Caprivi Region- Livelihood Baseline Profile- Low Land Maize and Livestock Zone

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Office of the Prime Minister-Directorate Emergency Management
Livelihoods Assessment, Main Report-June 2009

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NAMIBIA

Vulnerability
Assessment Committee

Report Author:
Acidri James -Livelihoods Vulnerability Assessment and Analysis Advisor- Namibia Vulnerability Assessment Committee.

With major contributions from team members:

1. Amunyela Anastasia- Office of the Prime Minister- Directorate of Emergency Management
2. Timothy Shixunguleni- Office of the Prime Minister-Directorate of Emergency Management
3. Iifo Festus- Ministry of Regional, Local Government and Housing
4. Nambala Sylvanias-National Planning Commission
5. Kadjimi Olavi- Ministry of Agriculture, Water and Forestry
6. Kalimbo Sylvia - Oshana Regional Council
7. Amakali Kristofina - Ohangwena Regional Council
8. Martin Ausiku- Omusati Regional Council

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Acknowledgements

The Namibia Vulnerability Assessment Committee (Nam-VAC) would like to express its gratitude to the SADC-RVAA programme and Office of the Prime Minister-Directorate Emergency Management, whose collaboration and support made this assessment possible.

Special vote of thanks to Oshana, Ohangwena and Omusati Regional Councils as well as the National Planning Commission, Ministry of Agriculture, Water and Forestry and Ministry of Regional Local Government and Housing who seconded staff to participate in this livelihoods baseline assessment. This shows their level of commitment towards disaster risk and vulnerability reduction through adequate preparedness. It is also a key contribution for the achievement of the MDGs, NDP 3 and Vision 2030.

Thanks to the Caprivi and Kavango Regional Councils for their financial support, cooperation and guidance during the field work assessment.

We also offer our gratitude to the communities that participated in the assessment, for their willingness to share so much of their time and information with the assessment team. It is our hope that this report will provide valuable information for both disaster preparedness, mitigation and other development initiatives in the region.

Finally, NAM-VAC secretariat would like to thank the field team members for their hard work, perseverance and commitment towards establishing this livelihood baseline information for purposes of livelihoods based vulnerability assessment and monitoring a key component of disaster preparedness and response.

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Acronyms and Abbreviations

DEM	Directorate Emergency Management
FAO	Food and Agricultural Organization
GRN	Government of the Republic of Namibia
HEA	Household Economy Assessment
LZ	Livelihood Zone
MAWF	Ministry of Agriculture, Water and Forestry
MDG	Millennium Development Goals
Nam-VAC	Namibia Vulnerability Assessment Committee
OPM	Office of the Prime Minister
OVC	Orphans and Vulnerable Children
RVAA	Regional Vulnerability Assessment and Analysis
SADC	Southern African Development Community

DRAFT

Table of Contents

DRAFT

1.0 Executive Summary

The Namibia Vulnerability Assessment Committee (Nam-VAC) requires livelihood baseline information on rural households as a reference point for modeling likely effects of shocks such as drought, flood and market failure on the population. Such shocks may severely affect people's ability to maintain their livelihoods and any response needs to be based on information and analysis designed to give solid guidance for development, disaster response planning and mitigation recovery, emergency assessment and early warning and monitoring initiatives. The essential target for any response would be the household since this is the basic unit of economic operation, and the unit which must try to cope with shocks.
For the above reason, the Household Economy Approach (HEA) was chosen, giving both a geographical template of livelihood zones and within these zones an analysis of typical household's within different wealth groups – given that these exhibit different levels of vulnerability to shocks.

The Caprivi region, Low Land Maize and Livestock zone was selected on the basis of an earlier national livelihood zoning report, which indicates the area to be prone to natural hazards such as floods, drought, wild animal crop and livestock destruction, Veldt fires and livestock diseases among others.

Objectives of the Assessment

1. To establish a detailed livelihoods baseline analysis of socioeconomic groups and their livelihood patterns;
2. To identify and describe coping and distress strategies that households employ to cope with common shocks;
3. To project and forecast the food security and livelihoods vulnerability situation for 2009/10 consumption year.
4. To develop a set of clear, risk and vulnerability indicators and policy-oriented recommendations aimed to improve household food security and poverty alleviation in the long-term.

Introduction and Methodology

The methodology used was the livelihoods based vulnerability analysis using the Household Economy Approach (HEA) which is an analytical framework that is used to predict the likely effects of crop failure or other shocks such as floods, market failure and drought among others on future food supply, access and livelihood patterns. The approach estimates the relative contributions of different food and income sources (e.g. crop and livestock production and labour exchange among others) for different wealth groups over a normal/non crisis year.

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The field work assessment was conducted over a three week period between May 16 and June 7 2009. The first two weeks were dedicated to field data collection, with the final week for analysis of the information collected. A total of 16 key informant and 29 household wealth group interviews were conducted during the period in the field.

The main data collection tools used were a key informant and wealth group checklists, which focus on understanding of wealth groups and various household sources of food, income and expenditure patterns among the three wealth groups as defined by community key informants. It also explored the issues related to household vulnerability in case of shocks as well as the coping strategies and options they undertake during bad years such as 2009/10 marketing year.

Other data collection techniques included proportional piling, year ranking and seasonal calendars.

In this exercise, communities carried out proportional piling to define wealth groups, ranked individual years over the past five years, and identified the determinants of a "normal/non crisis" and "bad/crisis" year. The details of the year ranking were primarily determined by the extent and damage caused by floods to identify the 2007/2008 as the reference period for the baseline livelihoods assessment and analysis.

The household economy analysis established a picture of relatively normal livelihood patterns for households in the Low Land Maize and Livestock Zone.

This zone is characterized by both high rainfall and sometimes unreliable rainfall pattern. As a result, it experiences wide inter-annual variations in climatic and production conditions.

The assessment team was comprised of Namibia Vulnerability Assessment Committee (Nam-VAC) technical team members trained in November and December 2008.

2.0 Main Findings

The principal objective of the livelihoods baseline assessment was to establish a detailed analysis of livelihood patterns in the reference period 2007/08 in the Lowland Maize and Livestock zone of Caprivi region. Thus the discussion of findings below emphasizes this baseline analysis. In addition, findings that are particularly relevant to disaster preparedness and response as well as general development are highlighted.

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A discussion of the ways in which households in this zone cope with difficult circumstances in "bad/crisis years" follows the baseline livelihoods discussion below.

The main livelihoods related risk factors ranked on the basis of frequency and overall negative impact on the local peoples livelihoods were the following:

- Frequent flood conditions
- Frequent drought conditions
- Wild life crop and livestock destruction
- Veldt fires
- High prevalence of crop pests and livestock diseases such as foot and mouth disease.
- Human diseases such as bilharzias and malaria among others.

2.1 Baseline Livelihoods Analysis (2007/2008): The Low Land Maize and Livestock Zone in Caprivi Region

A livelihood zone (LZ) is defined as a geographical area in which most households obtain their food and cash income by roughly the same combination of means. For example, a livelihood zone may be characterized by heavy reliance on crop production and sale of natural resources for food and income, with marginal reliance on livestock production. While not all households in a livelihood zone are expected to engage in these activities to the same extent, they are often limited by the same environmental or socio-political constraints, and thus tend to engage in similar types of activities. Normally, a livelihood zone has defined boundaries which do not necessarily match administrative boundaries (such as by village, constituency or region), with all households living there in belonging to that livelihood zone.

A national map of the livelihood zone of Namibia can be found in Annex 1.

The zone is drained by the Zambezi, the Kwando/Linyanti/Chobe and the Okavango Rivers, which receive most of their water from direct rainfall (550-650mm per annum) and ground flowing water in Angola and Zambia. The area is characterized by flat plains with gentle slopes towards the south and fertile clay-loam rich soils known as *Sitapa* upon which much of the large scale maize in the area is grown. There are frequent floods and it is also suitable for recession cropping, particularly of maize after floods. The zone, particularly in Impalila Island, also has marshes and grasslands with thick vegetation including forests. The marshes are suitable for maize cultivation and cattle keeping especially in the low lying vegetation of the flood plains.

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The Lowland Maize and Livestock zone has one rainy season per year, extending from November –December to October the following year. It however has a supplementary season from July/August to November especially after receding of flood water to allow crop production.

It is predominantly maize production and cattle keeping area, spatially distributed with main coverage in the low altitude areas of Caprivi region in areas such as riverine woodlands and the eastern flood plains, Katima Mulilo, Impalila Island and the Kavango river basin.

The main crop grown in the area include maize, supplemented with millet, sorghum, groundnuts, bambara nuts, beans and pumpkins with some vegetables depending on availability of seeds at the start of the season.

Livelihood patterns in the zone considerably depend on maize production and sale of cattle and other natural resource for food and cash income, although the potential is limited by poor feeder road conditions, lack of marketing facilities and other infrastructure required to improve access to basic social services namely health, education and extension services among others.

2.2 Defining "Normal," "Good" and "Bad" Years to Understand Inter-Annual Variability

Household economy analysis establishes a clear picture of typical, normal or non crisis year, livelihood patterns for households in a specific livelihood zone. As noted above, the Low Land Maize and Livestock zone is characterized by an annual variability of rainfall. As a result, the area experiences wide inter-annual variations in climatic and crop/livestock production conditions. In an effort to clarify the range of conditions that local communities must cope with in most years, a "year ranking" exercise was completed. In this exercise, communities ranked individual years over the past five years and identified the determinants of what makes a year "good," "average," and "bad". Details about the ranking characteristics were then elicited (See details in page 12).

