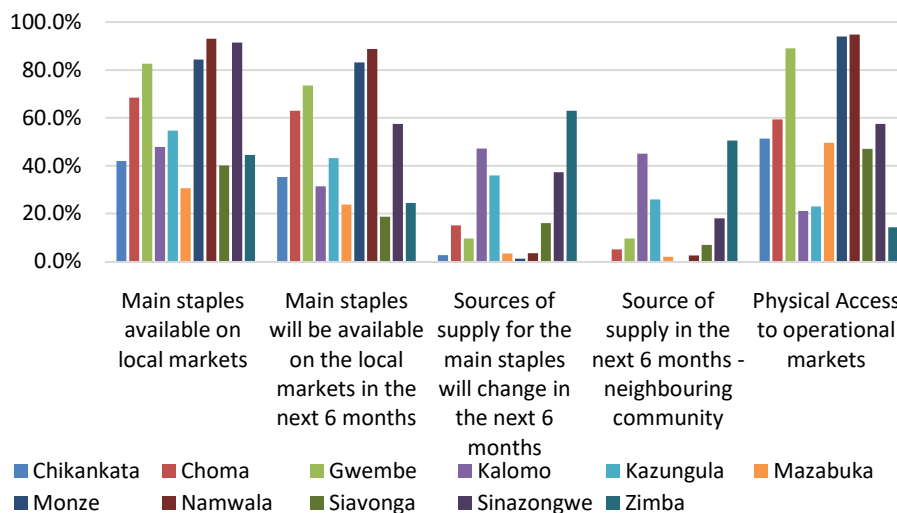


Figure 12: Southern Province Market Related Factors

Western Province

Kalabo, Limulunga, Senanga and Shangombo districts had the lowest proportion of households indicating sufficient availability of the main staples on the local markets (Figure 9). The proportions of households indicating sufficient food availability in the next 6 months reduce farther across all the districts. Change in the sources of supply for the main staples in the next 6 months is expected by less than half of the households with over 50% indicate outside the district as the source. Physical access to operational markets is poor as indicated the low proportion of households, with an exception of those on Luampa and Nkeyema districts.

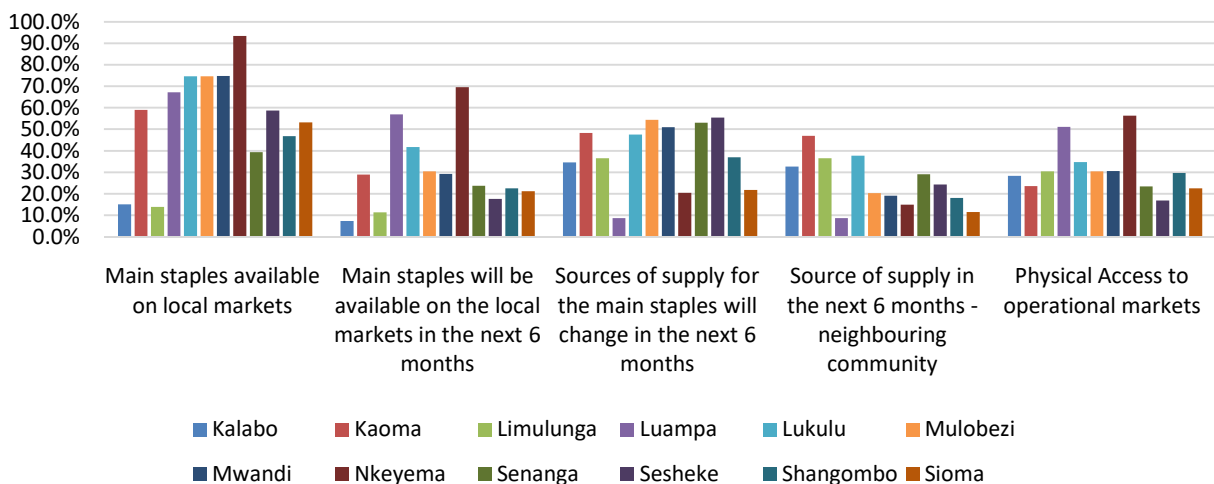


Figure 13: Western Province Market Factors

Access to Food

Household food access is achieved when the households have sufficient access (entitlement) to that food, including physical (distance, infrastructure, etc.), financial (purchasing power) and social (ethnicity, religion, political affiliation, etc.) aspects. Therefore, this section discusses access in terms of physical, financial and social access to food.

Physical Access

Out of the total maize produced, 560,433 MT will be retained by households. When households were asked if they had any carry-over stocks from previous season, 42.9% indicated having carryover stocks.

Financial Access

Household food access is linked to incomes, expenditure, and purchasing power. Households with financial capabilities resort to markets when own staple foods run out, as indicated in the assessment. This is evident where 22.8% of the households purchased staple food between January and April, 2018. Given the below average production for majority of households in the assessed districts, the poor households will only access own production during the June to July,

Analysis on the income sources and expenditure shares on food and non-food commodities still remains one of the critical components in understanding the economic vulnerabilities of households. Majority of the households (58%) in the assessed districts indicated that they spent less than 50% of their income on food. A further 28% spend between 50 and 74% of their income on food. Only about 13.9% spend over 75% of their income on food. Majority of those who spend more than 75% of their income on food were in Ngabwe (36%), Limulunga (41%) and Kalabo (52%).

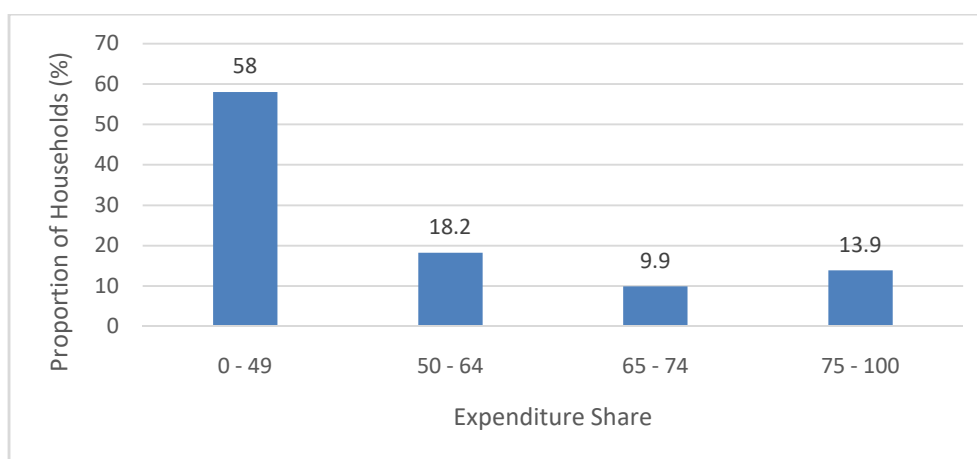


Figure 14: Food Expenditure Share

Utilisation of Food

While the term “utilization” can be understood differently, the IPC Analytical Framework uses this term to explicitly refer to the physical utilization of food at the household level and not at individual level which can be influenced by other factors such as disease.

Crop Storage Facilities and Food Types Preserved

The Zambia Vulnerability Assessment 2018 results show that the commonly used storage facilities by households are houses (40%), open crib (20%), covered cribs with sides made of

wood/branches (25%) and closed mud structure (15%). Almost all these storage options would not guarantee good quality.

Stability of supply

Regarding results from community key informant interviews, 75.7% indicated that household own produced stocks will last for 6 months. Those that indicated that their stock would last between 0 – 3 months were 12.4%, 3 – 6 months were about 11.9% and those between 6-9 months were 12.7%. Majority of households (63%) indicated that they had stock that would last for more than nine months. Districts where at least 40% of households would run out of own stock within the next three months included Luangwa, Nalolo and Senanga. Results showed that twenty-nine districts had more than 60% of households that indicated to have stocks that would last for more than 9 months.

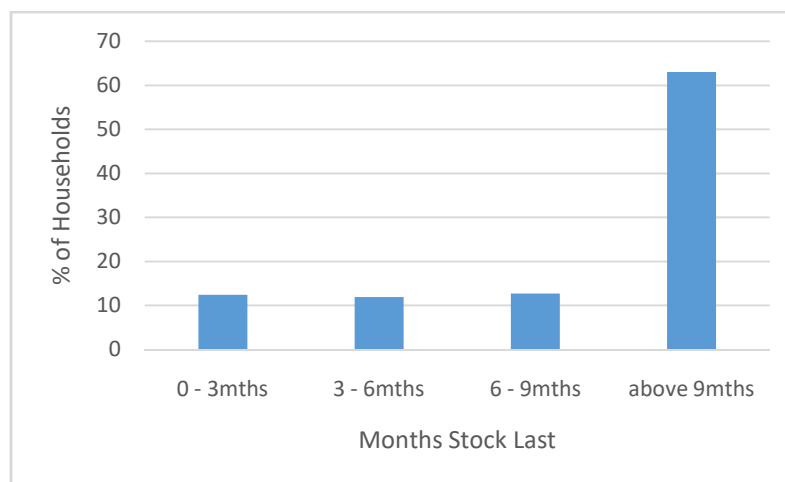


Figure 15: Period When Household Stock would last

Results have also shown that by December, 2018 which is the start of the lean period, about 60% of households are expected to run out of own produced stocks compared to 54% in a good year.

Agricultural Inputs

About 74% of the households assessed indicated that they managed to acquire agricultural inputs during the 2017/18 agricultural season. The input acquisition rate was highest in Chongwe district (100%) and lowest for Limulunga, Shang’ombo and Sioma districts of the Western Province where less than 25% indicated failing to acquiring agricultural inputs. For the most part, input acquisition was higher among areas known to be good production areas.

The main type of agricultural input acquired was seed (96%), followed by fertilizer (78%) and farming implements (13%). Of the districts assessed, the ones that indicated to have had less than 70% of households acquiring inputs were from Zambezi (69%), Sioma (67%), Luampa (56%) and Shang’ombo (50%).

4.5. HEALTH

The 2018 in-depth assessment like assessed the common household illnesses and child illnesses reported by the district health offices and the households. This assessment also looked at the health seeking behavior of the household.

Diseases reported by households between January and March, 2018

The assessment indicated that the common illnesses reported by districts included unconfirmed malaria/fever (47.8%), cough (32%) and non-bloody diarrhea (9%). There were few cases of bloody diarrhea (2.5%) and skin infections (0.8%) (see figure 18 below). Diarrhoea is a sign of poor hygiene and lack of safe water.

