WFP United Nations World Food Programme

Directorate of Emergency Management

An assessment of the impact of the flood and other natural disasters on food security of rural households in areas of Northern Namibia

May-June 2008

Carried out with support from unicef

Executive summary

This assessment is a follow-up Emergency Food Security Assessment (EFSA) to evaluate the flooding that occurred in Northern Namibia at the end of the harvest season, based upon the recommendation of the March 2008 joint GRN/NRCS/UN mission to the same areas. The focus of this assessment is on the current and future evolution of the food security situation of flood-affected rural populations living in the regions of Caprivi, Kavango, Omusati, Ohangwena, Oshana, and Oshikoto.

The assessment used a combination of key informant meetings, community group interviews, household food security questionnaires, child and mother nutrition questionnaires, and anthropometric measurements to evaluate food security at a regional, community, household, and individual level in flood-affected areas. In total the assessment met with the regional governors and other informants in the six flood-affected regions, gathered information from 85 communities (20 in Caprivi and 65 in the flood-affected areas within Ohangwena, Omusati, Oshana, and Oshikoto), conducted 851 household interviews (200 in Caprivi and 651 in the Northern-Central regions) and took anthropometric measurements for 383 women and 484 children throughout the survey area. The results of this survey represent the entire rural population of the flood-affected areas as defined with satellite imagery, which encompasses some 47,100 households or 287,100 people. Although key informants were met in Kavango at the regional level, community interviews and household surveys were not conducted in this region because of the relatively minimal impact the flood had in this area (only six villages affected). Therefore the results of the household survey data collected cannot be generalised to villages in the Kavango region.

The principle findings are that, in addition to the already high levels of chronic food insecurity in survey area (due to HIV and AIDS, structural poverty, etc…), approximately 52,000 people living in the rural flood-affected areas of the Northern Central regions of Ohangwena, Omusati, Oshana, and Oshikoto (16.4% of the surveyed population) will face an extraordinarily difficult situation this year as a result of the floods, crop pests, and other natural disasters which have destroyed harvests in these areas. These households are the most vulnerable in rural communities and are mostly subsistence farmers with the lowest crop production, expenditure per capita, and livestock ownership in their communities. They are mostly single (68%), female-headed households. These individuals already have poor food access, and will have difficulties in maintaining an adequate level of food consumption in the coming lean season, without some form of external intervention. At the present it is the harvest season and most households are managing at the moment, but in general, food stocks for the most vulnerable will not last beyond September.

Although the survey itself was restricted to flood-affected rural areas, the mission, in conjunction with the crop assessment mission carried out by Namibia Early Warning and Food Information Unit of the Directorate of Planning, Ministry of Agriculture, Water and Forestry, noted extensive damage to crops throughout the Northern-Central regions of Ohangwena, Oshana, Oshikoto, and Omusati as a result of late, erratic, and damaging rainfall and crop pests such as army worms and birds. The effects of these events on crops was not restricted to the flood-affected areas, and therefore it is recommended that any interventions be expanded to the poorest rural segment of the entire population, some 94,000 people in these four regions, as it is estimated that these households outside of the flood-affected areas have food stocks enough to last until January. From January until the end of a successful harvest season in April 2009 an emergency food or cash intervention for these 94,000 people is recommended.

Therefore, in total, the mission recommends food emergency assistance for 52,000 people in flood-affected areas of Ohangwena, Oshana, Omusati, and Oshikoto from September 2008-April 2009. In addition the mission recommends cash or food emergency assistance for 94,000 individuals in non flood-affected areas of Ohangwena, Oshana, Omusati, and Oshikoto from January 2009-April 2009.

Although technical support maybe required to implement some of the below recommendations, the mission believes that **the GRN, through DEM, has the budgetary capacity to address at least the most pressing food need responses**.

The intervention recommended is an emergency response to an extraordinary situation of crop failure two years in a row (last year with drought). It does not address the high levels of endemic poverty present in all regions surveyed. In Caprivi, 32.5% of the population in the surveyed areas was found to be chronically food insecure, however, an emergency intervention is not recommended in this region because the present level of food insecurity of households in this region is not expected to deteriorate in the coming months, as it will do in the flooded areas of Ohangwena, Omusati, Oshikoto, and Oshana. A similar situation to Caprivi prevails in Kavango – although food insecurity was not evaluated in this region, the effects of the floods were minimal; poverty in this region is a chronic issue. The seriousness of chronic poverty, however, should not be underestimated. Interventions such as the **strengthening and expansion of long-term social support systems** (old-age pensions, child welfare grants, school feeding) would be the best means to address the high levels of chronic poverty in all regions of the country. These multi-annual safety nets are one instrument of social protection that could indeed provide regular transfers of cash and/or food to people facing chronic (and predictable) hunger through long-term financing from government budgets.

The mission notes that during the floods, water-borne diseases lead to several deaths and increased incidence of diarrhoeal illness. **Strengthening of the water and health sectors** is recommended to avert similar disasters in the future. Specifically, the water sector should be improved to extend the availability of free or low cost tap water, and rural health facilities should be better funded and staffed because at present large portions of the rural population do not have adequate access to necessary medical care.

Because the nutrition situation is expected to deteriorate in flood-affected areas in the next 12 months, the mission notes that **systematic monitoring of child malnutrition** through existing health structures is essential, and that supplementary feeding centres for children will need to be established if the global acute malnutrition begins to rise (10% threshold for intervention). Given the relatively low capacity of rural health centres to identify and treat malnutrition, additional resources for rural clinics and hospitals are needed.

Rural farmers who have been impacted by the floods, especially the 146,000 most vulnerable who have been identified as requiring emergency food assistance,, will need **agricultural support** in addition to emergency food or cash, in order to help them handle the upcoming agriculture season. These farmers need free or low cost access to improved seed varieties, tractors or draught animals, and fertilizers in order to ensure a successful 2009 harvest.

Finally, the mission recommends careful **monitoring of the food security situation** in Caprivi, Kavango, Ohangwena, Omusati, Oshana, and Oshikoto in the coming months to validate the findings of the food security assessment once the lean season has begun. This

monitoring should include review of the child malnutrition monitoring, and short field assessments to collect community impressions of the food security situation. Particularly given the trend in rising prices for staple cereal foods, if the cost of staple cereals rises significantly, more comprehensive interventions may be required beyond only the flood affected areas (see mission's recommendation synthesis in the box below).