Based upon the year ranking interviews, the year 2007/08 was selected as the reference period for the assessment by most villages sampled. This year represents the range of conditions that indicate typical characteristic of the area with an element of floods and the extent of damage and loss of livelihoods, and the year is recent enough to allow accurate recall. In the in-depth focus group interviews, participants were encouraged to refer to 2007/2008 when describing livelihoods (and related parameters such as crop production, livestock conditions and prices in an average flood year) in normal years.[1]

[1] The normal year is defined differently than the agricultural year. An agricultural year commences with land clearance and cultivation, and thus in this zone would extend from September 2007 to August 2008. However, the normal year takes the beginning of green maize consumption as its reference point, and thus extends from March 2007 to February 2008.

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3.0 Summary of Findings:

The Lowland Maize and Livestock zone is characterized by high variability of rainfall and flood waters, which sometimes affects crop and livestock production and access to key markets causing high levels of livelihoods insecurity in some years. This assessment clearly identified that, household food insecurity is not a chronic phenomenon and mostly happens during bad years such as the 2005/06 consumption year as ranked by the communities.

The peak hunger period is also normally between the months of October to January of a particular bad/crisis year.

Given the regional level variation in climatic conditions and level of development, the Caprivi – Low Land Maize and Livestock zone exhibits higher levels of risk and vulnerability to natural hazards and economic conditions due to the following factors:

- Frequent floods in the low lying areas.
- Poor state of feeder roads limiting access to key markets and increased transport costs for local trade.
- Lack of strategic food markets particularly in remote villages to ensure more regular and affordable access to staple food items.
- Lack of agricultural inputs to pilot, some crops on arable land
- Limited access to essential veterinary drugs in rural areas, due to over centralisation of agencies such as agra-business enterprise in Katima Mulilo town market.
- Limited livestock markets due to quarantine of animals as a result of outbreak of diseases.
- Vicious cycle of poverty, due to recurring hazards particularly floods and drought conditions
- Limited of proximity to basic social services such as schools, health centres and safer sources of water for human consumption in the region.
- Lack of regular transport services and effective communication facilities to aid marketing of crops and livestock/products.
- Limited employment opportunities particularly in the formal sector.
- Limited access to fertile soils along the river and Lake Liambezi basin particularly among the poorest households.
- Lack of capital for agricultural development, shown by under utilisation of fertile soils by some households.
- Negative impact of alcoholism among some productive age groups.
- Deforestation due to temporary construction of huts by the flood displaced population.

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Over view of Livelihood Patterns

Overall, 'very poor', 'poor', 'middle' and 'better off' households are able to meet their minimum food needs during normal/non crisis years. However, the very poor are the most vulnerable to food insecurity as they only consume 2% above their minimum requirement of 100% relative to 32%,52% and 77% among the poor, middle and better off households respectively. This indicates that, they will be more vulnerable to any hazards or shocks such as floods, prolonged drought, livestock diseases or increase in food prices among others.

The main sources of cash income among the four wealth groups include: the sale of crops and livestock, agricultural labour among the poorest households, sale of natural resources, predictable cash transfers inform of old age, disability and veteran pensions and OVC grants among others.

Other non typical sources of cash income among some middle and better-off households include trade and formal employment and remittances particularly among employees of the Government of the Republic of Namibia (GRN) and local conservancies.

However the very poor and poor engage in multiple livelihoods strategies compared with the middle and better-off households in the zone.

This also shows that, both very poor and poor households are likely to find difficulties in coping with most shocks than the other wealth groups.

Expenditure patterns indicate that very poor and poor households have little or no disposable income for investment. This is contrary to the middle and better off, who spend more on investments such as agricultural inputs, livestock drugs, payment of school fees, restocking and other expenditure as tobacco and beer.

Of the four wealth groups defined by local respondents, the very poor constitute 31% compared with 39%, 22% and 8% of poor, middle and better-off households respectively.

The very poor households consumption derives in largest part from own crops 46% of food requirements, followed by purchase and barter (32% of food requirements), labour exchange (17% of food requirements) and other minor sources such as wild foods, gifts and livestock products contributing (3%,2% and 2% respectively of food requirements). The main staple food within the zone is maize grain. The very poor households do not have a variety of food items to supplement their diet.

The above patterns of food sources imply, the very poor are more vulnerable to shocks such as persistent floods, which normally affect crop and livestock conditions and their access to agricultural labour and other natural resources.

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Differences in level of cash income among the four wealth groups illustrate the income disparity between the very poor and the other three wealth groups (poor, middle and better-off households) within the livelihood zone. For example, the average income level of most typical very poor households is estimated to be about 4,568N$ compared with 7,290N$, 8,944N$ and 15,336N$ among the poor, middle and better-off households respectively.

The main reasons for low levels of annual cash income among very poor households within the Lowland Maize and Livestock Zone among others include low agricultural production, overreliance on cheap casual labour depriving them of own labour for household production, high rate of unemployment, limited market for local products, poor feeder roads and lack of functional rural food markets among others.

The review of expenditure patterns presented in this report indicates that the very poor households during a typical normal year spend most of their annual income on purchase of staple foods, followed by minimum essential livelihood basket, other expenditure with the least been non staple foods.

Overall the lack of adequate capital is the main factor perpetuating the vicious cycle of poverty among the majority of poor households, exposing them to poor living conditions.

Meanwhile the poor, middle and better off households have more advantage compared with the very poor, in that they are able to spend a significant part of their annual income on minimum essential livelihoods basket comprised of items such as agricultural inputs, veterinary drugs and basic social services such as education. All these items are part of sustainable livelihoods strategies, implying these groups are less vulnerable to climatic hazards and other economic shocks.

On the basis of the above analysis, the following implications are presented:

Short term Interventions:
Due to the long-term poverty situation among the very poor households, their ability to recover from the recurrent annual impact of floods will lead them to adopt coping strategies that lead to or reinforce poverty traps. Social protection interventions suggested below may be viable options to address the severe and long-term poverty, and reduce their vulnerability.

- **Conditional cash transfers**: The conditional cash for work transfers are the most appropriate to ensure household food security and livelihoods recovery in areas lying within the Upland cereal and non farm income zone in Oshana, Ohangwena and Omusati regions. The suitability of cash for work activities is based on the potential availability of public works programmes as a result of loss and damages caused by floods as well as the relatively better access to staple food markets within these areas. This implies that, the population can access and purchase any annual food

deficits within these areas. However the timing of the cash for work activities should not coincide with the start of the next agricultural season, to enable labor poor households at risk of food insecurity to focus on their own agricultural work at the start of the next season.

- **Conditional cash transfers:** This intervention is also recommended for populations at risk of food insecurity in parts of the Upland cereal and livestock zone with relatively good access to staple food markets. However it will be appropriate to implement a food assistance programme in remote parts of the zone such as Kambimba, Kangundja, Mpuku and Canchana villages among others in the Kavango region. Food assistance is more appropriate for these households due to lack of functional staple food markets and the high supervision costs of public works activities such as repair of feeder road repairs.

- **Conditional food assistance**: Food for work activities will be more appropriate among populations at risk of food insecurity in the remote parts of the Low land maize and livestock zone of the Caprivi region, due to the lack of functional staple food markets and a very high expenditure that will primarily be caused by the need to purchase staple maize grain.

Overall all food assistance should be provided at the appropriate time, i.e. lean/peak hunger months of the year (October-January) to ensure proper utilization for gainful purposes at the beginning of the agricultural season.

Medium term Interventions:

- **Asset creation among very poor households:** Although asset creation among these households is ideal, key impediments such as wild life livestock destruction should be addressed prior to supporting these households with assets such as oxen and ox ploughs among others. Provision of agricultural inputs such as quality seeds and draft power (oxen and donkeys) among the 28% poorest households in all flood affected regions.

- **Protect and promote the well-being and capacities of very poor households:** This could be achieved through human capital development, by undertaking various initiatives such as ensuring affordable cost of education, similar to health services in the country.

- **Unconditional cash transfers**: Limited access to OVC grants in the rural areas of the zone is a main problem for households living with orphans. Acceleration and improvement of access to both OVC and Disability/Elderly social grants in remote parts of the flood affected regions is critical for early recovery among eligible households.

DRAFT

- **Rural feeder roads, trade and markets**: The over reliance on Katima central market is a key constraint for effective participation of local people in economic activities. More investment in rural feeder roads and markets will facilitate local trade among the population in the zone.

- **Strategic food reserves:** The construction of local grain stores in the zone was a positive step towards stabilization of local food security situation. The revival of the programme will enhance availability of staple foods among the population.

- **Improved marketing of local agricultural produce**: The low prices for staple maize grain is part of the problem for vicious cycle of poverty among some households: The formation of local commodity groups for purposes of bulk marketing and improved bargaining power among the population is recommended.

- **Access to veterinary drugs**: Improved access to veterinary drugs particularly for the relatively wealth off households in the communities.

Long-term Interventions:
It is imperative to note that, where areas a regional flood early warning system, may be vital to trigger timely relocation of populations at high risk to floods, the following community experiences and livelihoods based issues need to be considered during the overall design of such a system.