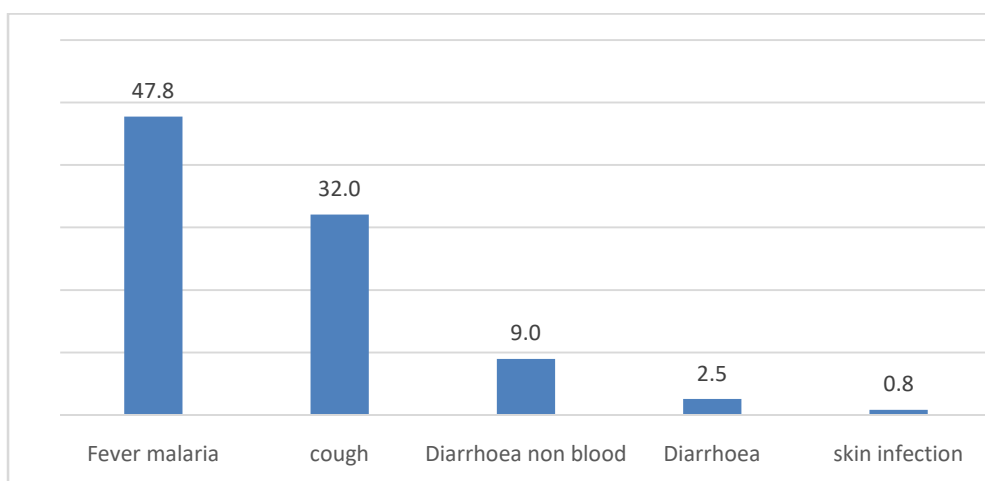


Figure 16: Diseases Suffered by Households in First Quarter of 2018

The assessment showed that out of the households assessed, 61.4 percent reported having had at least one member of the household that was sick in the first quarter of 2018. The districts reporting high proportions of households (more than 60%) suffering from malaria/fever included Sioma, Rufunsa, Senanga, Luampa, Mulobezi and Samfya.

The districts reported to have had high proportions of households reporting at least one household member suffering from non-blood diarrhea included Lunga (20%), Monze (18.9%), Gwembe (16.9%), Samfya (16,5%), Kafue (15.8%) and Chitambo (14%).

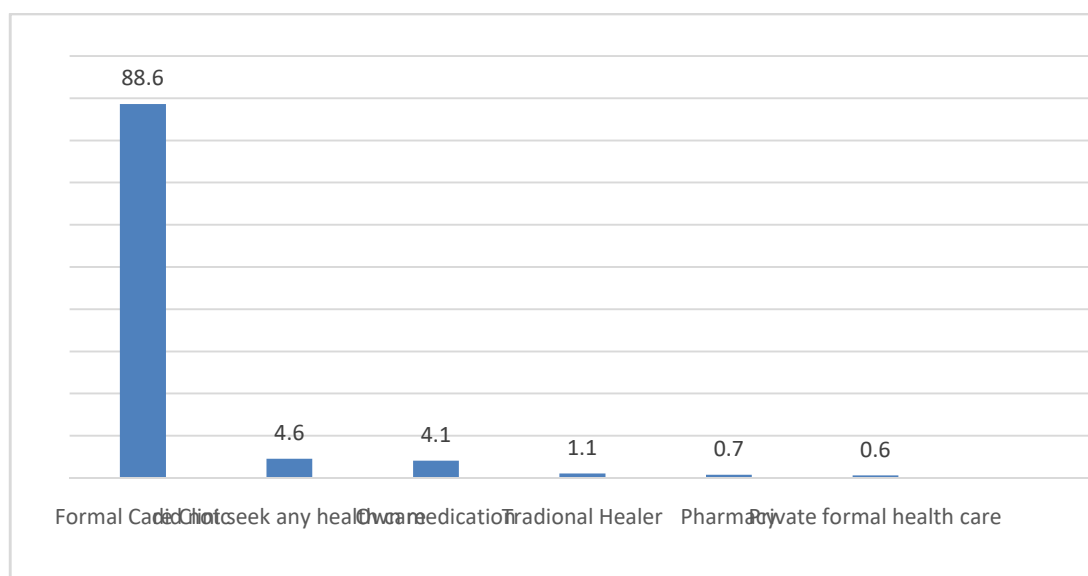
Diseases Reported by Households in the Two Weeks Preceding Assessment

The assessment reviewed that at the national level, 52.7 percent of the households reported having had a household member sick in the last two weeks prior to the assessment. During this period, unconfirmed Malaria/Fever was the most commonly reported ailment (46.5 percent) followed by Cough (18.1 percent) and Non-bloody diarrhea (8.7 percent). The disease pattern on the assessed ailments did not change significantly in the two weeks prior to the assessment and during the entire first quarter of 2018 as shown in **figure 18** and **figure 19**.

Health Care Seeking Behavior

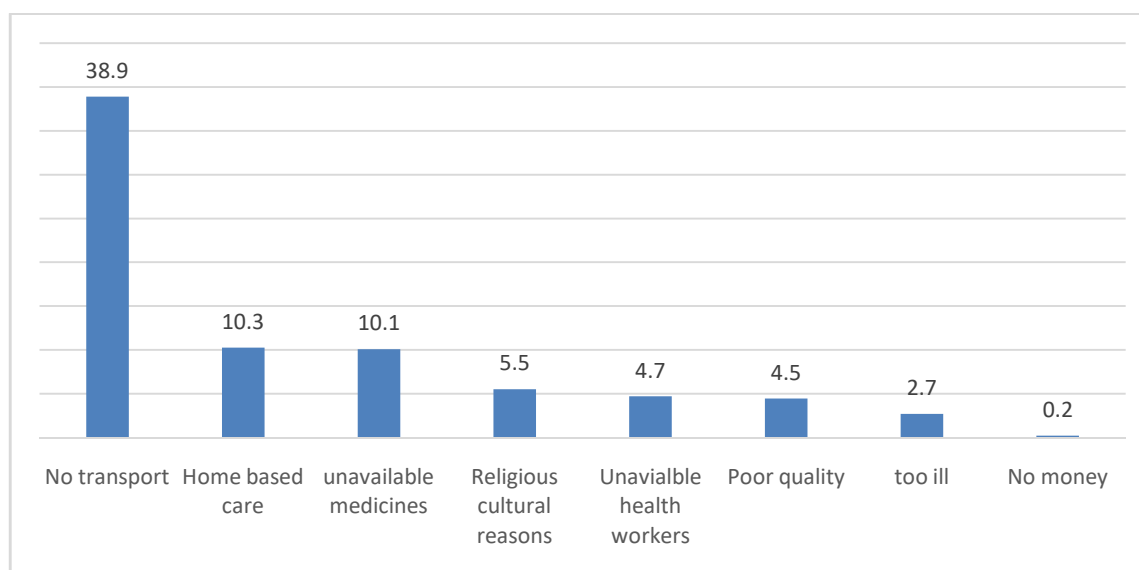
Results of the Assessment showed that majority of households (88.6%) sought health care from formal institutions (Clinic, Hospital, or village health worker). Those that self-medicated stood at 4.1 percent. A small number (about 1.1%) indicated having sought medical care from traditional healers. The remainder indicated having gone to private institutions (0.6%) or having gotten advice from pharmacies (0.7%). Those that did not seek any health care were 4.6 percent.

Figure 17: Distribution of Household's Health Seeking Behaviour



Of those that did not seek any health care, majority (38,9 percent) indicated that lack of transport led them not to seek health care. A further 10.3 percent indicated that they self-medicated while 10.1 percent indicated that there were no medicines at the facility and that made them not to seek any health care. Other reasons given for not seeking health care included the health personnel not being available, the person being too sick and that they did not have money to pay user-fees (refer to figure 20 below).

Figure 18: Reasons for Not Seeking Health Care



4.6. NUTRITION

4.6.1. Child deworming

Poor environmental conditions including poor water, sanitation and hygiene practices are responsible for most of the worm infestation (Andrew Hall & Sue Horton, 2009). Worms increase the risk of undernutrition in children including anaemia and stunting and in women, it increases the risk anaemia and low birth weight (World Health Organization, 2007). Infants and young children including school going children, should be dewormed to increase the chances of their survival and improve school performance.

In the districts under review, 68% of children under-five years were dewormed between January and May 2018 with almost an equal ratio of males and females (Table _). Several districts had more than two thirds of children not dewormed. These included among others Solwezi, Chavuma, Choma, Mkushi, Ngabwe, Luano, Luampa, Sesheke, and Chikankanta. Almost all children living in Petauke Chirundu Kafue Shibuyungi, Gwembe, Namwala and Limulunga districts were dewormed (Annex 2).

Table 9: Proportion of Children Who Received Tablets 6 Months Before Survey

Sex	Yes n (%)	No n (%)
Overall	68.4	31.6
Male	67.7	32.3
Female	69.1	30.9

4.6.2. Vitamin A supplementation

Micronutrient such as Vitamin A result from poor diet that provide inadequate amounts of the needed nutrients or from infections impairing intake or use of nutrients by the body. Most the

micronutrients affect children and women increasing their risk to morbidity and mortality including impaired growth and mental development (HTP, 2011).

The survey showed that 82% of the children received vitamin A capsules the past 6 months before the survey with an equal proportion for both males and females (Table _). About 3 districts attained over 90% supplementation of children 6 months to 5 years. In 10 districts (Chibombo, Chitambo, Itezhi-tezhi, Mkushi, Choma, Kalomo, Kazungula, Mazabuka, Sinazongwe, Zimba), more than one third of the children did not receive vitamin A (Annex _). Evidence indicate that a coverage threshold of 70% should be reached in order to observe reductions in child mortality (UNICEF, 2007).

Table 10: Proportion of children who received Vitamin A Supplementation capsules the past 6 months before the Survey

Sex	Yes (%)	Yes (%)
Overall	82.0	18.0
Male	82.1	17.9
Female	81.8	18.2

4.6.3. Child Immunisation

Immunisation is key for prevention of preventable illness particularly in children. It reduces mortality and morbidity. Reduction in diseases support the wellbeing of children. Over 90% of children reported to have received any kind of immunisation. Several districts (Mkushi, Mambwe, Chikankata, Mazabuka, Kalabo, Mulobezi, Sesheke) had less than 80% coverage.

Table 11: Proportion of children who received any Immunization

Sex	Yes	No
Overall	90.1	9.9
Male	88.9	11.1
Female	91.2	8.8

4.6.4. Household Dietary Diversity Score

The household dietary diversity score (HDDs) reflects the variety of foods consumed by the household represented by the number of foods groups consumed by the household members over the preceding 24 hours. It measures the economic ability to access variety of food by a household. Using the Integrated Food Security Phase Classification (IPC), about 22 districts were between phase 1 -3 classification while eight districts had a classification of phase 5 indicating that households consumed food from 1-2 out of 12 food groups (Annex 2)

4.6.5. Mid Upper Arm Circumference (MUAC)

Measurement of nutritional status helps to assess and classify nutritional status in an individual or at population level. It guides on what action or interventions can be undertaken to promote wellbeing. Table _ shows that 5.9% of the children had acute malnutrition with

only 2.8% having severe acute malnutrition. Severe acute malnutrition ranged from 0 to about 12% (Annex 2).