Mission's recommendations

Short/Medium Term (September 2008-April 2009)

- Emergency relief, in the form of food, as from the beginning of September to the next harvest, April 2009 for 52,000 people in the flood-affected areas of Oshana, Oshikoto, Omusati, and Ohangwena regions.
- Emergency relief, in the form of food, from the beginning of January 2009 for an additional 94,000 rural people living in non-flood affected areas of Oshikito, Ohangwena, Omusati, and Oshana until the next harvest in April 2009.
- Systematic monitoring of any interventions to ensure good targeting, adequate distribution and sufficient logistical support.
- Agriculture support for the same 52,000 people in flood-affected areas of the Northern Central Regions an additional 94,000 people in the rest of the region, consisting of subsidized or free access to improved varieties of seeds, fertilizers, draught animals, and tractors.
- Strengthening of malnutrition monitoring systems through community health centres and mobile clinics, and preparation for a supplementary feeding intervention for children under 5 in case the Global Acute Malnutrition rate should rise above 10%. A t the same time there should be a refinement and training on protocols for the treatment of acute malnutrition.
- Monitoring of the food security situation in September by the Namibian VAC to validate most likely scenario as presented in this report by meeting with community members in all six regions under study. Market information should also be systematically collected (at various sites within each region) to be aware of any price rises and subsequent necessity to expand/adjust emergency response.

Long Term (throughout affected regions)

- Improvement of water quality through developing more systematic treatment/ storage systems. Decreasing the cost of public tap water when available.
- Systematic support to the health systems, particularly of mobile clinics. Additional public information campaigns to disseminate information regarding the benefits of hygiene and breastfeeding.
- Livestock support, ensuring that proper grazing pasture and water are made available in all regions together with adequate veterinary treatments.
- Long term strengthening of the agricultural sector with information campaigns on the benefits of using improved seed varieties, the use of fertilizers, and the implementation of conservation agriculture techniques.
- General expansion of existing social safety nets, including campaigns to increase the possession of identity documents required for inclusion in social grant systems. Care should be taken that the amounts of the grants are kept current with price inflation.

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Background, objectives and methodology

From January through April 2008, heavy and long lasting rain fall led to serious flooding in Northern Namibia and Southern Angola. Six regions were particularly affected: Caprivi, Omusati, Oshana, Ohangwena and to a lesser extent Oshikoto and Kavango.

While the Caprivi region is annually threatened by flooding from the Zambezi river and along the Kabe Flood Plain, this year, the Cuvelai delta, which encompasses the North Central regions of Oshana, Omusati, Ohangwena, and Oshikoto has recorded the highest standing water levels in recent history Flood waters coming from Angola as well as heavy and prolonged rainfall in the North Central regions have contributed to the situation and threatened the livelihoods of many living in this corridor.

A joint inter-agency, rapid impact and needs assessment[1] was carried out in February – March 2008, led by the Government of the Republic of Namibia (GRN) with participation of the UN (UNDP and WFP) and Namibia Red Cross Society. The mission estimated that over 62,000 persons have been affected by the floods, of which some 31,000 would benefit from short term food relief. This initial mission also found that there were more than 5,000 flood victims who were displaced from their homes in the different regions. These families were moved to relocation centres and given food assistance for the duration of their displacement. In addition, during the flooding period, nearly 100 schools were closed temporarily, while at least 26 health-care clinics were rendered inaccessible, large amounts of livestock lost and sources of safe drinking water contaminated. Many roads, bridges, and buildings were also damaged, affecting the flow of goods and trade in the flooded regions.

The initial investigation outlined an immediate plan to address the flooding crisis, and also highlighted the need to further assess the flood impact on medium term household food security following the harvest period in April 2008. This follow-up mission was tasked to determine what, if any assistance may be necessary to help those affected by the floods to recover from an anticipated very poor harvest. Therefore, this rapid Emergency Food Security Assessment (EFSA) was conducted from May 26 – June 6 2008.

Objectives of the assessment:

The overall objective of this follow-up assessment, a joint effort between the GRN and WFP with the support of UNICEF, was to build upon the findings of the initial assessment, and to provide a more detailed and comprehensive analysis of the post-flood food security situation in Ohangwena, Oshikoto, Omusati, Oshana, Kavango and Caprivi.

More specifically the mission aimed to:

1. Measure trends in household food security between the pre- and post flood situation;
2. Determine how different groups are coping with the situation and what progress is being made to re-establish their livelihoods;
3. Estimate the number of people still food insecure as a result of the floods and the time frame for recovery.
4. Where food assistance is an appropriate response option, determining the necessary quantities, as well as the most appropriate interventions, during which period of the year these are most needed, and how they should interface with on-going programmes.

[1] Joint Assessment Mission undertaken by the GRN, the United Nations and the Namibian Red Cross Society from March 4th to 12th, 2008.

Sampling and data collection

The EFSA has focused specifically on the situation in flood-affected areas within the six regions of Kavango, Caprivi, Ohangwena, Omusati, Oshana, and Oshikoto. The flood-affected areas were identified using satellite imagery of the standing flood waters, available from UNOSAT (see Figure 1), and information from regional emergency management units (REMUs), where satellite imagery was not available. Within these identified areas, data was collected on four levels:

1. A mobile team consisting primarily of the WFP mission leader and a representative of the Directorate of Emergency Management (DEM) within the Office of the Prime Minister met with government and private sector representatives at a regional level, including the governor of each of the six regions affected, to gather macro-level information concerning the larger impact of the flood on each region.
2. Seven team leaders trained in focus group interview techniques conducted community level key informant interviews in each region, and;
3. A team of twenty experienced enumerators collected household data through household questionnaires, and took individual anthropometric measurements for women and children. The data collected was both qualitative (key informant interviews, focus group discussions) and quantitative (household questionnaires and anthropometry).