The cost effective, community based traditional systems of flood early warning, response and mitigation among others included:

- Strategies aimed at reducing inequality: this could be achieved through addressing the structural limitations for people to meaningfully engage in economic growth and development process. Empowering marginalized through employment creation using small scale industries for processing agricultural produce such as maize and forest related products.
- Review of existing policies: Existing policies such as licensee fee for exploitation of natural resources should be reviewed to empower the very poor living below the poverty line to increase their potential to earn more income.
- Timely provision of information by the local authorities, particularly by the local traditional chief.
- Triggering timely relocation of local population into high ground areas with low risk of flooding.
- Effective community solidarity such as mutual support among local population through sharing of transport facilities assets such as canoes.
- Construction of sand ridges to stop the flow of excess water.
- Relocation of animals, particularly cattle into higher ground areas within the low land maize and livestock zone of the Caprivi region.

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However, these traditional response mechanisms were less effective during the 2009 floods, due to the following reasons:

- Less accurate information on the amount of flood water during the 2009 flood situation.
- Erosion of community solidarity and cohesion in tackling major problems of this nature.
- Increased level of productive assets such as livestock among relatively asset rich households in the flood prone zone of Caprivi region, limiting their timely relocation.
- Limited transport facilities for timely relocation of household assets.
- General fear of insecurity of property during flood situations, due to the open borders with Zambia and Botswana.
- Increased costs of resettlement, due to laws prohibiting cutting of trees in higher grounds.
- High risk of livestock infections due to likely spread of diseases in low flood risk areas.
- Ignorance among some community members, coupled with limited household labor to ensure timely clearance of safe flood areas for temporary resettlement.

Bearing in mind the above challenges, the following actionable recommendations are presented by the local communities in flood affected areas of Caprivi region:

- More effective collaboration between the traditional authorities, communities and regional/central government.
- Timely movement of populations in high and medium flood risk areas on higher grounds.
- Permanent relocation of people in high risk flood areas to high grounds.
- Setting of by laws which make it criminal to continue living in high flood risk areas, especially after provision of timely early warning signals.
- De-silting of some rivers and the Liambezi lake basin.
- Creation of earth dams to harvest excess flood water.

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4.0 Main Report- Introduction

The Namibia Vulnerability Assessment Committee (Nam-VAC) requires livelihood baseline information on rural households as a reference point for modelling likely effects of shocks such as floods, drought, wild animal crop destruction and market failure among others on the population. As a result with technical support from SDAC RVAA programme, Nam-VAC conducted this detailed livelihood baseline assessment, to assist the Office of the Prime Minister-Directorate of Emergency Management and Caprivi Regional Council with disaster preparedness and response as well as Central and Regional-level policy and program planning.

The assessment evolved out of a collaborative effort between the Government of the Republic of Namibia and SDAC-RVAA programme with an aim of obtaining vital vulnerability information and training/capacity building among national institutions. This report details the objectives, methodology and findings of the assessment of the Caprivi Region–Low Land Maize and Livestock Zone, comprised of Kabbe and parts of Katima Rural, Sibinda and Linyanti constituencies in Caprivi and Low lying areas of Kavango region.

The objectives of the assessment included:

1. To establish a detailed livelihoods baseline analysis of socioeconomic groups and their livelihood patterns;
2. To identify and describe coping and distress strategies that households employ to cope with common shocks;
3. To project and forecast the food security and livelihoods vulnerability situation for 2009/10 consumption year in the flood affected areas.
4. To develop a set of clear, risk and vulnerability indicators and policy-oriented recommendations aimed to improve household food security and poverty alleviation in the long-term.

4.1 Background

Caprivi region is located in north-eastern Namibia, bordering Angola to the north and Zambia and Botswana in the east. The region neighbours Kavango in the west. It is comprised of five constituencies, of which one lies in the Lowland Maize and Livestock Zone with some parts of three other constituencies namely Katima Rural, Linyanti and Sibinda.

According to the projected 2001 National Population and Housing Census, Caprivi region has a total population of 87,058.[2] The relative socioeconomic situation in the region compares poorly to other parts of the country.

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Infrastructure underdevelopment particularly in rural parts of the Lowland Maize and Livestock zone, exacerbated by various natural hazards has constrained both local and private sector development initiatives through reduced investment and employment opportunities, which in turn has impacted negatively on household incomes and wellbeing of the local people.

The Office of the Prime Minister- Directorate Emergency Management in partnership with Caprivi Regional Council is striving to establish a regional-level disaster management and mitigation system and other appropriate development strategies that will address some of the impediments to human survival and development in the long term. Most of the possible strategies and activities to be carried out are derived from this vulnerability assessment and analysis report.

4.2 Methodology

The household economy assessment (HEA) approach to food security assessment provided the central conceptual framework for primary data collection and analysis. The household economy approach is a method of assessing food security and understanding livelihood patterns. This approach is based upon developing an understanding of the various options that people employ to secure access to food and income. It goes beyond the traditional production-based assessments by exploring, in a systematic fashion, the other food sources that people rely upon, and the extent to which these can be expanded in times of crisis.

HEA is household-based – that is, the household is the unit of analysis. The approach strives to clarify how locally defined wealth groups (in the Caprivi region-Low Land Maize and Livestock Zone, the 'very poor', 'poor,' 'middle' and 'better off') obtain food and income, and spend their income, to meet their needs.

HEA analyzes livelihood patterns for both 'normal' and 'bad/non crisis' years. A 'normal' year is one that exhibits the types of conditions–socioeconomic, climatic, health, etc. – that are characteristic for the area.

That is, the important determinants of livelihood security do not vary from their usual or most common conditions. The conditions faced in normal years represent the 'norm' for the area, to which households are usually fairly well adapted. The baseline livelihoods analysis included in this report describes livelihoods in these normal years.

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Following this baseline is a discussion of the strategies that households employ to cope with difficult circumstances; these coping and distress strategies can be utilized to model how households would be expected to cope (or not to be able to cope) in the event of a particular shock or set of shocks.

This HEA took place in a sequence of stages, each designed to answer specific research questions.

- Initial **key informant interviews** were used to clarify the boundaries of livelihood zone (discussed in more detail below).
- Once the boundaries of the livelihood zone study area are delineated, **village-level key informant interviews** provided an overview of the socioeconomic structure and basic livelihood patterns of villages. These interview participants were selected on the basis of their detailed and historical knowledge of their communities.
- Finally, **in-depth focus group interviews with wealth group representatives** provided considerable quantitative and qualitative detail regarding food sources, income sources and expenditures for each wealth group. Participants of these wealth group interviews were selected by their community leaders and elders (those who had participated in the introductory interview in that village) based upon their membership in, and ability to discuss, their specific wealth group.

The final analysis or 'picture' describes the economic functioning of specific types of households, highlighting the mechanisms of interdependence between them, their constraints to development and their capacities to cope with shocks. The result is a clear identification of priorities for intervention to meet short and/or long-term needs.

The assessment team conducted primary data collection in the villages of Lusese and Isize in Kabbe; Muyako and Mubiza in Katima Rural; Malenga-lenga and Linyanti in Linyanti and Lusu, Chichimani and --- in Sibinda constituency.

These villages were selected purposively with guidance from the Regional Council staff, based upon the conclusion that they were most characteristic of socioeconomic and climatic conditions and in some cases accessible of the Low Land Maize and Livestock zone.

All in all, the assessment team conducted a total of seven (16) introductory interviews with village leaders and elders, and twenty eight (29) in-depth focus group interviews with wealth group representatives, across nine (9) villages in the Zone.

Each interview was recorded on an interview summary form, and calculations conducted and crosschecked manually.

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Raw data was then entered into an Excel spreadsheet, for the purposes of storing raw data for future reference, crosschecking calculations and facilitating analysis. The results of the analysis of food, income and expenditure data were documented in Microsoft Word. Qualitative information derived from key informant and focus group interviews was recorded on the same interview summary forms and utilized in data analysis and interpretation.

Previous HEA research was conducted in the Upland Cereal and Non Farm Income Zone; Upland Cereal and Livestock Zone of North Central Namibia and Communal Cattle and Small Stock Zone in Kunene region. This research and others such as the Caprivi Regional Poverty Profile report were used for reference and comparison of the assessment findings.

4.3 Main Findings

A discussion of the ways in which households in this zone cope with difficult circumstances in "bad years" follows the baseline livelihoods discussion below. In addition, findings that are particularly relevant to disaster preparedness, mitigation and response programming are presented in detail.

The community key informants identified the following characteristics of "normal or non crisis" and "bad or crisis" years.

General Characteristics of a good year

- Very low flood risk
- Low human displacement
- Low crop and livestock destruction
- High crop production and sale of produce in the market
- Good livestock conditions
- Relatively good household incomes due to good livestock conditions and high market prices.

General Characteristics of an average year:

- Mid season rainfall (December/January)
- Medium level floods
- Moderate human displacement due to floods
- Less loss of crops and livestock
- Normal hunger periods (December-February)
- Relatively average household incomes due to fairly good livestock conditions and markets prices.