Table 12: Prevalence of undernutrition among children according to MUAC categories

MUAC Category	Overall (%)	Male (%)	Female (%)
Severe Acute Malnutrition (SAM) <11.5cm	2.8	2.1	3.6
Moderate Acute Malnutrition (MAM) 11.5cm-12.4cm	3.1	3.0	3.1
At Risk of Malnutrition 12.5-13.4cm	11.7	10.8	12.6
Normal Growth >13.4cm	82.4	84.1	80.7

In summary, the results show that deworming may not be adequate enough to provide external effect; benefiting even children who were not dewormed through reduction in the transmission of the pathogen through various pathways such as water, dirty floors, children play places, and hands. However, the levels of vitamin A supplementation are beyond the coverage threshold of 70% when reductions in child mortality can be observed. (UNICEF, 2007).

The quality of the diet is a key element in meeting the nutrients needs of the population including micronutrients such as vitamin A, zinc, iron and others. The household dietary diversity gives an adequacy picture for more than two thirds of the households. The reminder of the population is likely not meet their daily food needs to have a quality diet. Therefore, some form of interventions are required to support child growth, improve school performance and promote good pregnancy outcome.

Nutrition provisions alone may not be enough to support child growth or maintenance of health in adulthood. The nutrition status is also affected by the quality of environment around the areas in which people are living. For instance, poor water, sanitation and hygiene result in disease which tend to affect food intake (due to poor appetite), absorption and utilisation by the body. Absence of a health facility within reach of the population leads to poor health seeking. If such conditions are not attended, child growth is slowed down or stalled even in food secure households.

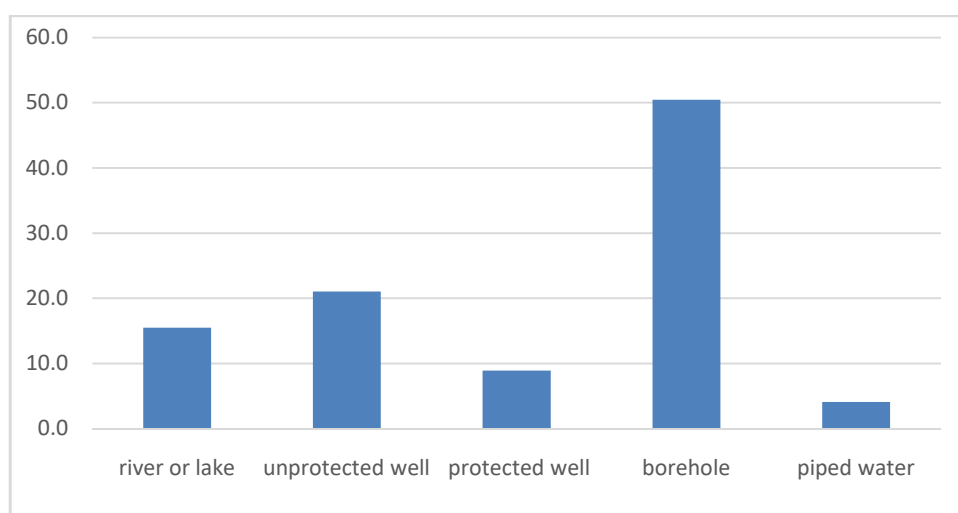
Intervention must therefore be sort that addresses not only direct but also indirect nutrition interventions such as social protection, water and sanitation, education and agriculture. This calls for sectoral approach in addressing malnutrition.

4.7. WATER, SANITATION AND HYGIENE (WASH)

4.7.1. Main Source of Water

The Assessment revealed that 63.5 percent of the population had access to improved water sources consisting of borehole (50.5%), protected well (8.9%) and piped water (4.1%). The remainder drew water from unimproved sources which were unprotected wells (21%) and open sources such as rivers and lakes (15.5%).

Figure 19: Main Source of Water



The provincial distribution of the main water sources indicates that Western, Central, Northern and Muchinga Provinces had the highest unimproved water sources with 54.8 percent, 40.6 percent, 37.3 percent and 30.7 percent, respectively.

4.7.2. Distance to Sources of Water

When asked about distance to water sources, majority (44.7%) indicated that the water source was about 100 – 500 meters away from their dwelling. Only about 10.1 percent of the population in the Assessed districts reported having water on their premises while a further 29.4 percent indicated having water sources that were about 100 meters away. The remainder (15.7%) had water sources that were more than 500 meters away from their dwellings refer to table 12 below).

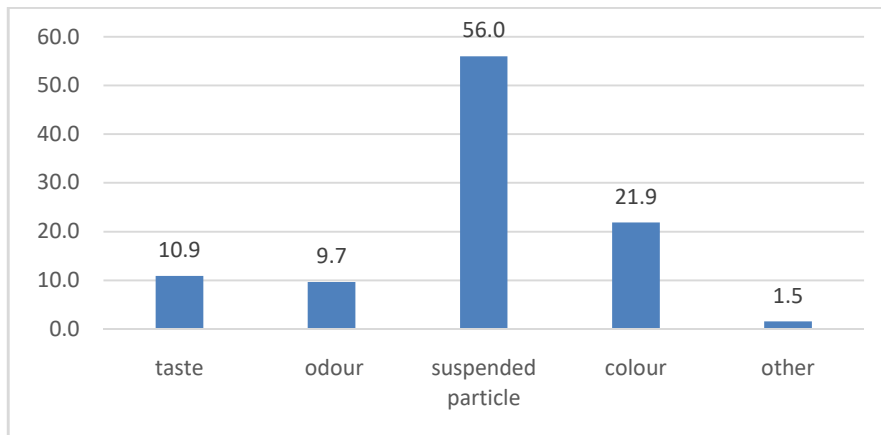
Table 13: Distance to Main Water Source

Distance	Percent
On premises	10.1
Less than 100 meters	29.4
100 to 500m	44.7
above 500m	15.7
Total	100.0

4.7.3. Perceived Water Quality

The results from the Assessment indicated that majority of households (72.1%) perceived the quality of the water that they utilised to be good while only 27.9 percent indicated that the quality was poor. The different reasons perceived by the households for poor water quality, included suspended particles in the water (56%), colour of the water (21.9%), taste (10.9%) and odour (9.7%).

Figure 20: Reasons for Poor Water Quality at Main Water Source



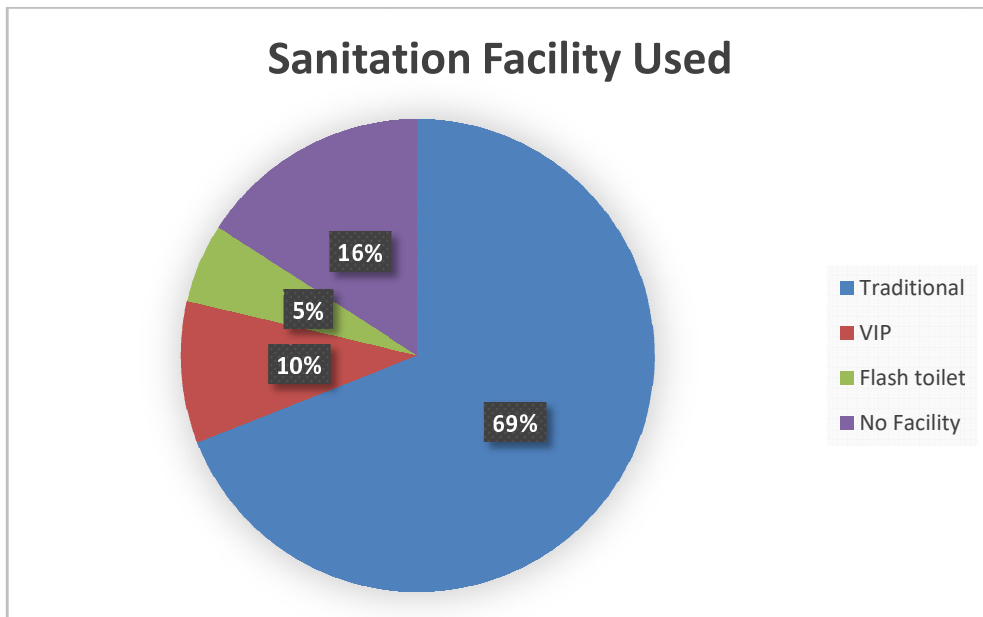
4.7.4. Water Treatment Options Applied by Households

The number of households that indicated treating water stood about 32.3 percent with majority of those that treated water indicating using either chlorine or boiling water.

4.7.5. Sanitation

Traditional latrines were found to be commonly used by households (69 percent), followed by VIP latrines at 10 percent and flash toilets at 5 percent. The results also showed a larger proportion of households with no sanitation facilities at all and opted to use open defecation (16 percent).

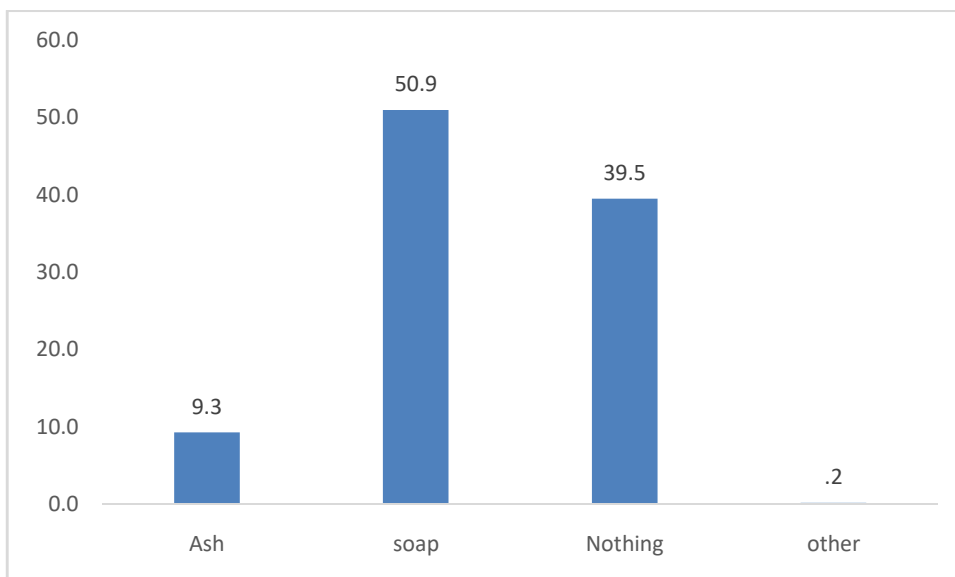
Figure 21: Distribution of Sanitation Facilities



4.7.6. Hygiene Practices

Assessment results showed a high number of respondents that indicated the practice of hand washing when cooking (83.2 percent) and after use of toilet (85.6 percent). When asked about the scouring agent they use for hand washing, majority (50.9 percent) stated that they used soap while 9.3 percent indicated ash as the material used for hand washing. A substantial proportion of households (39.2 percent) in the assessed districts used nothing but water to wash their hands.