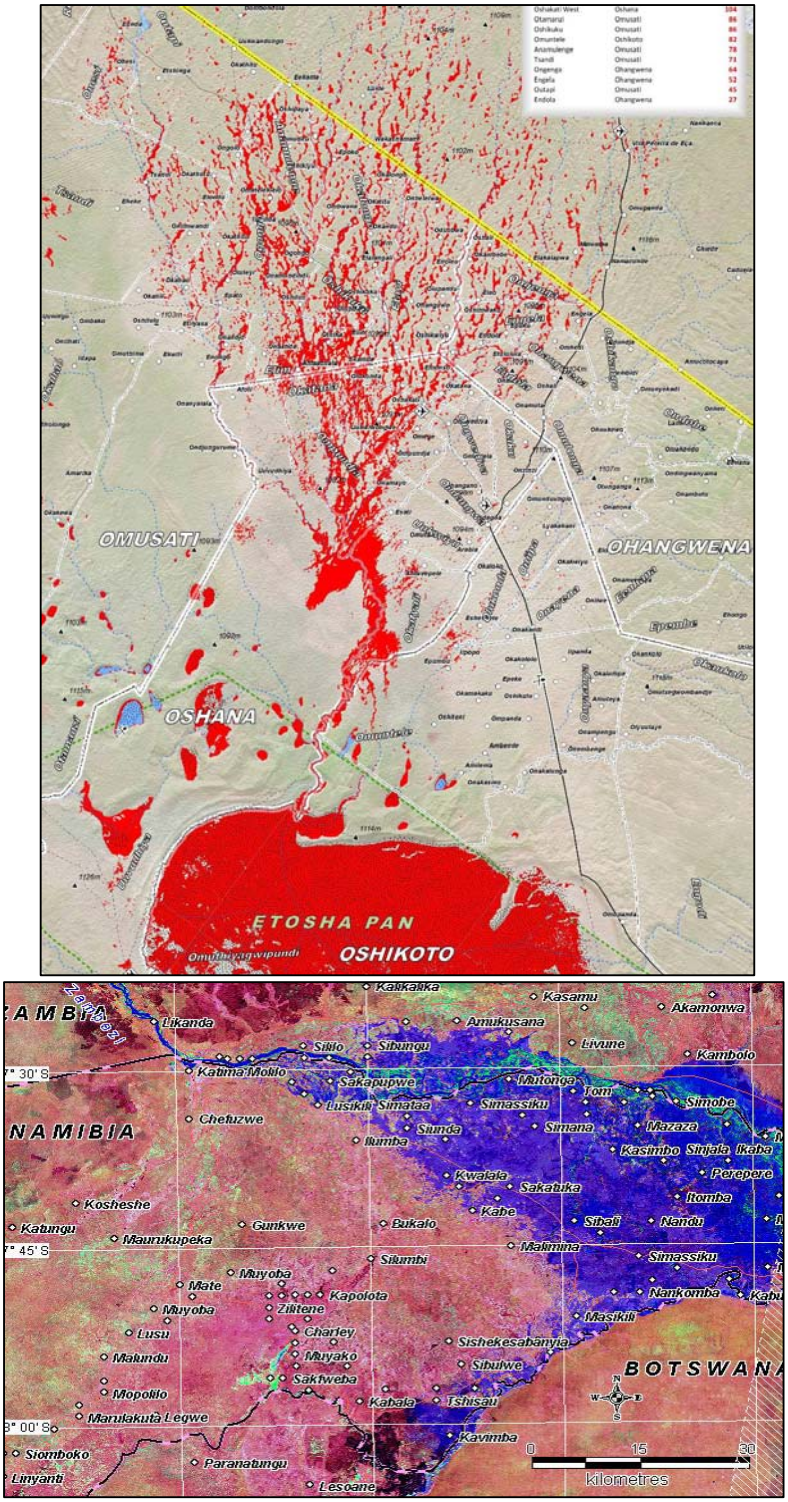
The survey was designed to draw samples of resident rural households at a sub-regional level. Two distinct groups were considered: the Caprivi region and a second group comprised of the four north-central regions of Oshana, Omusati, Oshikoto and Ohangwena. The Kavango region was also visited by the teams but mainly for the community interviews.

A two stage probability sampling approach was used to select villages and households. Flood affected primary sampling units (as delineated for the Namibia DHS) were identified using satellite images of the standing water (see figure 1), and from this sampling frame 85 different flood affected villages (20 in Caprivi and 65 in the North-Central regions) were selected. Ten households within each primary sampling unit were then selected using the random-walk method[2]. The total population represented in the survey sample frame is 47,090 households (287,127 people).

Using 20 trained and experienced enumerators divided into 7 teams over 10 days of data collection, the survey collected information from a total of 852 households (5,422 individuals). Data collection was facilitated by the use of Personal Digital Assistants (PDAs), which are hand-held computers used for data collection and capture. Each household selected during the assessment was asked a comprehensive set of questions concerning their household food security and the effects of the recent flooding and other shocks. Women and child nutrition information was also collected on children in each household under the age of 5 and for women aged 15-49 for a total of 383 women and 484 children. Women were weighed with their clothes on but without shoes using Seca 872 electronic flat scales and their height was measured with a standard wooden height board in a standing position without shoes. Children were measured with the same scales, and those less than 2 years of age were measured lying flat on the height board while those over 2 years were measured standing up without shoes.

[2] The EPI Coverage Survey, Expanded Programme on Immunization, Training for Mid Level Managers, World Health Organization, 1991

Figure 1: UNOSAT satellite images of standing waters over the flooded areas of Ohangwena, Oshana, Oshikoto, Omusati (1) and Caprivi (2). May 19, 2008.



In addition, 69 community interviews were conducted to better understand the flood's longer term impact on vulnerability and food security at community level, and key informants such as Ministry of Health and Ministry of Agriculture staff at regional level were interviewed. Market prices of basic commodities were systematically collected in each area visited and some traders' interviews were conducted as well. The data collection instruments used for this exercise are in Annex 1.

The initial investigations by the joint rapid needs assessment in March 2008 in flooded areas, the 2006 Demographic and Household Survey, the last round of the WFP Community and Household Surveillance monitoring in May 2007, together with a number of different secondary data sources were analysed to better understand the area/population situation before the current crisis and the impact of the current crisis on the area/population. In addition the mission relied heavily on the Crop Assessment conducted at the same time by the Namibia Early Warning and Food Information Unit (NEWFIU)[3] for the macro analysis of food availability that complements the household level analysis of food access and the individual analysis of food utilization and nutrition.