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General characteristics of a "bad or crisis" year:

- Timely on set of rainfall (November/December months).
- High level of floods
- Massive human displacement due to floods
- Loss of crops and livestock
- Extended hunger period, i.e. (September to March)
- Relatively low household incomes due to poor livestock conditions and low market process.

4.4 Baseline Livelihoods Analysis (2007/2008): Characteristics of Socio-Economic Groups

After the identification of the livelihood zone, intensive key informant and focus group interviews were conducted to identify the characteristics of socio-economic groups in the communities. These "wealth groups" are normally defined by the community in terms of household assets and livelihood practices. The local determinants of wealth among others included level of hard work; variability in access to productive land; livestock ownership/draft power; access to capital equipment such as tractors; gainful employment and unemployment; level of education and skills; household size and overall impact of the HIV and AIDs pandemic.

This "wealth ranking" exercise enabled the assessment team to stratify the rest of the assessment by socio-economic group, allowing a more detailed, complex picture of the activities and interdependencies of types of households. The wealth ranking characteristics for the zone is provided in Table 1, to facilitate comparison between them.

Table 1: Typical Characteristics of Socio-economic (Wealth) Groups in the Lowland Maize and Livestock Zone

Typical characteristics	**"Very Poor"**	**"Poor"**	**"Middle"**	**"Better-Off"**
Percentage of population in the zone	31%	39%	22%	8%
Typical household size	7	7	7	5
Number of wife's per household	1	1	(1-2)	(1-3)
Land Owned	0.5-2 hectares	1-4 hectares	3-40 hectares	4-50 hectares
Land Cultivated	0.5-2 hectares	1-4 hectares	2-8 hectares	4-20 hectares
Cattle Owned	0-4	1-4 0-10	5-12 10-52	27-64 100-200

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Goats Owned	0-2	0-5	0-15	0-25
Poultry Owned	0-10	0-10	10-20	10-15
Productive Assets	2-4 hand hoes Panga, axe 0-1 oxen 0 ox-plough 0 fish nets	2-4 hand hoes Panga, axe 0-3 oxen 1-2 ox ploughs 0-1 fish nets	2-4 hand hoes Panga, axe 4-11 oxen 1-3 ox ploughs 0-2 fishnets 0-3 canoes	2-4 hand hoes Panga, axe 11-24 oxen 4 ox ploughs 0-5 fishnets 0-3 canoes
Economic Activities	Casual labour Domestic work Sale of natural resources	Casual labour Sale of natural resources Construction work	Formal employment Trade (Sheebens/ Sale of livestock Sale of crops	Sale of livestock/crops Trade Formal employment

As a result of the application of the participatory rural appraisal (PRA) tool of wealth ranking, the community leaders and members identified four main socio-economic groups. Overall the following are the defining characteristics of the socio-economic groups:

"Very Poor" households:

- Prevalence: The very poor category encompasses a significant number of the households, i.e. 31% of households in the livelihood zone. As Table 1 illustrates, the precise characteristics of the group is summarized above.
- Land: The land is communal owned with exception of cultivated land estimated between 0.5-2 hectares for the "very poor" wealth category capable of growing crops such as maize, millet, sorghum, groundnuts, bambara nuts and water melon. The very poor are unable to increase cultivable acreage due to lack of draft power, inputs, limited arable land particularly in the flood plains.
- Livestock: Very poor households generally own fewer livestock than other wealth groups, principally because their level of production does not enable them to earn sufficient income for cattle purchase. Typical very poor households own between 0-4 cattle, 0-2 goat and 0-10 poultry. They don't have any donkeys primarily used for transport and other labour intensive activities.
- Economic activities: The most important sources of cash income among typical very poor households include casual labour, domestic work and sale of natural resources. This is supplemented with social pension among beneficiaries within this group.

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"Poor" households:

- Prevalence: The poor category encompasses the majority of households, i.e. 39% of households in the livelihood zone.
- Land: The land is communal owned with exception of cultivated land estimated between 1-4 hectares for the poor wealth category capable of growing crops such as maize, millet, groundnuts, bambara nuts, pumpkins and water melon. The poor are equally unable to increase cultivable acreage due to lack of draft power, inputs, limited arable land in the villages.
- Livestock: Poor households generally own more livestock than very poor households, principally due to limited income compared with the other wealth groups. Typical poor households own between 1-4cattle, 0-5 goats, and 0-10 poultry. They also don't own donkeys.
- Economic activities: The most important sources of cash income among typical poor households include casual labour, sale of natural resources and construction work. This is equally supplemented with social pension among beneficiaries within this category.

"Middle" households:

- Prevalence: The "middle" group is also slightly large with an average range of 22% of the households in the Low Land Maize and Livestock Zone.
- Land: The middle households cultivate between 2-8 hectares of land. They primarily grow maize, millet, sorghum, groundnuts, bambara nuts, pumpkins and water melons.
- Livestock: Middle households typically own at least 5-12 cattle, 0-15 goats and 10-20 poultry.
- Economic activities: The most significant income generation activities undertaken by middle households include sale of livestock, formal employment, fishing and trade including local brewing and supplement their income social pension for those receiving in within the group.

"Better off" households:

- Prevalence: The fourth main category of households is the "better off" who typically constitute 8% of the total households in the livelihood zone.
- Land: Better off households typically cultivate between 4-20 hectares of land mainly used for production of maize, millet, sorghum, groundnuts, bambara nuts, beans, pumpkins and water melon.
- Livestock: In terms of livestock, typical better off households have the largest number of animals estimated at 27-74 cattle, 0-25 goats and 10-25 poultry.
- Economic activities: The main sources of cash income among typical better-off households are sale of livestock and crops, trade and formal employment supplemented with social pension. However a better-off household does not earn from more than one of the three supplementary sources of income.

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Figure 1 : Household Sources of Food in Normal Years in the Lowland Maize and Livestock Zone

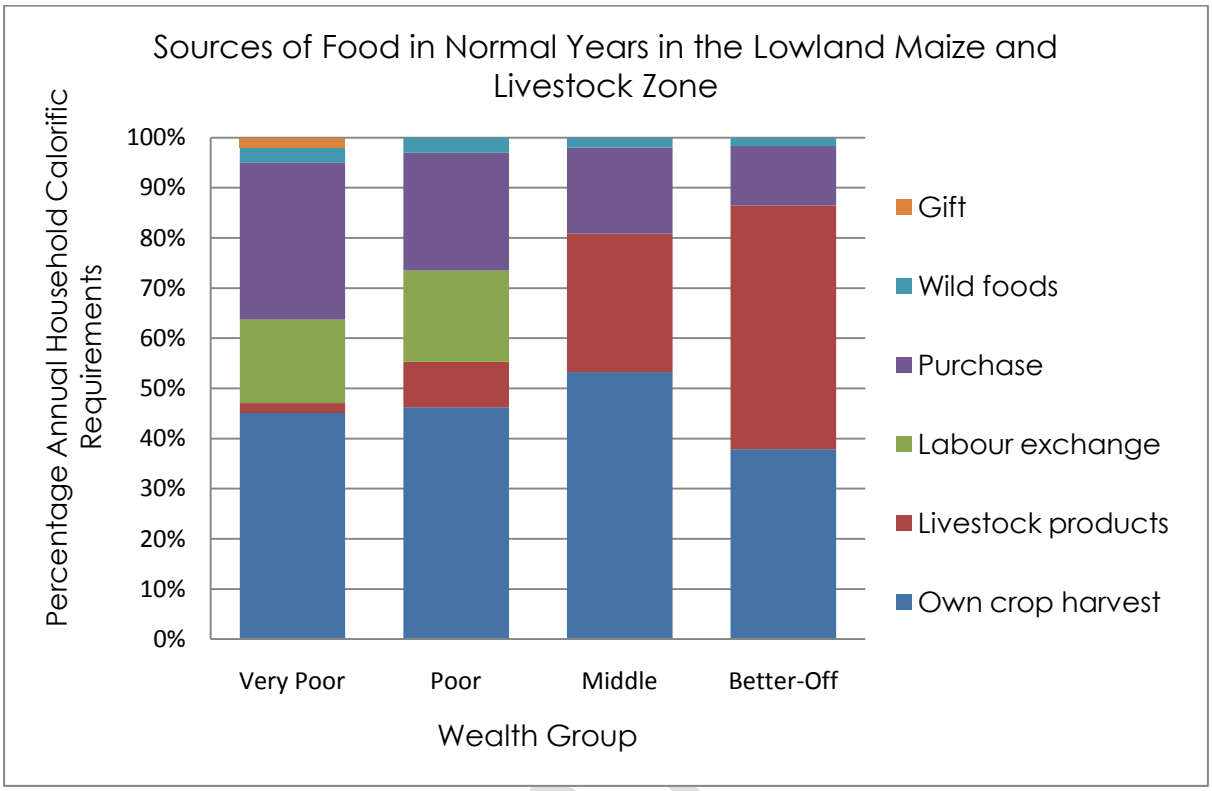


Figure 2: Household Sources of Cash Income in Normal Years in the Low Land Maize and Livestock Zone