Figure 22: Use of Scouring Agent for Hand Wash



4.8. EDUCATION

The Assessment results showed that 67.1 percent of the households in assessed districts indicated having at least a school going child in the household. Northern Province had the highest number of school going children at 79.9 percent followed by Muchinga at 74.7

percent while Luapula had the least number of households with school going children at 58.1 percent.

4.8.1. School Absenteeism

Results showed that of the households with school going children, a small proportion of about 13.5 percent had their children absent from school between December, 2017 and April, 2018. The households with the highest number of children absent from school were found in Monze (9.9 percent) followed by Kalomo (6.6 percent), Lundazi (5.7 percent) and Samfya (5.5 percent). Nyimba and Petauke, did not have households with children who were absent from school during the period under review. There were slightly more households with Males (6.9%) absent from schools compared to Females (6.6%).

4.8.2. School Infrastructure

The Education sector was as usual affected by floods/storms that occurred during the 2017/18 rainfall season. As a result of this learning was disrupted in some schools as some school infrastructure collapsed and had some roofs blown off leaving learners with limited class room space to learn in. In some cases, teachers' houses were also affected. The Ministry needs to rehabilitate the damaged infrastructure and upgrade temporal structures and reposition school kits. The Ministry still has a backlog of schools with blown off roofs which occurred during the 2015/2016 season which still requires rehabilitation.

4.9. Development and Safety Net Projects

The survey found that about 96 percent of the districts indicated that there were development projects and safety net programmes in their districts going on at the time of the survey. The programmes included Farmer Input Support Programme (FISP), Conservation farming, School feeding programmes, Nutrition Sensitisation, child health, upgrading of schools, Food security packs Distribution. The major organisations implementing these developmental programmes were Government (60 percent) and International NGOs (20 percent). The others were National NGO, UN Agencies, Faith Based Organisations, District Authorities (CDF) and national NGOs. The projects and safety nets being implemented included mainly farming input support (Seed and Fertilizer), provision of food stuffs and capacity building among others.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1. Agriculture and Food Security

Conclusions

- Maize production was negatively affected by the dry spells and production reduced in comparison to previous season. Other reasons that impacted maize production included lack of inputs; fertilizer, improved seed, inadequate labour and lack of draught power.
- Livelihood diversification has continued to be low for most households with crop production being the main livelihood and trading as the second most.
- Household own – produced stocks for 77 percent of the households will last for 6 months or more. There about 12.5 percent of households whose stock will run out in the next three months.
- The below five-year average maize and maize meal prices will permit market access for poor households without sustainable incomes. Households will have to resort to markets and other sources of food and/or coping strategies for the rest of the consumption season.
- Anticipated adequate pasture and water availability will boost livestock production and productivity thus allowing livestock to serve as coping for the households.
- Livestock disease incidences continue to be the major cause of livestock deaths and the prolonged dry spells experienced in the previous season impacted negatively on pasture and water availability which may have contributed to disease outbreaks such as Newcastle for chicken.

Recommendations:

Short Term

- A total of 954,119 people (159,020 households) from the assessed districts will require support for the period of eight (8) months (August, 2017 – March, 2018) in thirty - five (35) districts broken down as follows:
 - For the period August to September, 2018 (current period), support will only target 610,067 people (101,678 households) in phase 3 and 4 of food insecurity requiring 10, 163.72 MT of cereal for two months;
 - From October 2018 to March, 2019, the caseload of needs expands to 954,119 People (159,020 households) for a period of six (6) months in thirty-five (35) districts requiring 47, 868.85 MT.

It is preferred that the above support be channelled through market based interventions such as vouchers and cash transfers.

Medium to Long Term

Provide support for increased food crop productivity at household level to enable them have adequate own – produced food and cash crops through:

- Mechanization for farmers to put more land under cultivation.
- Support timely land management for improved productivity on the same pieces of land.
- Increased investment in small scale irrigation and water harvesting technologies for off – season production.
- Scaling up of conservation agriculture practices among small scale farmers in areas prone to dry spells and droughts.
- Improving access to markets by:
 - Investing in improvement of road infrastructure specifically feeder roads.
 - Improving storage facilities at homestead level to ensure food materials last longer, help optimize.

5.2. Health

Conclusions

- Health seeking behaviour had improved with majority going to formal health facilities though a small proportion opted not to seek for formal care due to lack of money.
- The Assessment also showed that malaria, diarrhoea and cough were the leading cause of illness in the communities.
- It is encouraging to note that majority of households are seeking health care from the formal health systems. This is an opportunity to ensure information sharing regarding behavioural change for aspects such as malaria prevention, prevention of diarrhoea, antenatal and postnatal clinic attendance, and the importance of delivering at health facilities by skilled attendants regardless of the social economic situation.

Recommendations

Short term

- Enhanced programs to address malaria to include social and environmental determinants to ensure targeted interventions. This will include the following:
 - Community sensitization programmes on prevention of malaria.
 - Increase the coverage of indoor-residual spraying districts.

- Supporting communities to eliminate mosquito breeding grounds.
- Increased distribution and use of insecticide treated mosquito nets in the affected areas.
- Integrating reproductive health services with other primary health care services such as HIV, Malaria preventions, etc. This can be done both through static or integrated mobile outreach service delivery and through other communication engagement approaches.
- Enhance malaria and diarrhoea surveillance at community level.

Medium to Long – term

- Need for sustained commodity supply for treatment of all infections especially malaria, diarrhoea diseases, and cough.
- There need for a multi-sectoral and multi-disciplinary approach to enhance the health response and take care of determinants of health. This includes incorporating messages on better health seeking behaviours into other interventions such as nutrition, agriculture input support.

5.3. Nutrition

Conclusions

- The quality of the diet is a key element in meeting the nutrients needs of the population including micronutrients such as vitamin A, zinc, iron and others. The household dietary diversity gives an adequacy picture for more than two thirds of the households. The reminder of the population is likely not meet their daily food needs to have a quality diet. Therefore, some form of interventions are required to support child growth, improve school performance and promote good pregnancy outcome.
- The findings from the survey showed that there is a high proportion of stunting in children under five. Equally important to note is the high levels of wasting (Weight for Height).
- In order to remedy the high levels of stunting and wasting, there is need for multi – sectoral intervention that address not only direct but also indirect causes of malnutrition such as social protection, water and sanitation, education and agriculture.

Recommendations

Short term

- Integration of nutrition in health-promotion strategies especially those addressing maternal nutrition before and during pregnancy and lactation, these should include interventions that address adolescent nutrition.
- Scaling up coverage and rolling out of stunting-prevention interventions in emergency areas. These may include:
 - Infant and young child interventions.
 - Increased micronutrient intakes especially during the 1,000 most critical days.

- Interventions for addressing severe acute malnutrition.
- Promotion of consumption of healthy, diversified diets, including high quality nutrient rich foods for both men and women.

Medium to Long – term

- There is need for the promotion of livelihood diversification to include all crops, fisheries and animal products for vulnerable but viable households to address poverty.

5.4. Water, Sanitation and Hygiene (WASH)

Conclusions

- Generally, 63% of household were using improved water sources (Water and sanitation section) way below the required target of 88% per population (UNICEF & WHO. 2015) probably, a sufficient proportion level where everyone benefits from having access to improved water sources in the community.
- Access to unimproved waters sources is likely to increase as the prolonged dry spell could have affected groundwater recharge leading to drying of some water sources and thereby forcing people to rely on open sources for water.

Recommendations

Short term (Water)

- Borehole drilling should continue in areas where people are obtaining water from unimproved sources and where the distance from household to the water point is more than 500m.
- Rehabilitation, improvements and maintenance of existing water infrastructure.

Short term (Sanitation and Hygiene)

- Promote community wide sanitation improvement using community – led total sanitation (CLTS) to ensure that all people have access to latrines in order to end open defecation.
- Promote a community wide handwashing campaign to increase the practice of proper handwashing.
- Promoting Community – led Total Sanitation monitoring, maintaining of clean environment, and partnering with traditional leaders, local religious leaders and the influence and opportunities they have in bringing messages of personal cleanliness, hygiene and well-being to their community.
- Scale – up the construction of demonstration latrines at the schools, health centres, rural community centres (markets, faith centres, and traditional chiefs’ palaces).

Medium to Long – term (Water)

- Implement, with support of NGOs, the water harvesting programme at community and household levels for climate change adaptation.

- Promote community level water supply and sanitation technology options, disaster risk reduction and resilience building including climate change adaptation activities, to ensure preparedness and resilience of communities to disasters.

Medium to Long – term (Sanitation and Hygiene)

- Encourage private-sector involvement to build sanitation shops at District/Chiefdom level to sell sanitation facilities and give advice on improved sanitation facility construction, and latrine operation and maintenance.
- Render support to vulnerable groups and households facing technical and physical challenges to the construction of latrines.

5.5. Education

Conclusion

The Assessment showed that there was a small proportion of pupils that had been absent from school in the fourth quarter of 2017 and in the first quarter of 2018 which was not unusual.

Recommendation

Short term

- There is need to rehabilitate schools whose infrastructure had been damaged by the rains.
- School feeding programmes need to be scaled – up particularly in areas where shock impacts were high such as North Western, Western, Southern and Eastern provinces.

5.6. Development Projects and Safety Nets

Conclusion

The Assessment found that the majority of districts assessed had projects and/or safety net programmes being implemented in their communities.

Recommendations

Short term

- Aid in the proper targeting and delivery of relief materials to the vulnerable populations.