Data Analysis:

Community questionnaires and notes taken during key informant interviews were compiled using an excel data entry form. Household interview data were extracted from the PDAs and analysed using SPSS software.

Malnutrition rates were obtained based on weight and height measurements analysed in Emergency Nutrition Assessment 2007 (ENA) program and compared to National Centre for Health Statistics 1977 (NCHS) and World Health Organisation (WHO) 2005 references standards.

Limitations and basis for generalizing findings:

- The focus of this assessment was the flood impact on household food security. However the mission found that the food security situation observed was the result of series of different shocks that have affected a larger area. In the Northern Central regions, for example, the 2007 drought, the late rainfall during the 2007/2008 growing season, subsequent erratic and at times too heavy rain fall, hail, birds, army worms, and livestock disease have all greatly impacted agriculture in an area larger that than the area confined by the actual standing flood waters. Attempts have therefore been made to generalize the survey findings to the extended Northern Central Regions. Rigorous monitoring is required, however, to verify the different assumptions made in order to come with numbers of affected individuals.
- This assessment was conducted at the harvest time, supposedly the best time of year from a food security point of view. This assessment has collected information in order to predict the evolution of the food security situation over the next 6-12 months. These forecasts should be validated as the situation unfolds with regular monitoring.
- Although it was decided from the beginning that this assessment would complement the Crop Assessment Mission which was underway at the same time, it was not possible for the mission to meet with the crop assessment team.

[3] Namibia, Crop Prospects and Food Security Situation Report, Namibia Early Warning and Food Information Unit of the Directorate of Planning, Ministry of Agriculture, Water and Forestry, June 2008.

Socio-economic background and pre-crisis conditions

Northern Namibia, is home to almost half of Namibia's population. The five flood affected regions (Kavango excluded because of minimal impact) account for a combined population of 859,975; 79,826 people in Caprivi, 228,384 in Ohangwena, 228,842 in Omusati, 16,1916 in Oshana and 16,107 in Oshikoto.

The population of the North Central Regions is organized into four political regions, Ohangwena, Oshana, Omusati, and Oshikoto, each with a regional governor, and sub-divided into 41 constituencies. Kavango is subdivided into 9 constituencies while the Caprivi has 6. On a lower level local governments are responsible for the affairs of towns and larger villages. Traditional authorities hold a great deal of influence and are actively involved at all levels of regional and local government.

The climate in the Northern Central regions can be described as semi-arid. The area is characterized by high temperatures and rain that varies greatly in amount and timing. Average rainfall per year is 350-500 mm, with the majority falling from November to April. The soil types are largely dominated by mixtures of sands and clays. The potential for crop production is low in many areas due to poor water-holding capacity, low nutrient content, high salt content, and hard layers of clay below the surface. The topography in the region is characterized by a flat plain, although the level of micro-elevation is of great importance for agriculture because of the groundwater levels and presence of hardpans. Large areas of land have been deforested.

For the people living in rural communal areas of northern Namibia, subsistence agriculture remains the main means of livelihood. However, the irregular rainfall and the unsuitable terrain pose serious threats to food security and to livelihoods. In the Northern Central and Kavango rural areas most people are involved in subsistence farming, with mahangu (pearl millet) and sorghum as their main crops. Livestock ownership in northern Namibia mainly consists of cattle, goats, donkeys, and poultry, with cattle ownership being relatively unequally distributed. In the Caprivi the staple crop cultivated is predominantly maize, with some millet in the drier western regions. It should be noted that the level of risk in the Caprivi is somewhat higher than in the other regions under survey due to frequent attacks from wildlife on crops and livestock; seasonal and variable flooding; foot and mouth disease; and loss of household members (labour) to HIV and AIDS.

The success of farming in northern Namibia is dependent both on adequate rainfall and on the availability of labour at critical times in the agricultural cycle. Many young people, however, leave the rural areas to look for employment and another way of life in the urban areas. There are three main urban centres in the Northern Central region, and one each in Caprivi and Kavango which all lie along main roads and are growing both in size and in economic importance. People living in the rural areas often retain close links with the people living in the urban areas; remittances from family employed or involved in diverse business activities in urban areas contributes to rural household income. Similarly, production from rural areas contributes to the food economy of people living in urban settings.

Although subsistence farming is the main activity for most households living in northern Namibia, it represents a poor, and in some years insufficient means of survival. Due to poor soil quality and uncertain climatic conditions, people pursue diversification in agriculture and pastoralism, and diverse economic options. Within this system, people are to a large extent dependent on tree products and other natural resources. Another consequence of the poor soil quality and the uncertain climatic conditions is that the farms are spatially spread. In general rural people are not living in concentrated villages, and because of the distances, households live quite independently from one another. The precarious situation of village

life is exacerbated by the impact of the high levels of HIV infection. About 23% of Namibians aged between 15 and 49 are HIV-positive according to UNAIDS. The North Eastern Caprivi region has the highest HIV prevalence in Southern Africa, 43% according to the 2004 sentinel survey. HIV and AIDS is impacting the ability of subsistence farmers to grow enough food for themselves in North Central Namibia and Caprivi.

Although Northern Central Namibia is situated along a flood plain, floods of this extent are relatively rare in the area, with the last flood of similar impact said to have occurred in the 1950s. However, the Caprivi has been frequented by floods almost every other year due to its geographical vulnerability with three major floods recorded since 2003. The Caprivi has a relatively well established and experienced Regional Emergency Management Unit REMU that seasonally prepares to relocate affected communities to higher grounds within the flood plain. It must be noted that the level of flooding experienced this year in the Caprivi is considered to be a normal, yearly event, and that water levels this year were lower than those recorded in 2007. It is for this reason (as explained below) that the flood situation in Caprivi was not seen by the mission as an extraordinary event of a similar calibre to the flooding experienced in the Northern Central Regions.