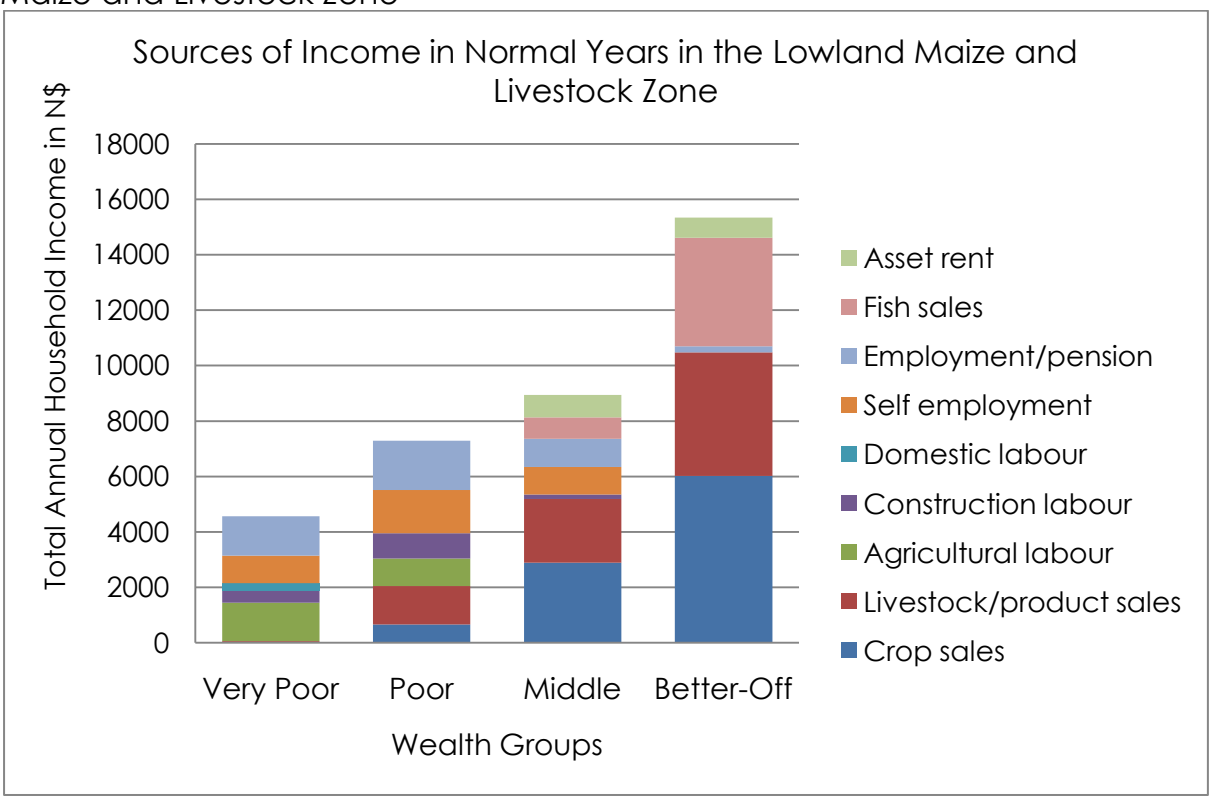
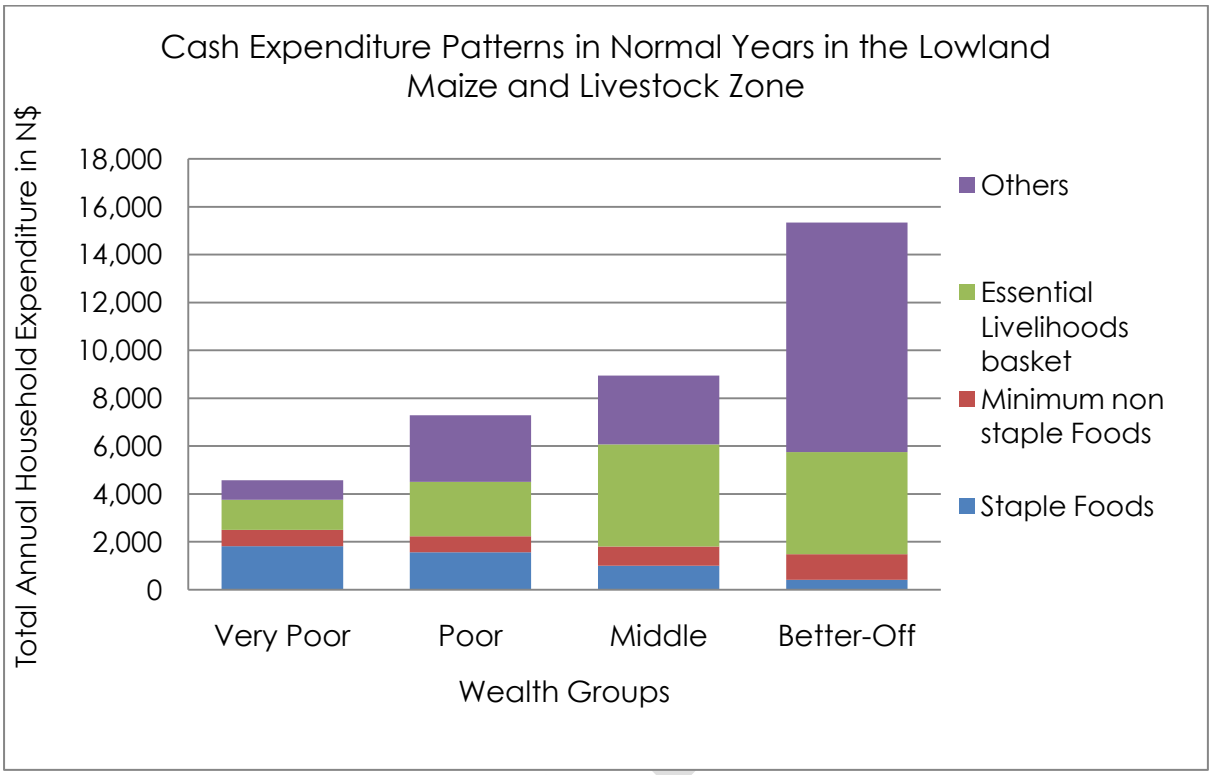


Figure 3: Household Expenditure Patterns in Normal Years in the Lowland Maize and Livestock Zone



5.0 Baseline Livelihoods Analysis (2007/2008): Livelihoods Patterns

Introduction:

The wealth ranking exercise identified four socioeconomic categories in the Lowland Maize and Livestock Zone: the very poor, poor, middle and better off (see Table 1). The year ranking exercise provided a framework that distinguished between different types of years and their impacts on livelihoods. The interviewers then used this information to conduct detailed focus group interviews with representatives of wealth groups about their food, income and expenditure patterns in normal years. This analysis for normal years is called a "baseline livelihoods analysis" because it is utilized as a benchmark to understand livelihoods in normal years as well as to measure changes in livelihoods in non-normal (and crisis) years. The baseline livelihoods analysis below describes the contributions to household food; income and expenditure patterns of a number of important economic sectors (see Figures 1-2):

- Crop production, particularly maize.
- Labour exchange (working for food)
- Wild foods
- Casual labour and formal employment
- Livestock and crop sales
- Trade including local brewing
- Predictable cash transfers inform of social pension and grants

This is followed by a discussion of expenditure patterns of each wealth group (Figure 3)

5.1 Baseline Livelihoods Analysis (2007/2008): Contribution of the various livelihoods strategies to household food needs

For all wealth groups, household crop production particularly maize provide a significant portion of required kilo calories towards the household's minimum annual food needs in a normal year: thus giving more dietary energy than any other food source. For the middle and better off, crop production provide more than 80% of the annual calorific food requirements in a normal year. It also provides more than a quarter of the annual household income.

As shown in Figures 1, 2 and 3, crop production is mainly a subsistence strategy in the Lowland Maize and Livestock Zone. As illustrated by Table 1, all wealth groups have a tendency of underutilizing their productive land and operating optimally due to the following reasons:

- Lack of adequate draft power and agricultural inputs: Household productive labour and draft power are a major impediment to increased agricultural production in the Low land Maize and Livestock Zone. This is attributed to inadequate productive labour force and lack of draft power, i.e. cattle and donkeys for ploughing land, particularly among the very poor and poor wealth groups.

- Lack of effective commodity groups, marketing associations/cooperatives to strengthen local bargaining power: The population of the Lowland Maize and Livestock Zone have not initiated and developed any formal community-based cooperatives that could be used to strengthen bargaining power and harness financial and other labour resources for collective development. This has disadvantaged the population especially when marketing their maize produce. The low prices of maize grain imply less household income and perpetuation of extreme poverty.

- Lack of adequate capital: Inadequate capital for agricultural investment is a much impediment to increased agricultural productivity in the livelihood zone. The majority of farmers invest lower than what is expected in order to secure surplus production both for consumption and commercial purposes.

- Livestock diseases: Persistent cases of livestock diseases have both raised the cost of livestock production and affected market values of livestock particularly cattle.
- Poor feeder roads: Other major constraints to overall socio-economic development include the poor state of feeder roads particularly in the remote parts of the livelihood zone.

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- Dependency ratio: Key informants reported a correlation between household size and socio-economic status: poor households typically include an average of nine members, middle households include six and rich households include five. For the poor who mainly depend on exchange of their labour for food, it is difficult to get adequate productive labour since most of the household members are young to engage in labour intensive work.

- Human and wild life conflict: The human and wild life conflict in villages neighbouring the conservancies has become a major problem. This is evident with the level of crop and livestock destruction caused by some problematic wild animals. The respondents also indicated that, local compensations mechanisms are non functional.