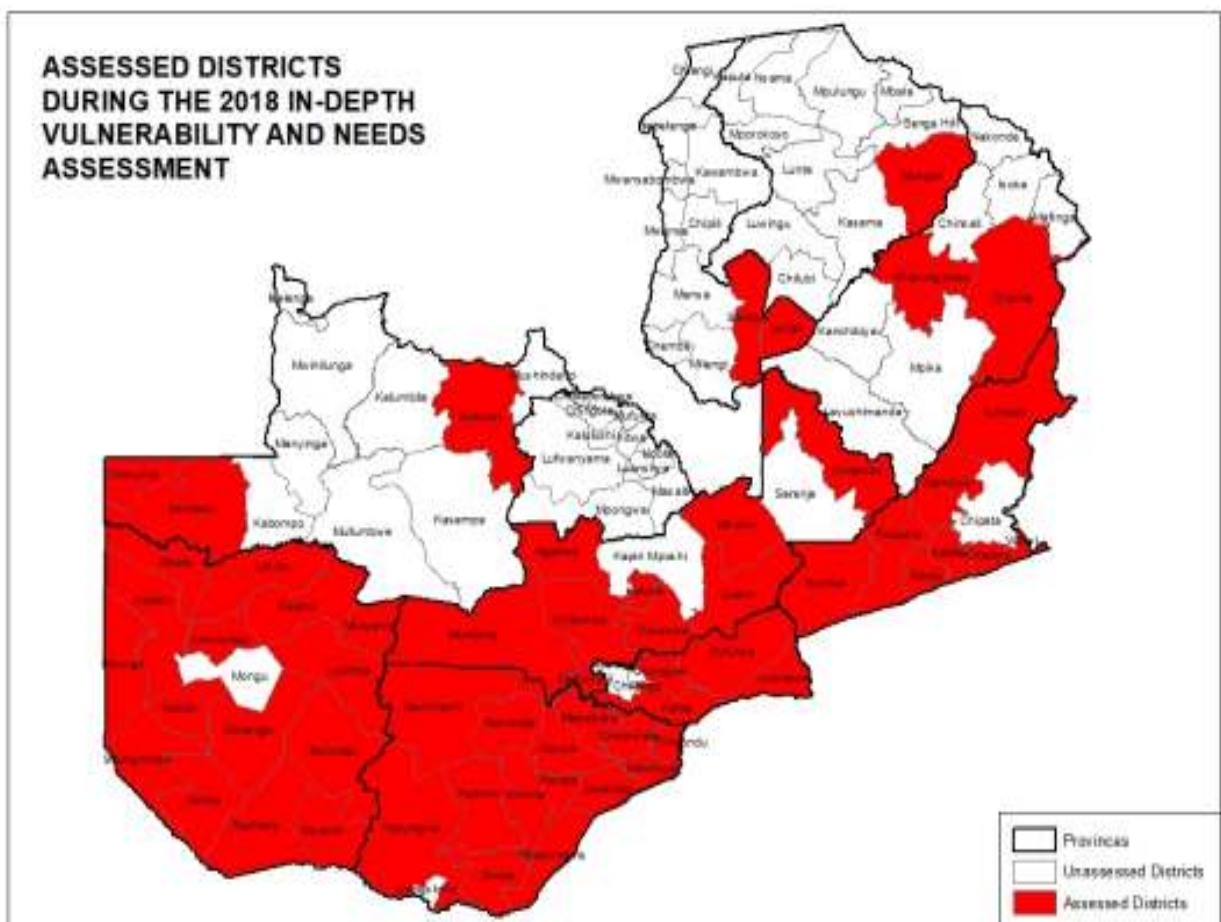
- Continue with the scaling up of social safety net programmes to ensure that all vulnerable communities are covered.

Medium to Long – term

- Complete building the single registry so that this guides targeting at the community level.
- Explore shock responsive social protection programming to ensure that some of the households that fall into vulnerability are taken on by the programmes.

ANNEXES

Annex 1: Map Showing Assessed Districts



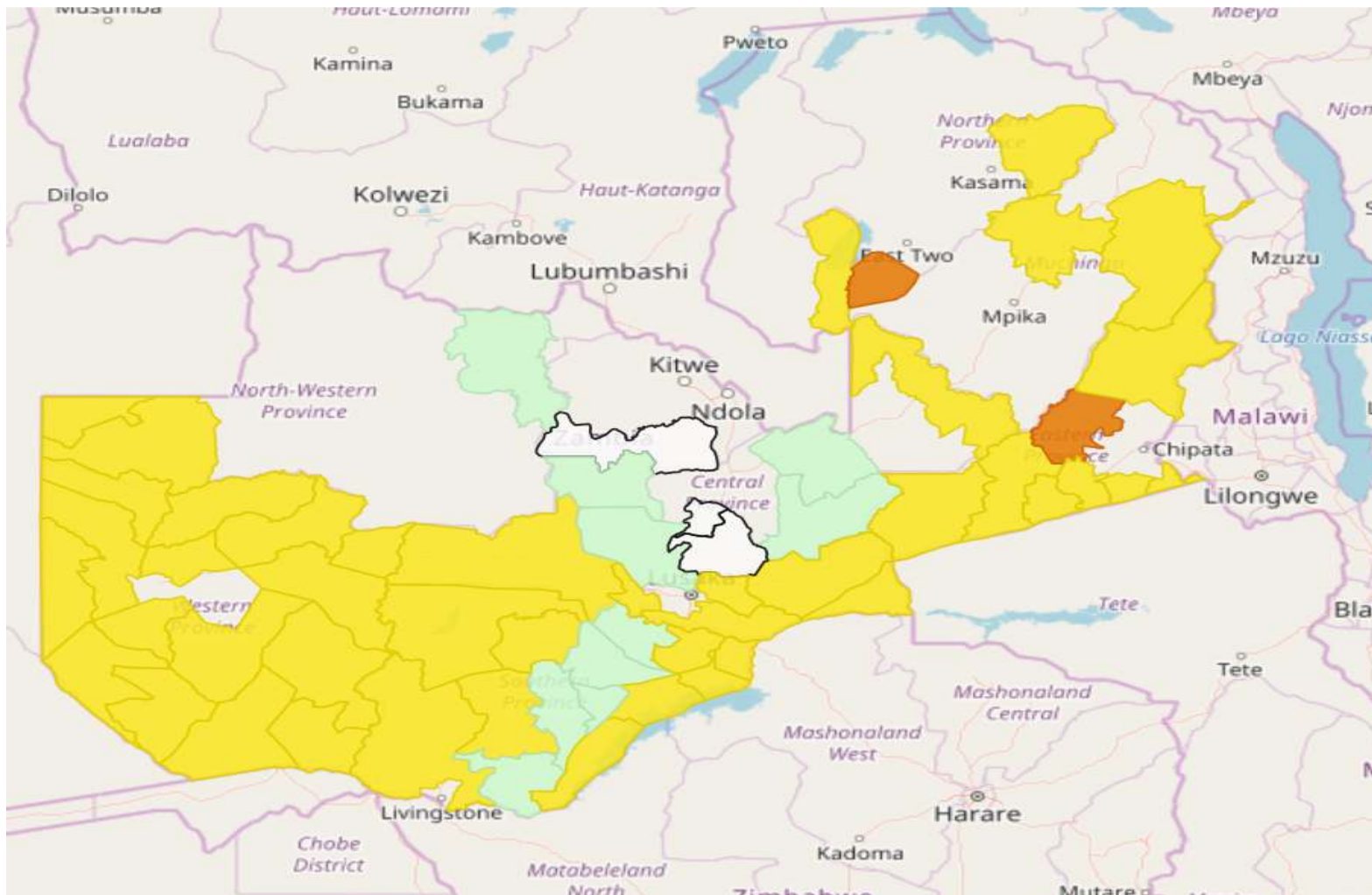
Annex 2: Table showing Food Consumption Score, HDDS, rCSI and Food Expenditure Share

Province		FCS			HDDS			rCSI			Food Expenditure share			
		Phase1-2	Phase3	Phase4	Phase1-3	Phase4	Phase5	Phase 1	Phase 2	Phase 3+	Lowest thru 49.99	(50 thru 64.99	65 thru 74.99	75 thru Highest
Central	Chibombo	67.5%	29.1%	3.3%	95.4%	4.6%		94.7%	5.3%	0.0%	73.2%	16.1%	6.7%	4.0%
	Chitambo	42.0%	31.1%	26.9%	71.4%	21.0%	7.6%	81.5%	18.5%	0.0%	55.7%	23.5%	15.7%	5.2%
	Itezhi-tezhi	59.7%	33.1%	7.2%	86.3%	12.2%	1.4%	86.3%	13.7%	0.0%	78.6%	10.3%	4.0%	7.1%
	Mkushi	68.3%	24.8%	6.9%	96.0%	3.6%	0.3%	86.8%	13.2%	0.0%	64.1%	23.4%	5.8%	6.8%
	Ngabwe	74.5%	17.6%	7.8%	96.1%	2.0%	2.0%	100.0%		0.0%	22.0%	26.0%	16.0%	36.0%
Eastern	Chadiza	52.6%	32.8%	14.6%	77.6%	14.1%	8.3%	87.0%	13.0%	0.0%	58.4%	29.5%	9.5%	2.6%
	Katete	24.3%	45.1%	30.6%	62.4%	28.9%	8.7%	90.8%	9.2%	0.0%	40.3%	20.1%	23.9%	15.7%
	Lundazi	47.3%	29.3%	23.4%	76.6%	21.0%	2.4%	83.2%	16.8%	0.0%	64.7%	23.7%	5.8%	5.8%
	Mambwe	39.0%	43.6%	17.4%	65.7%	29.1%	5.2%	84.3%	15.7%	0.0%	48.2%	22.0%	16.7%	13.1%
	Nyimba	20.2%	63.0%	16.9%	52.3%	47.3%	0.4%	99.2%	0.8%	0.0%	22.9%	26.5%	23.3%	27.4%
	Petauke	25.6%	61.0%	13.3%	49.7%	48.7%	1.5%	96.4%	3.6%	0.0%	27.6%	31.3%	23.9%	17.2%
Lusaka	Chirundu	35.3%	46.8%	17.9%	85.3%	10.3%	4.5%	76.3%	23.7%	0.0%	62.4%	17.4%	10.7%	9.4%
	Chongwe	68.5%	29.2%	2.2%	92.1%	5.1%	2.8%	77.8%	22.2%	0.0%	40.3%	22.7%	13.6%	23.3%
	Kafue	65.7%	32.6%	1.7%	95.6%	3.9%	0.6%	81.2%	18.8%	0.0%	50.3%	19.3%	11.0%	19.3%
	Lwangwa	35.5%	42.3%	22.2%	82.7%	12.1%	5.2%	80.2%	19.8%	0.0%	60.5%	11.9%	13.2%	14.4%
	Rufunsa	55.0%	33.8%	11.3%	80.8%	14.6%	4.6%	84.8%	15.2%	0.0%	54.8%	18.5%	8.9%	17.8%
	Shibuyungi	54.6%	40.0%	5.4%	94.1%	5.9%		82.7%	17.3%	0.0%	49.7%	23.2%	5.4%	21.6%
Southern	Chikankata	72.7%	20.0%	7.3%	80.0%	6.0%	14.0%	89.3%	10.7%	0.0%	49.0%	32.2%	13.4%	5.4%
	Choma	38.4%	51.6%	10.0%	86.3%	13.2%	0.5%	91.8%	8.2%	0.0%	75.2%	13.9%	4.0%	6.9%
	Gwembe	71.6%	22.6%	5.8%	92.3%	7.7%		78.7%	21.3%	0.0%	84.3%	7.8%	5.2%	2.6%
	Kalomo	42.5%	44.6%	12.9%	90.0%	8.6%	1.4%	90.4%	9.6%	0.0%	68.7%	16.9%	9.4%	5.0%
	Kazungula	42.4%	41.7%	15.8%	80.6%	17.3%	2.2%	87.8%	12.2%	0.0%	53.3%	22.6%	14.6%	9.5%
	Mazabuka	78.2%	15.6%	6.1%	82.3%	12.9%	4.8%	91.8%	8.2%	0.0%	46.3%	31.3%	13.6%	8.8%
	Monze	84.3%	12.7%	3.0%	97.6%	2.4%		62.0%	38.0%	0.0%	84.9%	12.0%	1.8%	1.2%
	Namwala	75.4%	18.1%	6.5%	93.5%	4.3%	2.2%	91.8%	8.2%	0.0%	96.0%	2.7%	0.9%	0.4%
	Siavonga	69.5%	23.5%	7.0%	75.4%	9.1%	15.5%	66.8%	33.2%	0.0%	59.4%	21.4%	12.8%	6.4%
	Sinazongwe	27.7%	48.9%	23.4%	66.0%	20.2%	13.8%	84.0%	16.0%	0.0%	65.1%	12.8%	8.1%	14.0%
Western	Zimba	48.7%	37.4%	14.0%	81.5%	17.0%	1.5%	85.7%	14.3%	0.0%	71.7%	15.8%	6.4%	6.0%
	Kalabo	28.3%	28.8%	42.9%	54.6%	15.6%	29.8%	70.2%	29.8%	0.0%	27.5%	10.7%	9.6%	52.2%
	Kaoma	42.3%	40.3%	17.4%	59.1%	29.5%	11.4%	92.6%	7.4%	0.0%	34.5%	15.9%	15.0%	34.5%