General and demographic impact of the flooding

At the regional level, disasters are being coordinated by the Regional Emergency Management Units (REMUs) chaired by the Governor who is the political head of the region. The Governor is supported by the Chief Regional Officer, the administrative head of the region. REMU is composed of departmental heads from line Ministries, the Regional Councillors representing the various constituencies of the region, Non-Governmental Organizations and United Nations Agencies if available at this level. The activities of REMUs are coordinated and overseen by the Directorate of Emergency Management (DEM) in the Office of the Prime minister (OPM) at National Level.

According to the rapid impact and needs assessment conducted in March 2008, an estimated 62,240 people (out of an estimated 860,000 people living in the area) were directly affected by the flood in the Northern Central regions. The number of people affected by flood in the Caprivi region was 1,080[4].

The constituencies affected by the flood (and thus included in the survey sample frame if rural) in Caprivi are Kabe, Katima Mulilo Rural, Katima Mulilo Urban, Kongola, Linyanti, and Sibbinda. In the Northern Central regions, high water levels recorded this year affected the Anamulenge, Elim, Etayi, Ogongo, Okahao, Okalongo, Onesi, Oshikuku, Outapi, and Tsandi constituencies of the Omusati region; Okatana, Okatyali, Ompundja, Ondangwa, Ongwediva, Oshakati East, Oshakati West, Uukwiyu, and Uuvudhiya constituencies in Oshana region; Endola, Engela, Ohangwena, and Ongenga constituencies of Ohangwena and Gunias, Oniipa, Onayena, Olukonda and Omuntele constituencies of Oshikoto region. In Kavango, only six villages were affected by flooding. These villages were located in Kapako and Rundu Rural constituencies.

The immediate impact of the flood on livelihood was due to submergence and/or destruction of homesteads, granaries, crop fields, businesses and other infrastructures. As of March 2008, a total of four thousand six hundred and sixty two inhabitants (4662) from Ohangwena, Oshana and Omusati were internally displaced. All relocation centres have been closed on the 31st of May in the Northern Central Regions. In Kavango there were no internally displaced people.

Temporary migration has also been reported in many places. All the movements reported are a direct consequence of flooded houses or villages. Especially in the Caprivi, it appears that many households have been forced to move to higher ground within the same village or nearby villages. It worth noting as well that one village reports migration of young men to look for jobs in Zambia. (Table A, Annex 2)

The number of casualties reported in the initial assessment from March 2008 (29 in all) reflects the severity and the unusual nature of the flooding this year, especially in Omusati and Ohangwena regions.

Impact of flooding on health infrastructure

In general, the long-term impact of the flooding on health infrastructure has been minimal.

Apart from ongoing structural problems of insufficient staff and poor geographical coverage, the main health issue in the past five months has been the inaccessibility of a number of health infrastructures for the duration of the flood. The water has now receded in the Northern Central regions and normal activities restarted, but the average distance to the nearest health facility remains higher than it used to be before the floods because of damaged roads (Table B1 and B2, Annex 2). In the Northern Central Regions, 18% of

[4] Provisional GRN / UN / NRCS assessment report for the flooding in the northern regions of Namibia 4-12 March, 2008

clinics were damaged and it took an average of two months to repair them. Only 1 clinic was reported affected in Caprivi region and it was repaired over a 4 month period.

The most affected services were the outreach clinic which could not ensure normal services due to access difficulties. However, all regions were offered helicopters to ensure emergency health services during the flood. These helicopters were in general highly appreciated but some limitations were noted regarding their schedule and availability to ensure all needed services. Some regions are planning to use boats for future floods. Also the lack of staff habitually seen in a normal year was more obvious during the flood period due to high health needs of the population.

Specific attention has been given by all the stakeholders to insure that the water and sanitation conditions in the relocation centres were acceptable. However rural areas visited by the team, outside of the relocation centres have reported a number of issues, mainly related to (i) not being able to afford water from a public tap; (ii) the heavy reliance on river and basin drinking water.

More than 70% of the communities met in the Northern Central Regions reported problems with water; the main issue being the collapse of the public tap system during the flood and the subsequent contamination of water. Nearly 30% of households in the Northern Central regions have changed their usual source of water as a result of the flood, most often switching from improved water sources to using basin or river water. Only 3% of households in the Caprivi changed from their usual source of water in this period. Over 80% of households in Caprivi and 50% in the Northern Central Regions never boil their water before drinking it. From discussions with different communities, the mission estimates that the monthly cost of water required to fulfil the needs of an average family amounts to 100 N$. Enhancing the access (affordability) of clean drinking water in case of disaster in rural areas could have a major impact on infectious disease prevention and overall public health situation. (Table B3, Annex 2)

Water purification tablets and mosquito nets have been largely distributed and no outbreaks of diarrhoea have been reported in the relocation centres, although cases of cholera have been reported in Oshana rural areas. At the time of the assessment, the critical health problems reported were diarrhoea and malaria. In Oshana at the moment it appears that the prevalence of malaria is higher than normal. In addition, mainly in Caprivi, wounds due to walking in water seem to be an additional important problem.

Key Recommendations

- Systematic strengthening of health infrastructure including;
    - Ensuring that all mobile clinic sites are functioning and regularly serving the population
    - Continuing efforts to distribute mosquito nets and water purification tablets in the appropriate seasons
- Health and sanitation education and encouraging practices such as boiling water before use
- Expanding the reach and availability of clean, affordable public tap water

Impact of the flooding on road infrastructures

Road infrastructures have been mainly affected in Oshana, Ohangwena and Omusati regions. Nearly all the villages visited in the Central Northern Regions have been cut off for a while because of the flood, and travel between villages has been subsequently decreased. A

number of bridges and "solid" infrastructures are required across the region. (Table C1, Annex 2). In Caprivi, although many villages have been cut off from major road access, road infrastructures are largely not present in areas which flood habitually, therefore there is little to have been damaged.

However, now that the water has receded most of the areas are more easily accessible, although a number remain very remote. In average, the villages visited in the North Central Regions stayed out of reach for a period of 3 months, whereas the average time for a village to be inaccessible is 5 months in Caprivi.