- Negative cultural attitudes towards strenuous work: Key informants consistently reported that some of the main reasons for poverty induced vulnerability include the negative attitude towards strenuous work by some households. This is more so when additional labour is required for larger acreages and timely weeding to secure good harvest in the zone.

- Alcoholism and tobacco: Key informants underscored the critical role of excessive daily alcohol consumption, particularly by men, as a developmental constraint. Alcohol consumption drains time, motivation to work, and available household income that may have otherwise been devoted towards improving the family's economic status.

- Stock theft: Rampant cases of stock theft have also become a major problem in the zone. This is more so during situation of floods. The situation is exacerbated by the open borders with Zambia and Botswana.

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Contribution of own crop production to the diet:

Very poor households: The very poor derive a significant amount of their household needs from own crop production, particularly crops such as maize, millet and sorghum. This sis supplemented with pulses such as beans, bambara and ground nuts. It contributes 46% of their annual food needs in a normal year with relatively less negative impact of floods.

Poor households: The poor households derive also derive a significant proportion of their annual food needs from won crop production. Similar to very poor, these households grow maize, millet, sorghum and pulses such as beans, bambara and ground nuts as well as pumpkins. It contributes up to 61% of their annual food needs in a normal year.

Middle households: The middle households are not an exception to the high level of dependency on crop production. They grow crops such as maize, millet, sorghum; pulses such as beans, ground and bambara nuts as well as pumpkins. Own crop contributes up to 81% of their annual food needs.

Better-Off: Comparatively better-off households grow crops at a larger scale and this makes them more food secure than any other wealth group. The main crops grown by these households include maize, millet, sorghum and pulses such as beans, bambara and ground nuts as well as pumpkins. Own crop production contributes up to 86% of their minimum annual food requirement of 100%.

Contribution of own livestock production to the diet:

Very poor – The very poor have less livestock as such do not derive high energy value from livestock products. They mainly depend on small livestock including poultry, as such own livestock products contributes up to 2% of their annual food needs in a normal year.

Poor - The poor households are not an exception to deriving very low dietary energy intake from own livestock products. They equally have less livestock due to limited income to increase their livestock herd. The main livestock products which provide them some energy intake are cattle milk and some poultry mainly slaughtered during festive months. Own livestock products contribute up to 12% of their annual food needs in a normal year.

Middle – The middle households have more livestock and this has significant contribution to their annual food needs. This wealth group depend on their own cattle milk, goat and chicken meat for animal proteins during normal years. Own livestock products contribute up to 46% of their annual food needs.

Better-Off - Similar to own crop production, the better-off households have more livestock and higher own livestock products compared with the other wealth groups. Main livestock products include milk, cow, goat and poultry meat, which provides them the required animal proteins in a normal year. Livestock products contribute more than half of their minimum annual food requirements at 67% in a normal year.

Contribution of market purchase of food

The second major source of food across the four wealth groups in the lowland maize and livestock zone is direct purchases from the market. The main food items purchased are staple maize meal and other non staples such as cooking oil, sugar and to some extent meat.

Very Poor- Due to limited staple cereal production, the very poor normally supplement their annual cereal requirement through direct purchase from the market. Main cereals purchased mainly in Katima Central Market and to some extent across markets in Zambia and Botswana include maize meal, beans and non staple such as cooking oil and sugar. Direct purchases contribute 32% of their annual food needs.

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Poor- Similar to very poor, the poor households also rely on the market during some periods of the year. This is particularly during the lean months, i.e. (October-February) these households purchase staple and non staple food items and it contributes up to 31% of their annual food needs in a normal year.

Middle- As a result of more production of staple cereals such as maize, these households purchase less staple cereals compared with the very poor and poor households during a normal year. Direct purchases contribute up to 26% of their annual food needs.

Better-Off – The Better-off households are the least dependent on the market for staple cereals, due to their high production of the same. However better-off households purchase more non staple food items such as cooking, sugar and meat compared with the lower socio-economic groups. Market purchases contribute up to 21% of their annual food needs.

Contribution of labour exchange for food

Very poor- Very poor households have a high reliance on labour exchange for food during certain periods of the year. The main activities undertaken in payment for food include weeding, harvesting and other self employment activities such basket and mat making. Labour exchange for food contributes up to 17% of their annual food needs in a normal year. This partly explains why they have limited labour for their own agricultural production (See details in Figure 1).

Poor- The poor households also do labour exchange for food in order to meet their minimum annual food requirements. The main activities conducted by the poor in exchange for food includes agricultural activities such as weeding and harvesting as well as nonfarm activities such as construction and self employment. Overall labour exchange contributes up to 24% of their annual food needs. The main employers are the middle and better-off households in the livelihood zone (See details in Figure 1).

Contribution of hunting, gathering (wild foods) and local gifts

Very poor and poor households: The very poor and poor households in the zone do rely on wild foods such as wild berries and honey and in some cases small wild animals to meet their annual food calorific needs. These households are able to derive up to 4% of their food needs from this source. This is supplemented by local gifts such as maize grain particularly among the very poor wealth group by other groups within the community. The low contribution of these food sources can be attributed to the seasonal availability of the foods during a normal year as well as very low calorific intake. Overall their contribution is

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insignificant compared to other prime sources of food for poor households within the zone.

Middle and Better-Off households: Middle and Better-Off households are also able to supplement their annual calorific food needs by up to 3% of annual food needs from wild foods. The main wild food consumed by these households includes wild berries and wild honey in a normal year. However, these are also seasonal and low calorific intake foods, limiting their contribution towards the annual food calorific requirements compared to what they derive from their own livestock and in some cases crop production in the normal years.

Conclusion

Cereal production, particularly maize is the main source of household food in the low land maize and livestock zone. This is supplemented by market purchases and to some extent labour exchange among the poorest households. This implies that any negative changes in crop production due to shocks such as floods will have a significant impact on household food security among the local population in the zone.

5.2 Baseline Livelihoods Analysis (2007/2008): Contribution of different livelihoods strategies to household cash income

Contribution of crop sales:

Very poor households: Apart from contributing to annual food requirements, typical very poor households derive very little income from crop sales, due to low crop production among the wealth group. It accounts for less than 0.5% of their annual household income within the livelihood zone.

Poor households: However comparatively the poor households earn more income from crop sales compared with the very poor wealth group. The main crop sold during normal years is maize. It contributes up to 10% of their annual household income. Some of the reasons for low income derived from maize sales include the buying price, since most poor households tend to sale their produce immediately after harvest. This places them at a disadvantage due to low prevailing market prices after harvest (Figure 2).

Middle households: Middle households are able to derive a significant proportion of their annual income estimated within the range of (30-35%) from crop sales, particularly maize. The middle households depend more heavily on crop production both for food and cash income compared with the very poor and poor households in the livelihood zone. However they are also highly vulnerable to flood -related conditions due to this high dependency on crop production.

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Better off households: Better off household's exhibit the highest degree of dependency on crop production for food and income compared with any other wealth group within the livelihood zone. Crop sales, i.e. maize, beans and some extent ground nuts contributes up to 40% of their annual household cash income needs in a normal year.

Contribution of Livestock Sales:

Very poor households: The majority of typical very poor households do not own any cattle, goats and chicken in the livelihood zone. As such they derive less than 0.5 % of their annual cash income from sale of livestock.

Poor households: The poor wealth group do own some livestock particularly cattle with less goats and poultry within the livelihood zone (Table1). This wealth group do sale livestock particularly cattle for purposes of paying school fees and in case of any serious health problems within the household. Overall livestock sales contribute up to 20% of their annual cash income needs in a normal year.

Middle households: Middle households are able to derive a significant proportion of their annual income estimated to be 30% from animal sales. The middle households have high dependence on livestock due to the sufficient number of livestock owned by them. However they are also highly vulnerable to livestock-related shocks such as drought and diseases such as the foot and mouth disease a common phenomenon in the low land maize and livestock zone.

Better off households: Better off households exhibit the highest degree of dependency on livestock for income. Animal sales also contribute up to 30% of their annual household cash income. Most better off households typically sell at least 4 cattle per any normal year, particularly for issues related to payment of school fees and acquisition of veterinary drugs as well as access to other socail services.

Contribution of Agricultural Labour:

Very poor: Agricultural labour such as land preparation, weeding and harvesting are a main source of household cash income among the very poor in the low land maize and livestock zone. This is partly the reason for their low agricultural production on an annual basis. These households tend to live a daily basis as such do not utilise their own productive labour force on own crop fields. It contributes up to 30% of their annual cash income.

Poor: The poor wealth group are also deriving part of their annual cash income from agricultural labour activities such as land preparation, weeding and harvesting. It supplements their annual cash needs especially during the peak of agricultural activities. Overall agricultural labour contributes up to 15% of their annual cash income in a normal year with less impact of the floods.

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Contribution of Construction/Domestic Labour:

Very poor: As part of diversification of income options, the very poor households do engage in construction work such as building of huts, smearing of huts and fencing. It is a competitive livelihood activity due to more demand than supply for labour. Overall poor households derive up to 10% of their annual cash income from local construction work within the livelihood zone.