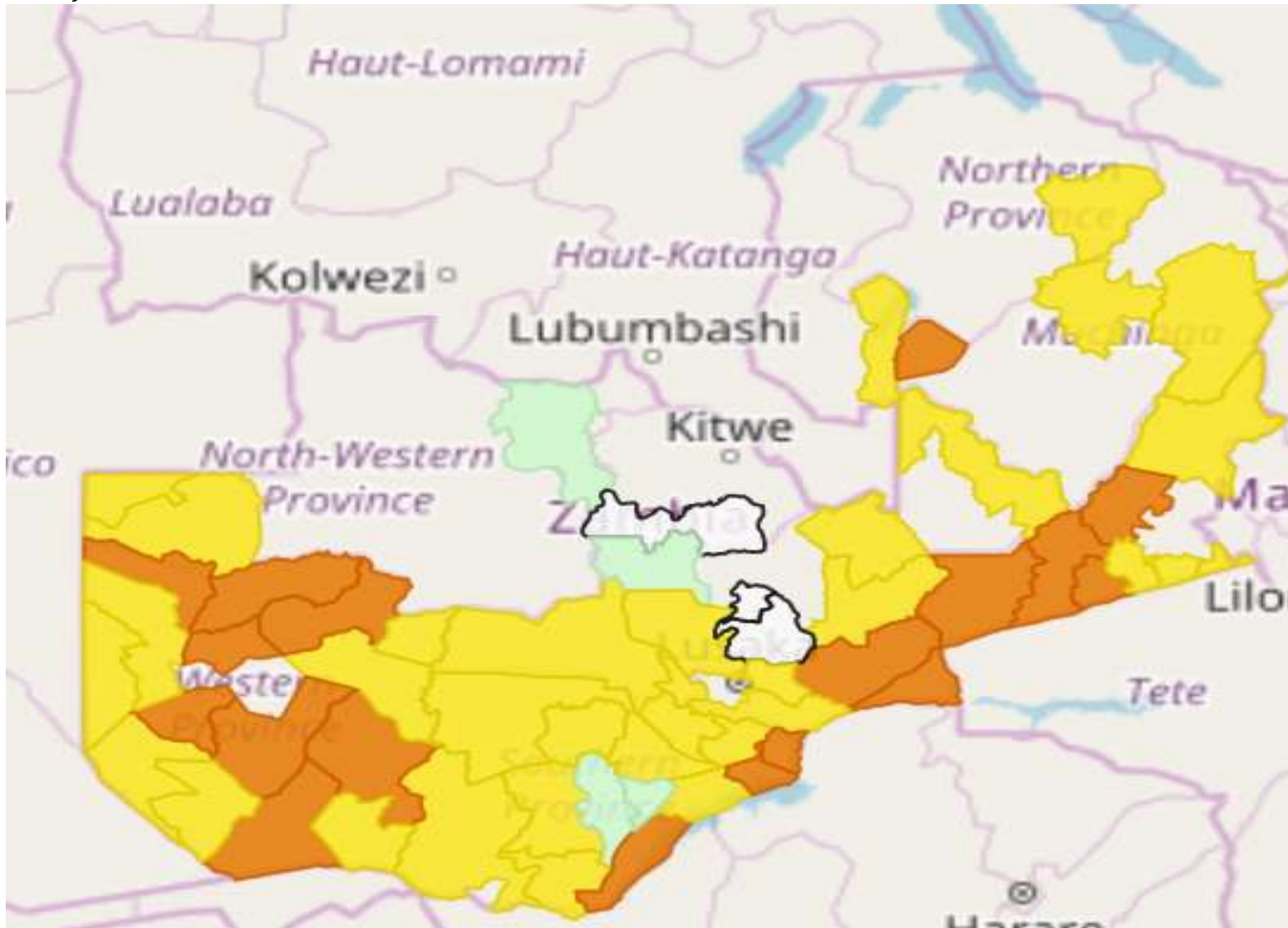
Province	FCS			HDDS			rCSI			Food Expenditure share				
	Phase1-2	Phase3	Phase4	Phase1-3	Phase4	Phase5	Phase 1	Phase 2	Phase 3+	Lowest thru 49.99	(50 thru 64.99	65 thru 74.99	75 thru Highest	
Limulunga	26.1%	30.4%	43.5%	54.8%	10.4%	34.8%	67.0%	33.0%	0.0%	34.2%	17.1%	7.2%	41.4%	
Luampa	35.1%	46.6%	18.4%	79.3%	16.7%	4.0%	85.1%	14.9%	0.0%	53.5%	22.2%	13.9%	10.4%	
Mitete	46.2%	46.7%	7.1%	72.4%	22.7%	4.9%	98.7%	1.3%	0.0%	50.0%	20.7%	10.4%	18.9%	
Mulobezi	20.3%	25.3%	54.4%	28.5%	38.6%	32.9%	81.0%	19.0%	0.0%	69.2%	21.7%	2.5%	6.7%	
Mwandi	27.9%	27.2%	44.9%	57.1%	21.8%	21.1%	81.0%	19.0%	0.0%	62.1%	9.5%	11.2%	17.2%	
Nalolo	38.8%	50.0%	11.3%	55.0%	36.3%	8.8%	91.3%	8.8%	0.0%	35.5%	16.1%	19.4%	29.0%	
Nkeyema	53.0%	42.5%	4.4%	91.7%	6.1%	2.2%	97.8%	2.2%	0.0%	70.7%	12.7%	3.8%	12.7%	
Senanga	30.0%	39.6%	30.4%	66.4%	25.2%	8.4%	78.8%	21.2%	0.0%	54.0%	11.1%	6.6%	28.3%	
Sesheke	19.6%	25.7%	54.7%	29.7%	40.5%	29.7%	79.7%	20.3%	0.0%	78.7%	15.7%	3.4%	2.2%	
Shangombo	43.2%	39.6%	17.1%	62.2%	30.6%	7.2%	79.3%	20.7%	0.0%	42.9%	17.6%	14.3%	25.3%	
Sioma	42.3%	39.7%	17.9%	80.8%	17.9%	1.3%	84.6%	15.4%	0.0%	60.7%	23.7%	5.2%	10.4%	
Muchinga	Chama	15.2%	47.1%	37.7%	59.4%	29.0%	11.6%	88.4%	11.6%	0.0%	80.7%	14.9%	2.6%	1.8%
	Shiwangandu	28.9%	48.9%	22.2%	51.1%	18.5%	30.4%	86.7%	13.3%	0.0%	69.0%	16.7%	4.8%	9.5%
Northern	Mungwi	43.9%	34.5%	21.6%	63.3%	17.3%	19.4%	82.7%	17.3%	0.0%	83.5%	8.7%	6.1%	1.7%
North Western	Chavuma	60.0%	26.2%	13.8%	76.9%	16.2%	6.9%	81.5%	18.5%	0.0%	72.3%	17.6%	3.4%	6.7%
	Solwezi	82.1%	17.4%	0.5%	95.9%	2.8%	1.4%	100.0%		0.0%	53.2%	25.2%	12.4%	9.2%
	Zambezi	47.6%	27.2%	25.2%	72.1%	19.0%	8.8%	83.7%	16.3%	0.0%	69.8%	10.1%	10.1%	10.1%
Luapula	Lunga	2.2%	20.7%	77.0%	26.7%	19.3%	54.1%	88.1%	11.9%	0.0%	61.7%	6.7%	11.7%	20.0%
	Samfya	12.2%	16.9%	70.9%	29.1%	23.3%	47.6%	75.7%	24.3%	0.0%	51.2%	21.1%	7.3%	20.3%
	Overall	45.6	34.6	19.9	72.5	17.5	10.8	85	15.6	0	58	18.2	9.9	13.9