The exceptional nature of the event in the North Central Regions is confirmed by the usability of access roads to villages visited in normal circumstances: in the North Central Regions, only 18% of the villages said the road is normally unusable for an average period of 3 months, while in Caprivi, more than 75% of the villages visited have an access road cut off for an average period of 6.2 months in normal circumstances. (Table C2, Annex 2)

In conclusion these floods have aggravated a situation of already poor access infrastructures and remoteness. Public transport is scarce in most of the village visited and has been reduced by half in the villages visited in the North Central Regions that are still paying the prices of infrastructures damages. Problem of access in Caprivi are complicated by the use of boats that may be compromised by insufficient level of water. (Table C3, Annex 2).

Key Recommendations

- While the flood waters have receded, there remains a great deal of damaged roadway to be repaired. Such repairs should, where possible, be done as an integral part of the regional plans for infrastructure development with the aim of replacing damaged infrastructure with more permanent bridges and better graded roads.

Impact of the floods on education:

Floods have disturbed education mainly by cutting the access to school for young pupils. It seems that the impact has been more perceived in the North Central Regions, unused to such event, while in Caprivi, children are used to spending time in temporary shelters or hostels during the flood season. (Table D1, Annex 2)

Similarly, more school buildings seem to have suffered from the floods in the North Central Regions than in Caprivi (Table D2, Annex 2).

Food Availability and Markets

This section summarizes information gathered during key informant and community group interviews concerning crop production, livestock, fishing, and markets. Essentially, while on a macro level Namibia has had an average or good cropping season this year compared to 5 years average production, in the Northern Central regions' production of mahangu, the staple cereal food for the majority of the population, is down because of the floods, plagues of army worms, and other pests. In addition, livestock, who were already weak from the previous season drought, have died in large numbers, affecting the draught power capabilities in the region and decreasing household asset ownership. While fishing has been an important source of protein in the Northern Central regions this year, the amount of fishing will decrease as the flood waters recede. In Caprivi fishing is an important source of revenue yearly during flood times, but income from fishing activities is down this year because waters were not as high as usual. Various staple foods are readily available in markets, however many communities cited serious concerns about the rise in prices for oil and other commodities. In addition, mahangu is generally not traded in the market place, and there may be therefore shortages of mahangu this year for many people who are usually subsistence farmers or those dependent on relatives living in rural areas for their staple food.

Crop production:

As reported by the recent Crop Assessment[5], the 2007/08 rain season has not been favourable to most producing regions. In the Northern Central regions in addition to the delayed onset of the rains, the season has been characterized by heavy and flood rains. The North Eastern region has been dominated by heavy persistent rainfalls in Kavango region and flood in the flood plane areas of Caprivi region. These different factors were experienced during critical stages of crop development and consequently led to depressed yields for the 2007/08 agricultural season.

Table 1: Namibia: total Production ('000 tonnes) in 2007/2008 compared to 2001/2002 to 2006/2007 average
(Source: Crop Prospects and Food Security Situation Report, Namibia, June 2008)

Region/ Sector	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	6-year average	2007/08 as % of average
Caprivi	8,428	8,666	9,733	9,019	12,605	8,224	9,023	9,446	**-4**
Kavango	3,208	8,943	9,487	9,237	9,786	4,100	4,797	7,460	**-36**
Omusati	16,839	13,958	22,552	21,651	27,998	13,824	8,986	19,470	**-54**
Ohangwena	10,503	11,346	26,466	18,707	38,191	13,636	10,387	19,808	**-48**
Oshana	6,525	7,665	9,595	8,331	12,876	5,662	5,457	8,442	**-35**
Oshikoto	8,841	11,056	23,079	20,546	25,148	10,059	8,861	16,455	**-46**
Commercial	19,810	22,953	28,275	39,136	62,138	58,630	73,798	38,490	192
Namibia	74,154	84,587	129,187	126,627	188,742	114,135	121,309	119,572	

In addition, the situation in the Northern Central regions has been aggravated by the shortages of draught animal power and outbreaks of crop pests. Ploughing has been an issue for many farmers in the region who lost their animals (already weakened from the drought period) after the heavy rainfall in January 2008. Armyworm outbreaks (with limited access to pesticide) have also been a major shock for the crop producers in the North Central Region - 80% of villages visited in the North Central region report problems related to armyworms and only 20% say they had access to pesticide to control the problem. (Table P2, Annex Y).

[5] Namibia, Crop Prospects and Food Security Situation Report, 17 June 2008

The EFSA mission estimates that the drop in production as compared to the previous agricultural season in flood affected areas, as derived from 85 community interviews, is even worse than the figures given by the crop assessment mission (average 59% drop in production in the North Central Regions, 46% in affected areas of Caprivi) (Table E1, Annex 2). Even more marked, individual households in the Northern Central regions report a mean drop in staple cereal production of 67% this year, compared with a mean drop in staple cereal production of 22% for households in the Caprivi region. It should be noted that although recent studies have underline the scope for a second crop production season in winter, using remaining moisture once flood water has receded, mainly in the flood plain of Caprivi, only a few communities interviewed in Caprivi mentions the possibility to produce vegetables or cereals in the coming months. Second cropping seems to play a minor role in averting negative impact of a drop in main harvest production.

Last but not least, the poor harvest has led to limited availability of seeds for the next cropping season. The Mahenene Seeds Cooperative which supplies the six crop producing regions with millet, sorghum and cowpea seeds has a capacity to store 375 metric tonnes of seeds. However, the current available stock is only 15 metric tonnes. A verification mission was undertaken to ascertain the number of farmers with good quality seeds to be purchased by the Cooperative. Out of the over one hundred farmers normally supplying the Cooperative with seeds only 41 farmers qualified to sell.

Key Conclusions:

- The cropping season this year, especially in the Northern Central regions was unusually poor due to a number of concurrent natural disasters that the region experienced.
- A poor cropping season this year will also mean serious seed shortages for next year, and therefore a threat to a successful 2009 harvest.

Livestock Production:

In the North Central regions, herd size has shrunk drastically following the drought last year and the subsequent heavy rainfall and cold. A range of various diseases affecting to a different extent goats, donkeys and cattle were reported across the regions, symptomatic of an overall very poor livestock conditions. The most preoccupying livestock disease remains the episode of Foot and Mouth disease in Caprivi that prevents herders to sell their animal. In addition, grassland was reported to be in very poor conditions in Omusati, Oshikoto, Ohangwena and Oshana.