Poor: Similar to very poor households, the poor wealth group also engage in construction work to supplement their annual cash income needs during normal years. It is equally the same construction activities such as building and smearing of huts and fencing. It also contributes up to 105 of their annual cash income needs during normal years.

Middle: Typical middle households do not do any construction work during normal years. However households within this group, who engage in construction work, derive up to 3% of their annual cash income needs from construction work.

Contribution of Self Employments:

Very poor: The very poor also heavily rely on self employment as a source of cash in normal years. The main self employment activities untaken by this group include making of local crafts such as mats, baskets, wood carvings, handles for hand tools, bows and arrows, thatching grass and reeds among others. It overall contributes up to 20% of their annual cash income needs. However their potential to exploit this source of income is limited by market and restrictive environmental policies including the recently introduced licence fee.

Poor: The poor households also depend on self employment for cash income needs. Unlike the very poor, poor households have a better opportunity to utilise the existing natural resources such as thatching grass, reeds and construction poles, due to their ability to pay the licence fee. Overall it also contributes up to 20% of their annual cash income needs in normal years.

Middle: The middle households are the least beneficiaries from self employment. However it's an effective income diversification option for them. Overall typical middle households derive up to 10% of their annual cash income from self employment, primarily exploitation of natural resources within the livelihood zone.

Contribution of Employment/Social Pension:

Predictable cash transfers such as old age, disability, veterans and OVC grants are another source of income used to supplement the different sources of income among the four wealth groups.

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The table below shows the disaggregated beneficiaries of social pension by wealth group in the low land maize and livestock zone.

Table 2: Social pension beneficiaries disaggregated by wealth group

Wealth Groups	% of Households	% of Populations	Total population	Social Welfare Cases by Wealth Group
Very poor	31%	32%	8,332	643
Poor	39%	40%	10,482	804
Middle	22%	23%	5,913	462
Better-Off	8%	5%	1,536	101
Totals	100%	100%	26,263	2,010

The table shows that, the majority of social pension beneficiaries are in the poor wealth group, followed by the very poor, with lower number of beneficiaries among the middle and better-off households.

Overall it is an important source of income among poor and very poor households. This implies that, for those households receiving the monthly social grant payment in these wealth groups, it's a major source of income.

However it is also a supplementary source of income among the middle and better-off households in the livelihood zone.

It is important to note that, as a reliable source of income social pension have also increased the responsibility burden on households receiving it. It's now a common practice that households receiving social pension grants are taking more responsibility in terms of looking after orphans and vulnerable children. It is also worth noting that many households with orphans are not accessing the OVC grant partly due to the conditions for registration and difficulties in accessing payment points particularly for rural villages in the livelihood zone.

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Contribution of Fishing and Asset Rental:

Fish sales and asset rental such as hiring of oxen and ox ploughs are also a supplementary source of income among the middle and better-off households in the low land maize and livestock zone. Overall fish sales contribute up to 10 and 25% of annual cash income of the middle and better-off households respectively.

Mean while asset rental during agricultural season contributes 10% and 5% of the annual cash income needs of middle and better-off households respectively.

Conclusion:

Whereas very poor and poor households engage in multiple livelihoods strategies for their survival both in normal and bad/crisis years, the middle and better-off households mainly depend on crop and livestock sales.

However crop and livestock sales are the typical source of income among all the four three wealth groups. Other non typical source income among the middle and better off households include formal employment and trade. These sources of income make a significant contribution to annual cash needs of the few household engaged in these activities with the lowland maize and livestock zone.

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5.3 Baseline Livelihoods Analysis (2007/2008): Household expenditure patterns

The analysis of expenditure patterns is an important complement to the analysis of food and income sources above. Expenditure profiles illustrate the extent to which households are able to access basic needs such as food, health care, education, clothes and household items among others.

Expenditure on Staple Foods:

The expenditure patterns significantly vary among the four wealth groups, with a clear pattern of very poor households spending a greater proportion of their expenditure on staple foods such as maize meal compared with the poor, middle and better-off households in the livelihood zone. Very poor households spend a significant proportion of the annual income on staple foods accounting for up to 40% compared with 20% and 10% among the poor, middle and better-off households respectively during a normal and non crisis year such as 2007/08. The higher expenditure on staple foods by the very poor is due to low production of staple foods.

The middle and better off spend very little of their annual income on staple foods because of higher own crop production.

Expenditure on non Staple Foods:

Non-staple foods such as cooking oil and sugar account for 15% and 10% of the very poor, poor, middle and better-off household's annual expenditure respectively in a normal year. The proportionally high expenditure on non-staples among the middle and better-off is attributed to preference and relatively more purchasing power for these items in the market.

As evident in Figures 3, the overall total expenditure on non staples foods is a supplementary item compared with other expenditure items.

The higher purchases for middle compared with better-off is due to differences in maize production during normal years.

Expenditure on Essential Livelihood Basket:

The essential livelihood basket is comprised of essential livelihoods items to ensure sustainability of livelihoods in the long-term period. These items include basic social services such as education and health care, livestock drugs, agricultural inputs such as quality seeds and fertilizer, fishing nets, oxen and ox-ploughs among others. Overall pattern shows that middle and better-off households spend more income on these items compared with the very poor and poor households during normal years in the livelihood zone. The very poor, poor, middle and better-off households spend 20%, 25%, 35% and 50% of their annual income on these items respectively. This shows that very poor and poor households have less sustainable sources of income compared with the upper wealth group in normal years and this explains their low productivity level.

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Expenditure on Others:

Other expenditure items are non essential items. These items include local beer and tobacco and other luxury items mainly used by the middle and better-off households. They also take a significant portion of the annual income of all wealth groups. Poorest households have less flexibility to spend on these items compared with other wealth groups in the zone. Overall it accounts for about 20%, 30% and 50% of the very poor, poor and middle and better-off household's annual expenditure during normal years in the livelihood zone. This expenditure patterns show that, the very poor and poor are to a greater extent trapped in a vicious cycle of poverty and any efforts aimed at addressing poverty should also aim at changing the high consumption patterns particularly on non productive expenditure items.

6.0 Analyzing Household Vulnerability: Identification of Common Shocks Drought Related Conditions

In household economy analysis, household vulnerability to "shocks" (potentially negative events or changes) is analyzed through two separate analyses:

- Household livelihood patterns (food, income and expenditure) in normal or non crisis years; and
- Household livelihood patterns and coping/distress strategies in bad/ crisis years when shocks occur.

Initial key informant interviews indicated that the year 2005/06 was ranked as a "bad year" for the households in the Lowland Maize and Livestock Zone. This ranking was based upon the following characteristics:

- Timely on set of rainfall (November/December months).
- High level of floods
- Massive human displacement due to floods
- Loss of crops and livestock
- Extended hunger period, i.e. (September to March)
- Relatively low household incomes due to poor livestock conditions and low market process.

Very poor households were the most adversely affected by these conditions. This derived in large part from their reliance upon less sustainable sources of livelihood strategies, than the poor, middle and better-off households. Ultimately however, all groups coped with the situation through specific coping strategies.

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Main Conclusion and Implications

Generally household food insecurity in the lowland maize and livestock zone is primarily caused by climatic hazards such as floods, drought, wild life crop destruction and livestock diseases among others. It is therefore imperative to ensure that implementation of an effective development strategy in the zone aims at flood impact mitigation initiatives, so as address the negative impact of floods as the main risk factor for vulnerability, which continues to induce poverty among the population. Some of the main negative effects of floods among others include displacement, loss of crops and livestock and loss of income derived from natural resources among others. The principal conclusions and recommendations are outlined below.

Main Livelihood Patterns:

Overall local people's livelihood in the Caprivi Lowland Maize and Livestock Zone is dependent on crop and livestock production. Of the four wealth groups defined by local respondents, the very poor and poor constitute the majority 31% and 39% respectively. The very poor are able to meet their minimum food needs which is 102% of household calorific requirements compared with 132%, 15% and 177% respectively among the poor, middle and better-off households respectively. This implies they can attain their survival threshold without any major problems in non crisis years.

The poor, middle and better-off are relatively more food secure than very poor households. However the main problems are the limited diet diversity, livelihoods diversification options and sustainable livelihoods strategies among all four wealth groups.

Income levels show that, all four wealth groups are capable of providing for their own basic needs using income primarily derived from sale of crops and livestock, natural resources, supplemented with social pensions, trade and formal employment among others. The very poor household group, who are the most vulnerable in the population, can meet their minimum livelihood basket in normal years. The main challenge is the lack of disposable income required for adequate investment and strengthening resilience to any future economic shocks.

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On the basis of the above analysis, the following implications are presented for policy and decision makers:

Short term Interventions:
Due to the long-term poverty situation among the very poor households, their ability to recover from the recurrent annual impact of floods will lead them to adopt coping strategies that lead to or reinforce poverty traps. Social protection interventions suggested below may be viable options to address the severe and long-term poverty, and reduce their vulnerability.

- **Conditional cash transfers**: The conditional cash for work transfers are the most appropriate to ensure household food security and livelihoods recovery in areas lying within the Upland cereal and non farm income zone in Oshana, Ohangwena and Omusati regions. The suitability of cash for work activities is based on the potential availability of public works programmes as a result of loss and damages caused by floods as well as the relatively better access to staple food markets within these areas. This implies that, the population can access and purchase any annual food deficits within these areas. However the timing of the cash for work activities should not coincide with the start of the next agricultural season, to enable labor poor households at risk of food insecurity to focus on their own agricultural work at the start of the next season.