Annex 3: Map Showing Districts Food Security Category

3a. Current Period



3b. Projected Period



Annex 4: Food Needs

4a. Food Needs for Current Period

Province	District	Households in Phase 3 or worse	No. of People	Cereal Requirement (2mths)
Central	Chitambo	1,598	9,588	159.73
	Luano	2,805	16,831	280.40
	Sub-total	4,403	26,418	440.13
Eastern	Katete	5,294	31,767	529.24
	Lundazi	10,390	62,339	1,038.57
	Mambwe	4,021	24,123	401.89
	Nyimba	2,644	15,865	264.32
	Petauke	12,078	72,465	1,207.27
	Sinda	5,846	35,078	584.39
	Sub-total	40,273	241,638	4,025.68
	Luapula	Lunga	1,456	8,735
Lusaka	Chirundu	2,126	12,758	212.54
	Chongwe	4,890	29,339	488.79
	Luangwa	934	5,607	93.40
	Sub-total	12,198	73,191	1,219.35
North Western	Zambezi	2,637	15,822	263.60
Northern	Mungwi	5,115	30,689	511.29
Southern	Gwembe	2,414	14,484	241.31
	Kazungula	3,964	23,784	396.24
	Siavonga	1,621	9,728	162.07
	Sinazongwe	3,106	18,633	310.43
	Sub-total	11,105	66,629	1,110.05
Western	Kalabo	2,463	14,775	246.15
	Kaoma	5,750	34,498	574.74
	Limulunga	1,383	8,297	138.22
	Lukulu	2,122	12,734	212.14
	Mitete	974	5,843	97.35
	Mulobezi	968	5,807	96.74
	Nalolo	1,992	11,955	199.17
	Senanga	2,420	14,520	241.91
	Sesheke	3,230	19,382	322.90
	Sikongo	1,342	8,050	134.11
	Sub-total	24,491	146,945	2,448.10
	TOTAL	101,678	610,067	10,163.72

4b. Food Needs for Projected Period

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
1	Central	Chitambo	Muswishi	4,695	782	234.64
	Central	Chitambo	Mulungushi	1,941	323	97.00
	Central	Chitambo	Chikonkomene	4,501	750	224.94
	Central	Chitambo	Chamuka	6,041	1,007	301.93
	Total				17,177	2,863
2	Central	Luano	kamimbya	7,647	1,275	382.22
	Central	Luano	Nkomashi	15,940	2,657	796.68
	Central	Luano	Chipaba	2,608	435	130.33
	Central	Luano	Chingombe	3,393	565	169.58
	Central	Luano	Mwalala	3,158	526	157.84
	Total				32,746	5,458
3	Eastern	Mambwe	Ncheka	351	58	17.54
	Eastern	Mambwe	Mdima	6,113	1,019	305.54
	Eastern	Mambwe	Jumbe	3,199	533	159.87
	Eastern	Mambwe	Mphomwa	5,263	877	263.05
	Eastern	Mambwe	Kasamanda	1,780	297	88.99
	Eastern	Mambwe	Msoro	530	88	26.51
	Eastern	Mambwe	Nyakatokoli	743	124	37.14
	Eastern	Mambwe	Nsefu	5,017	836	250.73
	Eastern	Mambwe	Chikowa	3,070	512	153.43
	Eastern	Mambwe	Kakumbi	5,451	909	272.46
	Eastern	Mambwe	Malama	268	45	13.41
	Total				31,786	5,298
4	Eastern	Lundazi	Kazembe	28,365	4,727	1,417.68
	Eastern	Lundazi	Lumimba	28,685	4,781	1,433.66

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Eastern	Lundazi	Lukusuzi	6,962	1,160	347.96
	Eastern	Lundazi	Chibande	30,319	5,053	1,515.36
	Total			94,331	15,722	4,714.66
5	Eastern	Katete	Kafumbwe	9,352	1,559	467.41
	Eastern	Katete	Katiule	13,506	2,251	675.02
	Eastern	Katete	Mphangwe	24,015	4,003	1,200.28
	Total			46,873	7,812	2,342.71
6	Eastern	Sinda	Kamwaza	10,462	1,744	522.89
	Eastern	Sinda	Nchingilizya	7,517	1,253	375.70
	Eastern	Sinda	Mungomba	15,482	2,580	773.79
	Eastern	Sinda	Chitawe	6,335	1,056	316.63
	Total			39,796	6,633	1,989.00
7	Eastern	Nyimba	Luangwa	1,461	244	73.03
	Eastern	Nyimba	Chamilala	2,531	422	126.49
	Eastern	Nyimba	Katipa	625	104	31.22
	Eastern	Nyimba	Chinambi	5,873	979	293.54
	Eastern	Nyimba	Chinsimbwe	546	91	27.31
	Eastern	Nyimba	Mombe	3,117	519	155.77
	Eastern	Nyimba	Chiweza	7,067	1,178	353.22
	Total			21,220	3,537	1,060.58
8	Eastern	Petauke	Ongolwe	8,700	1,450	434.81
	Eastern	Petauke	Msumbazi	9,148	1,525	457.21
	Eastern	Petauke	Chimanyama	9,719	1,620	485.75
	Eastern	Petauke	Mbala	6,219	1,037	310.83
	Eastern	Petauke	Lusangazi	1,195	199	59.73
	Eastern	Petauke	Nyakawize	5,817	970	290.76

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Eastern	Petauke	Ukwimi	5,363	894	268.04
	Eastern	Petauke	Kapoche	5,971	995	298.42
	Eastern	Petauke	Chingombe	8,944	1,491	447.04
	Eastern	Petauke	Mwagaila	2,081	347	104.03
	Eastern	Petauke	Matambazi	2,173	362	108.63
	Eastern	Petauke	Kaumbwe	1,815	302	90.70
	Eastern	Petauke	Lusinde	1,209	202	60.44
	Eastern	Petauke	Manjanzi	5,124	854	256.10
	Eastern	Petauke	Manyane	8,780	1,463	438.82
		Total			82,259	13,710
9	Luapula	Lunga	Lunga	265	44	13.23
	Luapula	Lunga	Ncheta	374	62	18.70
	Luapula	Lunga	Nkutila	712	119	35.59
	Luapula	Lunga	Nsalushi	430	72	21.51
	Luapula	Lunga	Chishi	397	66	19.86
	Luapula	Lunga	Masonde	662	110	33.09
	Luapula	Lunga	Kasansa	511	85	25.53
	Luapula	Lunga	Kapamba	387	65	19.35
	Luapula	Lunga	Kasongele	489	81	24.42
	Luapula	Lunga	Kafumbo	568	95	28.38
	Luapula	Lunga	Chinkutila	747	125	37.34
	Luapula	Lunga	Chifunabuli	1,193	199	59.65
	Luapula	Lunga	Mbabala	384	64	19.21
	Luapula	Lunga	Luapula	1,781	297	89.03
		Total			8,901	1,484
10	Lusaka	Rufunsa	Shikabeta	5,752	959	287.49
	Lusaka	Rufunsa	Mankanda	11,899	1,983	594.70

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Total			17,651	2,942	882.20
11	Lusaka	Shibuyunji	Makombwe	1,804	301	90.15
	Lusaka	Shibuyunji	Milandu	3,856	643	192.72
	Lusaka	Shibuyunji	Kalundu	2,629	438	131.41
	Lusaka	Shibuyunji	Chabota	2,087	348	104.31
	Lusaka	Shibuyunji	Kapyanga	1,849	308	92.42
	Total			12,225	2,038	611.01
12	Lusaka	Chongwe	Lukoshi	5,816	969	290.70
	Lusaka	Chongwe	Kanankantapa	9,330	1,555	466.33
	Lusaka	Chongwe	Chalimbana	6,935	1,156	346.59
	Lusaka	Chongwe	Chongwe	17,418	2,903	870.54
	Total			39,499	6,583	1,974.16
13	Lusaka	Luangwa	Dzalo	1,919	320	95.93
	Lusaka	Luangwa	Mkaliva	327	54	16.33
	Lusaka	Luangwa	Mandombe	275	46	13.73
	Lusaka	Luangwa	Phwazi	346	58	17.31
	Lusaka	Luangwa	Mphuka	438	73	21.91
	Lusaka	Luangwa	Kabowo	77	13	3.84
	Lusaka	Luangwa	Kapoche	552	92	27.61
	Lusaka	Luangwa	Chiriwe	113	19	5.66
	Lusaka	Luangwa	Lunya	236	39	11.78
	Lusaka	Luangwa	Katondwe	946	158	47.29
	Lusaka	Luangwa	Chikoma	845	141	42.23
	Lusaka	Luangwa	Mburuma	1,083	181	54.14
	Lusaka	Luangwa	Mwalila	685	114	34.23
	Lusaka	Luangwa	Kaunga	1,052	175	52.57

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Lusaka	Luangwa	Mankhokwe	252	42	12.60
	Total			9,147	1,525	457.17
14	North-Western	Chavuma	Chambi Mandalo	1,207	201	60.31
	North-Western	Chavuma	Lukolwe Musumba	557	93	27.86
	North-Western	Chavuma	Kambuya Mukelangombe	1,879	313	93.92
	North-Western	Chavuma	Nguvu	719	120	35.93
	North-Western	Chavuma	Nyantanda Nyamingala	1,281	213	64.01
	North-Western	Chavuma	Lingundu	506	84	25.29
	North-Western	Chavuma	Sewe	1,196	199	59.78
		Total			7,345	1,224
15	North-Western	Zambezi	Mapachi Chinyingi	2,011	335	100.50
	North-Western	Zambezi	Muyembe	1,064	177	53.17
	North-Western	Zambezi	Mwange Nyawanda	1,983	330	99.10
	North-Western	Zambezi	Matondo Nyachikai	1,469	245	73.40
	North-Western	Zambezi	Liyovu	2,700	450	134.96
	North-Western	Zambezi	Lunkunyi	2,364	394	118.16
	North-Western	Zambezi	Nyakulenga	2,102	350	105.05
	North-Western	Zambezi	Mpidi Kakonga	4,074	679	203.62
	North-Western	Zambezi	Mukanda Nkanda	4,057	676	202.79
		Total			21,824	3,637
16	Northern	Mungwi	Lubala	6,146	1,024	307.15
	Northern	Mungwi	Mpanda	5,737	956	286.72
	Northern	Mungwi	Kabisha	3,973	662	198.58
	Northern	Mungwi	Fibwe	4,858	810	242.82
	Northern	Mungwi	Iyaya	5,228	871	261.32
	Northern	Mungwi	Fube	6,436	1,073	321.69