As a result of the poor prevailing conditions for livestock, by the 16th April a total number of 30,349 animals were reported dead: 17,669 cattle, 10,519 goats, 1,845 donkeys, 314 sheep and 2 horses in the Northern Central regions[6]. Overall, concerns for fodder and water in the coming months were reported by most of the villages visited. (Table L, Annex Y)

Fishing

Fishing seems to be an important and established complementary livelihood strategy in Caprivi, however the lower levels of water in most parts of the Caprivi this year have reduced the fishing activities this year.

Although more anecdotal evidence of fishing exists in the Northern Central Regions, fishing has become a critical source of protein for many households in the North Central Regions having to cope with nearly nil harvest this year. (table F, Annex Y)

[6] Report on the flood situation in the four northern regions Omusati, Oshana, Ohangwena and Oshikoto, 16 April 2008

Key Conclusions:

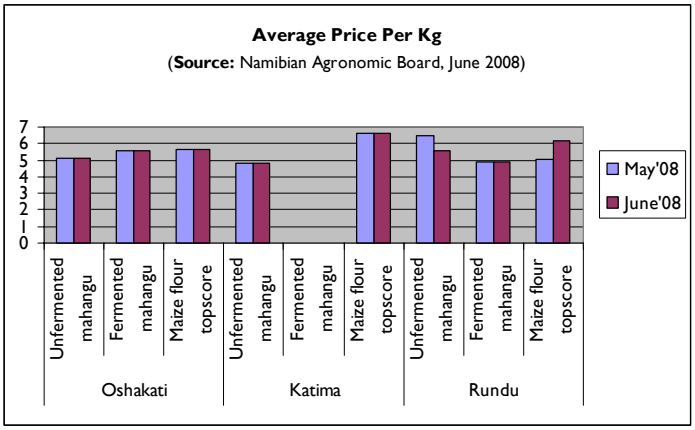
- Many households in the Northern Central regions have lost significant amounts of cattle this year.
- There is concern for the state of livestock in the coming months in these regions because of already scarce good land for pasture.
- Fishing is a regular activity in the Caprivi and has become important as the waters rose in the Northern Central regions. However, as water dries up, this important source of protein will become more scarce.

Market

Aggregate coarse grain production (millet, sorghum and maize) in 2007/08 is forecasted at 121,309 tonnes, about 6% above last season. However, this apparent improvement over the previous harvest is not a good indicator of the situation in the Northern Central regions. The grain production this year is mostly a result of favourable crop growing conditions of the main commercial farming areas of the country, to the south of the Northern Central regions. The Supply/ Demand Food balance sheet as provided by the Crop Assessment shows that an after-trade deficit of 63, 000 tonnes of cereal is forecasted. Under normal circumstances, the cereal deficits at national level will be covered by additional commercial imports either in the form of grains or meals. South Africa, which is one of the main exporters of grain to Namibia, is expecting a good harvest for 2007/08 crop season which has seen a huge increase in its maize production of 53 percent above last season's production. Therefore, the country as a whole should not expect to see any major food shortages on a macro level this year.

White maize and wheat are controlled products in Namibia. During the white maize marketing period i.e. 1 May until the domestic harvest is milled, the Namibian borders are closed for the importation of white maize in order to prevent domestically produced maize from competing with maize produced externally. A Floor Price is then fixed by the Namibian Agronomic Board during the Closed Border Period and is calculated based on SAFEX data series. Discussions are on going for the Namibian Agronomic Board to also control the prices of Mahangu. The main goal is that mahangu and maize meal must be mutually interchangeable for institutional caterers and therefore, the price of mahangu grain and maize grain must be the same. The same price agreement and marketing mechanism are applied to both maize and mahangu as soon as mahangu is gazetted as the statistics provided by the Namibian Agronomic Board tend to show: It's interesting to note however regional variation of key staple prices.

Figure 2: Average Mahangu and Maize Flour Price per kg in Oshakati, Katima and Rundu



However, an important factor to note with respect to the mahangu market is the minor role of traded products in the supply chain as a whole. Reciprocal gifts between rural and urban family members are very important. This is an illustration of the strong traditional links between urban consumers and their rural counterparts. One of the consequences is that people are not directly sensitive to market prices, since most of them imagine they have "mahangu for free". Because the crop yield for mahangu was very poor this year, this mission is also concerned for urban dwellers who may face difficulties because of needing to buy food rather than rely on relatives this year. And indeed, although the grain situation as a whole in Namibia is good, those subsistence farmers who are accustomed generally to eat Mahangu may face difficulties both because of their own poor harvests and because of shortages of affordable mahangu on the market.

Although physical access to local market may have been an issue during the first two months of the floods, basic commodities are largely made available across the regions. (Table F1, Annex 2). When asked about the quality of market supply, many villages responded rather about the rising prices of fuel, sugar, oil, and other basic purchased commodities, indicating that food prices are an issue, while the supply of the food itself is not. The team collected markets prices of basic commodities in the different areas visited. Although overall price does not vary much from one place to another, it is interesting to note the overall higher prices trend in Caprivi, excepting for maize meal which is price controlled. However, Caprivi benefits from informal additions to the market from the Zambian side which means that many Caprivians purchase maize at prices below the Namibian store price. See figure 3 for a more comprehensive map of the price variations for different commodities in different regions. The darker colours represent higher prices.