- **Conditional cash transfers:** This intervention is also recommended for populations at risk of food insecurity in parts of the Upland cereal and livestock zone with relatively good access to staple food markets. However it will be appropriate to implement a food assistance programme in remote parts of the zone such as Kambimba, Kangundja, Mpuku and Canchana villages among others in the Kavango region. Food assistance is more appropriate for these households due to lack of functional staple food markets and the high supervision costs of public works activities such as repair of feeder road repairs.

- **Conditional food assistance**: Food for work activities will be more appropriate among populations at risk of food insecurity in the remote parts of the Low land maize and livestock zone of the Caprivi region, due to the lack of functional staple food markets and a very high expenditure that will primarily be caused by the need to purchase staple maize grain.

Overall all food assistance should be provided at the appropriate time, i.e. lean/peak hunger months of the year (October-January) to ensure proper utilization for gainful purposes at the beginning of the agricultural season.

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Medium term Interventions:

- **Asset creation among very poor households:** Although asset creation among these households is ideal, key impediments such as wild life livestock destruction should be addressed prior to supporting these households with assets such as oxen and ox ploughs among others. Provision of agricultural inputs such as quality seeds and draft power (oxen and donkeys) among the 28% poorest households in all flood affected regions.

- **Protect and promote the well-being and capacities of very poor households:** This could be achieved through human capital development, by undertaking various initiatives such as ensuring affordable cost of education, similar to health services in the country.

- **Unconditional cash transfers**: Limited access to OVC grants in the rural areas of the zone is a main problem for households living with orphans. Acceleration and improvement of access to both OVC and Disability/Elderly social grants in remote parts of the flood affected regions is critical for early recovery among eligible households.

- **Rural feeder roads, trade and markets**: The over reliance on Katima central market is a key constraint for effective participation of local people in economic activities. More investment in rural feeder roads and markets will facilitate local trade among the population in the zone.

- **Strategic food reserves:** The construction of local grain stores in the zone was a positive step towards stabilization of local food security situation. The revival of the programme will enhance availability of staple foods among the population.

- **Improved marketing of local agricultural produce**: The low prices for staple maize grain is part of the problem for vicious cycle of poverty among some households: The formation of local commodity groups for purposes of bulk marketing and improved bargaining power among the population is recommended.

- **Access to veterinary drugs**: Improved access to veterinary drugs particularly for the relatively wealth off households in the communities.

Long-term Interventions:

It is imperative to note that, where areas a regional flood early warning system, may be vital to trigger timely relocation of populations at high risk to floods, the following community experiences and livelihoods based issues need to be considered during the overall design of such a system.

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The cost effective, community based traditional systems of flood early warning, response and mitigation among others included:

- Strategies aimed at reducing inequality: this could be achieved through addressing the structural limitations for people to meaningfully engage in economic growth and development process. Empowering marginalized through employment creation using small scale industries for processing agricultural produce such as maize and forest related products.
- Review of existing policies: Existing policies such as licensee fee for exploitation of natural resources should be reviewed to empower the very poor living below the poverty line to increase their potential to earn more income.
- Timely provision of information by the local authorities, particularly by the local traditional chief.
- Triggering timely relocation of local population into high ground areas with low risk of flooding.
- Effective community solidarity such as mutual support among local population through sharing of transport facilities assets such as canoes.
- Construction of sand ridges to stop the flow of excess water.
- Relocation of animals, particularly cattle into higher ground areas within the low land maize and livestock zone of the Caprivi region.

However, these traditional response mechanisms were less effective during the 2009 floods, due to the following reasons:

- Less accurate information on the amount of flood water during the 2009 flood situation.
- Erosion of community solidarity and cohesion in tackling major problems of this nature.
- Increased level of productive assets such as livestock among relatively asset rich households in the flood prone zone of Caprivi region, limiting their timely relocation.
- Limited transport facilities for timely relocation of household assets.
- General fear of insecurity of property during flood situations, due to the open borders with Zambia and Botswana.
- Increased costs of resettlement, due to laws prohibiting cutting of trees in higher grounds.
- High risk of livestock infections due to likely spread of diseases in low flood risk areas.
- Ignorance among some community members, coupled with limited household labor to ensure timely clearance of safe flood areas for temporary resettlement.

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Bearing in mind the above challenges, the following actionable recommendations are presented by the local communities in flood affected areas of Caprivi region:

- More effective collaboration between the traditional authorities, communities and regional/central government.
- Timely movement of populations in high and medium flood risk areas on higher grounds.
- Permanent relocation of people in high risk flood areas to high grounds.
- Setting of by laws which make it criminal to continue living in high flood risk areas, especially after provision of timely early warning signals.
- De-silting of some rivers and the Liambezi lake basin.
- Creation of earth dams to harvest excess flood water.

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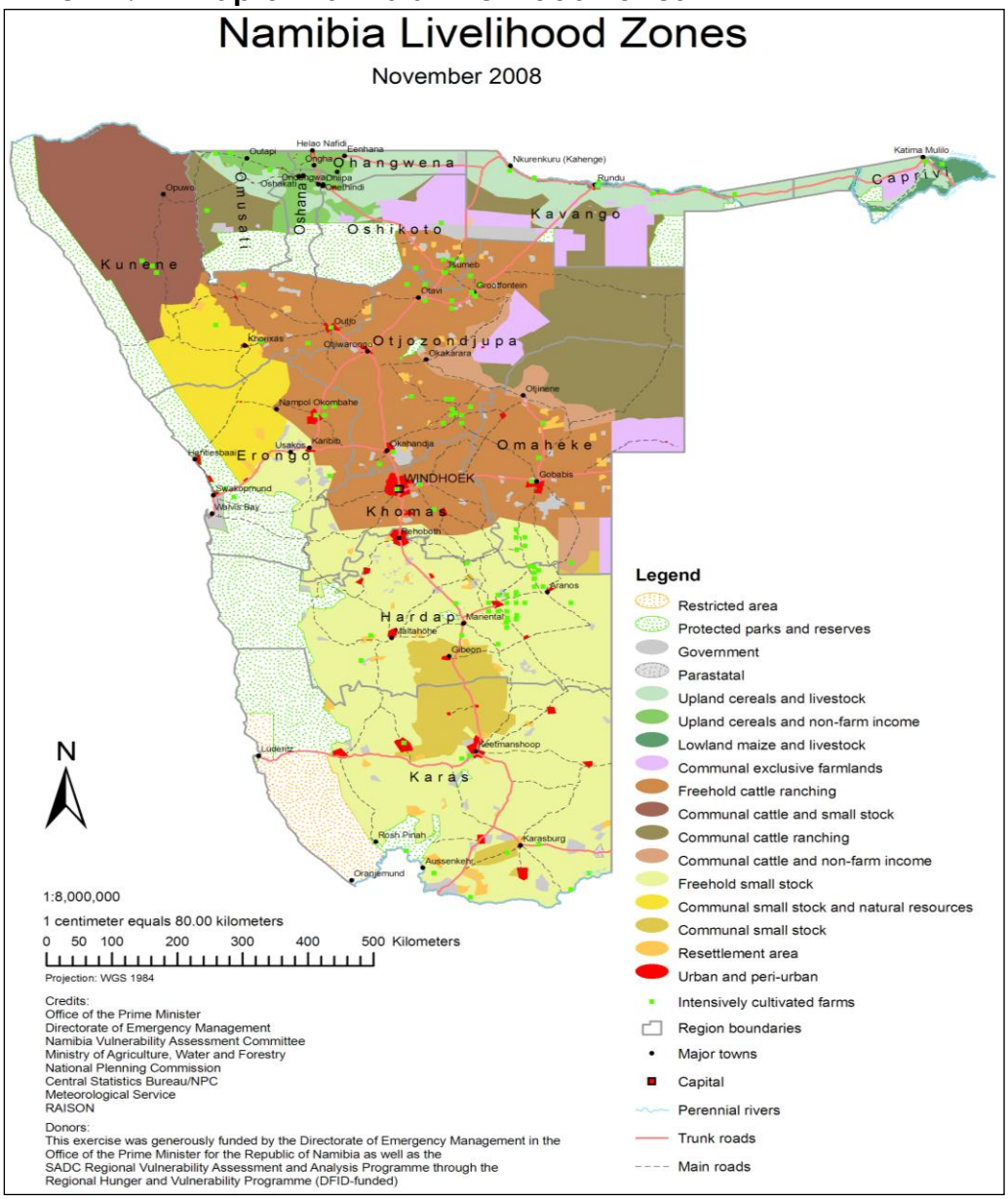
Annex A: Map of Namibia Livelihood Zones



Annex B: List of Sites Visited

The constituencies and villages visited by the assessment team were the following:

Kabbe Constituency: Lusese and Kalimbeza villages.

Katima Rural Constituency: Ongango and Otjiheke villages.

Linyanti Constituency: Malenga-lenga and Linyanti villages.

Sibinda Constituency: Lusu and Chichimani villages

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Annex C: Seasonal Calendar

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Annex D: Seasonal Market Prices

SEASONAL MARKET PRICES IN NAMIBIAN DOLLARS (N$) FOR BASIC & ESSENTIAL COMMODITIES

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