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward	
	Northern	Mungwi	Ngulula	4,444	741	222.10	
	Northern	Mungwi	Mabula	2,405	401	120.21	
	Northern	Mungwi	Chambeshi	6,209	1,035	310.35	
	Northern	Mungwi	Mungwi	5,843	974	292.03	
	Total				51,280	8,547	2,562.97
17	Muchinga	Chama	Lumezi	3,673	612	183.56	
	Muchinga	Chama	Lunzi	5,402	900	269.99	
	Muchinga	Chama	Chilenje	4,207	701	210.24	
	Muchinga	Chama	Ndunda	1,334	222	66.66	
	Muchinga	Chama	Mapamba	2,907	484	145.28	
	Muchinga	Chama	Kalinkhu	1,517	253	75.84	
	Muchinga	Chama	Kamphemba	9,412	1,569	470.44	
	Muchinga	Chama	Bazimu	4,126	688	206.21	
	Muchinga	Chama	Mabinga	3,853	642	192.56	
	Muchinga	Chama	Chibungwe	3,720	620	185.92	
	Muchinga	Chama	Chipala	1,776	296	88.76	
	Total				41,926	6,988	2,095.46
	18	Southern	Gwembe	Chisanga	1,257	210	62.83
Southern		Gwembe	Sinafala	905	151	45.22	
Southern		Gwembe	Kkoma	2,583	430	129.08	
Southern		Gwembe	Kkole	1,205	201	60.22	
Southern		Gwembe	Jumbo/Sompani	1,065	178	53.24	
Southern		Gwembe	Bbondo	3,813	636	190.60	
Southern		Gwembe	Siampande	637	106	31.83	
Southern		Gwembe	Jongola	290	48	14.49	
Southern		Gwembe	Chaamwe	1,271	212	63.53	
Southern		Gwembe	Luumbo	1,611	269	80.52	

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Southern	Gwembe	Kota-Kota	489	81	24.43
	Total			15,126	2,521	756.00
19	Southern	Kazungula	Chooma	2,867	478	143.27
	Southern	Kazungula	Musokotwane	1,957	326	97.83
	Southern	Kazungula	Katapazi	2,530	422	126.43
	Southern	Kazungula	Kanchele	4,286	714	214.20
	Southern	Kazungula	Ngwezi	4,018	670	200.83
	Southern	Kazungula	Nyawa	4,371	728	218.44
	Southern	Kazungula	Sekute	1,274	212	63.67
	Southern	Kazungula	Mukuni	3,497	583	174.79
		Total			24,799	4,133
20	Southern	Monze	Sipatunyana	1,129	188	56.43
	Southern	Monze	Simyakwe	1,490	248	74.47
	Southern	Monze	Nachikungu	2,486	414	124.26
	Southern	Monze	Chawila	2,387	398	119.29
	Southern	Monze	Chamuka	2,979	497	148.91
	Southern	Monze	Omba	3,160	527	157.94
	Southern	Monze	Kasukwe	4,482	747	224.00
	Southern	Monze	Mayoba	3,356	559	167.72
		Total			21,469	3,578
21	Southern	Siavonga	Kariba	6,272	1,045	313.46
	Southern	Siavonga	Simamba	2,409	401	120.38
	Southern	Siavonga	Manchamvwa	1,805	301	90.19
	Southern	Siavonga	Sinadambwe	1,652	275	82.59
	Southern	Siavonga	Lusangazi	1,175	196	58.72
		Total			13,312	2,219

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
22	Southern	Chirundu	Musaya	3,154	526	157.63
	Southern	Chirundu	Ibwemunyama	1,993	332	99.62
	Southern	Chirundu	Chirundu	8,776	1,463	438.62
	Southern	Chirundu	Ingombe Iede	8,537	1,423	426.67
	Southern	Chirundu	Lusitu	4,638	773	231.79
	Southern	Chirundu	Sikoongo	2,306	384	115.23
	Total				29,403	4,901
23	Southern	Sinazongwe	Mabinga	195	32	9.72
	Southern	Sinazongwe	Namazambwe	1,280	213	63.99
	Southern	Sinazongwe	Mweenda	1,350	225	67.47
	Southern	Sinazongwe	Muuka	1,205	201	60.23
	Southern	Sinazongwe	Tekelo	481	80	24.03
	Southern	Sinazongwe	Mweemba	2,834	472	141.62
	Southern	Sinazongwe	Muchekwa	1,698	283	84.88
	Southern	Sinazongwe	Maamba	2,563	427	128.10
	Southern	Sinazongwe	Mweezya	4,301	717	214.97
	Southern	Sinazongwe	Nkandabwe	1,623	270	81.11
	Southern	Sinazongwe	Sinazongwe	2,675	446	133.71
	Southern	Sinazongwe	Nangombe	1,596	266	79.79
	Southern	Sinazongwe	Sinenge	2,069	345	103.41
	Southern	Sinazongwe	Malima	1,541	257	77.01
	Total				25,411	4,235
24	Western	Senanga	Mwanambuyu	4,020	670	200.92
	Western	Senanga	Imatongo	2,603	434	130.08
	Western	Senanga	Wanyau	1,670	278	83.46
	Western	Senanga	Lipuwe,	3,168	528	158.34

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Western	Senanga	Sibukali	1,727	288	86.29
	Western	Senanga	Mata	1,846	308	92.28
	Western	Senanga	Lipuwe	3,168	528	158.34
	Western	Senanga	Lumbe	1,437	240	71.84
	Total				19,639	3,273
25	Western	Nalolo	Lyamakumba	6,088	1,015	304.27
	Western	Nalolo	Silowana	3,502	584	175.04
	Western	Nalolo	Shekela	3,701	617	184.97
	Western	Nalolo	Makoka	3,304	551	165.13
	Total				16,595	2,766
26	Western	Lukulu	Simakumba	2,620	437	130.94
	Western	Lukulu	Kawaya	2,258	376	112.87
	Western	Lukulu	Mbanga	2,768	461	138.35
	Western	Lukulu	Likapai	903	150	45.11
	Western	Lukulu	Kangoti	3,629	605	181.40
	Western	Lukulu	Lwanchuma	3,696	616	184.70
	Western	Lukulu	Mwandi	5,830	972	291.40
	Total				21,704	3,617
27	Western	Sikongo	Maala	1,280	213	63.96
	Western	Sikongo	Tuuwa	1,045	174	52.22
	Western	Sikongo	Lulangunyi	535	89	26.74
	Western	Sikongo	Lueti	1,977	330	98.83
	Western	Sikongo	Liumena	1,479	247	73.94
	Western	Sikongo	Licha	1,853	309	92.61
	Western	Sikongo	Lwambi	384	64	19.18
	Western	Sikongo	Mwenyi	772	129	38.58

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Western	Sikongo	Mutala	340	57	16.99
	Total			9,665	1,611	483.06
28	Western	Kalabo	Mapungu	1,165	194	58.23
	Western	Kalabo	Luanginga	2,723	454	136.12
	Western	Kalabo	Liumba	1,140	190	56.98
	Western	Kalabo	Yuka	2,210	368	110.47
	Western	Kalabo	Buleya	1,303	217	65.11
	Western	Kalabo	Lutwi	1,781	297	89.02
	Western	Kalabo	Ndoka	2,421	404	121.00
	Western	Kalabo	Namulilo	2,471	412	123.48
	Western	Kalabo	Nguma	1,334	222	66.68
	Western	Kalabo	Kandambo	1,192	199	59.55
	Total			17,740	2,957	886.65
29	Western	Kaoma	Malamtila	10,746	1,791	537.10
	Western	Kaoma	Lalafuta	3,807	634	190.25
	Western	Kaoma	Shitwe	4,290	715	214.40
	Western	Kaoma	Namafulo	8,244	1,374	412.05
	Western	Kaoma	Luambuwa	3,910	652	195.43
	Western	Kaoma	Mushwala	8,623	1,437	430.96
	Western	Kaoma	Mangango	1,153	192	57.65
	Western	Kaoma	Kanabilumbi	1,604	267	80.16
	Western	Kaoma	Shikombwe	3,576	596	178.73
		Total			45,953	7,659
30	Western	Mitete	Miyondoti	4,365	728	218.17
	Western	Mitete	Nyaala	4,834	806	241.60
	Western	Mitete	Mitete	4,808	801	240.29

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
	Western	Mitete	Kakwacha	2,416	403	120.77
	Western	Mitete	Mataba	5,281	880	263.94
	Total			21,704	3,617	1,084.77
31	Western	Limulungu	Limulunga	7,739	1,290	386.78
	Western	Limulungu	Mabili	2,183	364	109.12
	Western	Limulungu	Nangula	6,669	1,111	333.31
	Western	Limulungu	Simaa	2,675	446	133.70
	Western	Limulungu	Ushaa	2,860	477	142.96
	Western	Limulungu	Namboma	2,821	470	141.00
	Western	Limulungu	Ndanda	837	139	41.81
	Western	Limulungu	Ikwichi	1,871	312	93.52
	Total			27,655	4,609	1,382.20
32	Western	Nkeyema	Litoya	1,993	332	99.60
	Western	Nkeyema	Namilangi	4,627	771	231.26
	Western	Nkeyema	Nkeyema	2,643	440	132.07
	Western	Nkeyema	Longe	1,659	276	82.90
	Total			10,921	1,820	545.83
33	Western	Mulobezi	Nawinda	1,964	327	98.14
	Western	Mulobezi	Luamuloba	1,519	253	75.91
	Western	Mulobezi	Sichili	3,716	619	185.70
	Western	Mulobezi	Machile	1,343	224	67.11
	Western	Mulobezi	Mulobezi	1,654	276	82.67
	Western	Mulobezi	Kamanga	1,322	220	66.07
	Total			11,517	1,920	575.62
34	Western	Sesheke	Imusho	1,550	258	77.48
	Western	Sesheke	Kalobolelwa	3,779	630	

No.		District	Wards	Population in Need	Households in Need	Cereal Requirement (MT) by Ward
						188.88
	Western	Sesheke	Luampungu	3,878	646	193.81
	Western	Sesheke	Luse	2,197	366	109.79
	Western	Sesheke	Maondo	6,244	1,041	312.08
	Western	Sesheke	Mulimambangu	14,597	2,433	729.57
	Total			32,245	5,374	1,611.61
35	Western	Sioma	Nalwashi	828	138	41.38
	Western	Sioma	Kalongola	712	119	35.56
	Western	Sioma	Mbeta	3,131	522	156.47
	Western	Sioma	Sioma	1,422	237	71.08
	Western	Sioma	Mutomena	2,688	448	134.35
	Western	Sioma	Mulamba	302	50	15.10
	Western	Sioma	Beshe	676	113	33.76
	Total			9,758	1,626	487.70
36	Western	Shangombo	Mambolomoka	2,529	421	126.38
	Western	Shangombo	Keyana	1,421	237	71.02
	Western	Shangombo	Sikabenga	2,122	354	106.05
	Western	Shangombo	Kaunga Mashi	1,037	173	51.83
	Western	Shangombo	Sipuma	1,700	283	84.99
	Western	Shangombo	Mulonga	1,992	332	99.55
	Western	Shangombo	Simu	1,616	269	80.78
	Total			12,417	2,070	620.60
	GRAND TOTAL			963,019	165,404	49,601.26