The 2 graphs below (figures 2a and 2b) show the overall evolution of the prices of maize meal and cooking oil as an average for the 6 regions visited by the mission in urban areas (similar trends were observed in rural areas):

Figure 2.a: Average maize meal Prices per kg in the 6 regions visited by the mission (sources: Mission data and WFP data base)

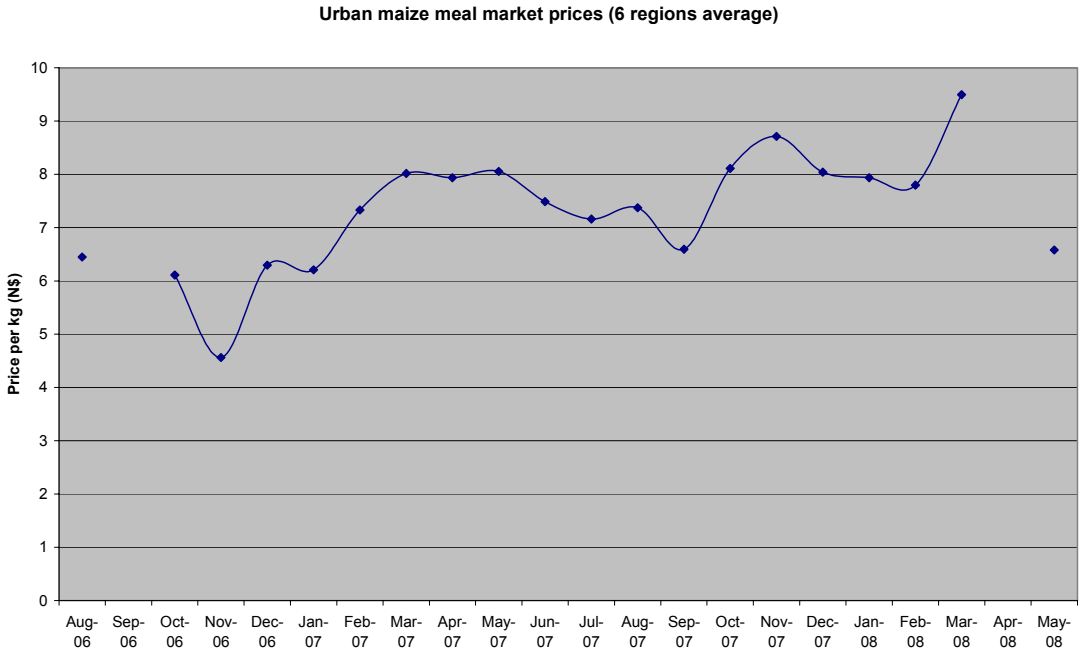
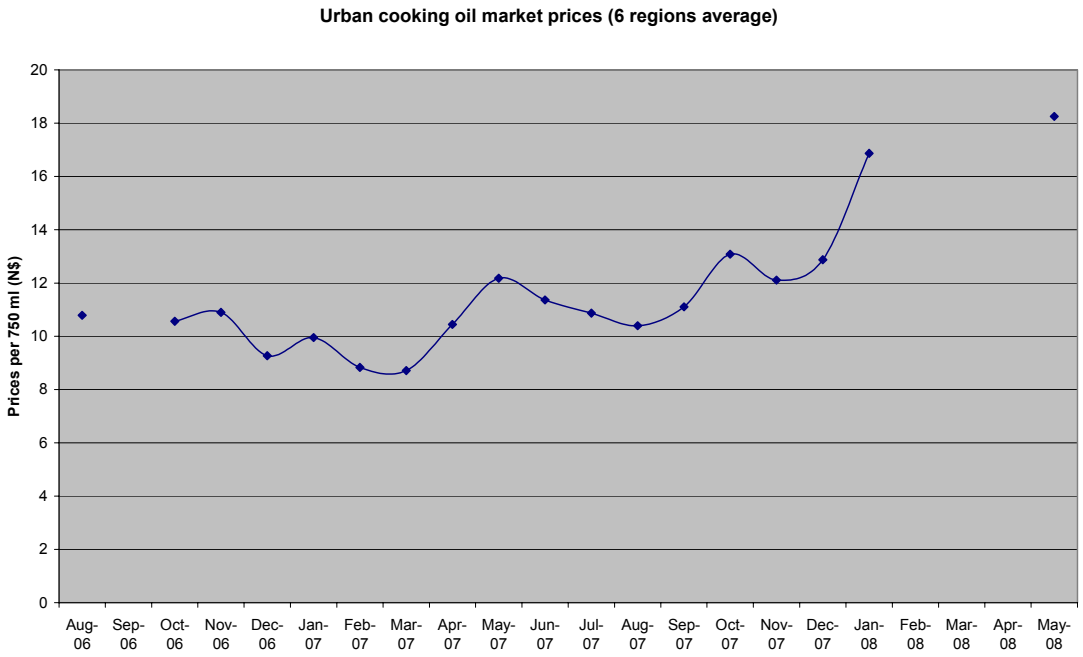


Figure 2.b: Average cooking oil Prices per 0.75l in the 6 regions visited by the mission (sources: Mission data and WFP data base)

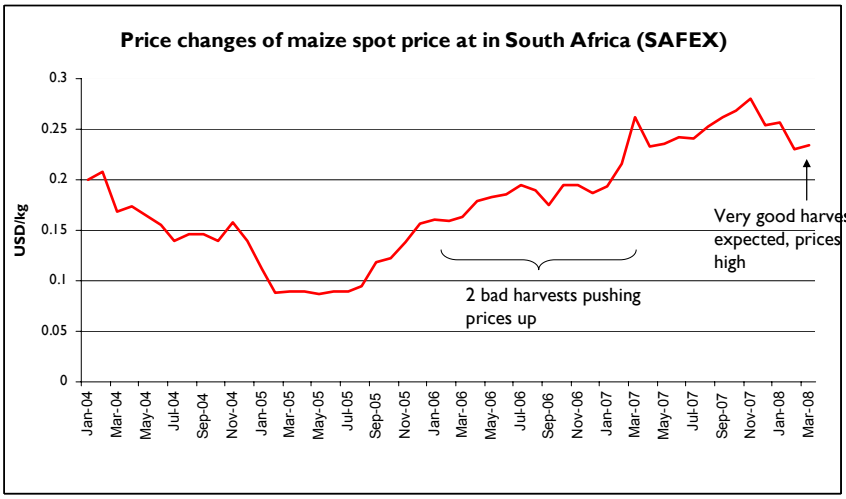


The cooking oil price evolution shows a regular increase over the past 2 years, with an accelerating trend in the months preceding the mission. The price of 750 ml of cooking oil has doubled in average between May 2007 and May 2008 and this has been a key concern of most of the communities met in across the 6 regions.

The maize meal market prices evolution is following the SAFEX one. SAFEX is the main market (bulk) for maize in Southern Africa, and closely linked to markets in Lesotho, Swaziland, Namibia, South Africa and parts of Mozambique.

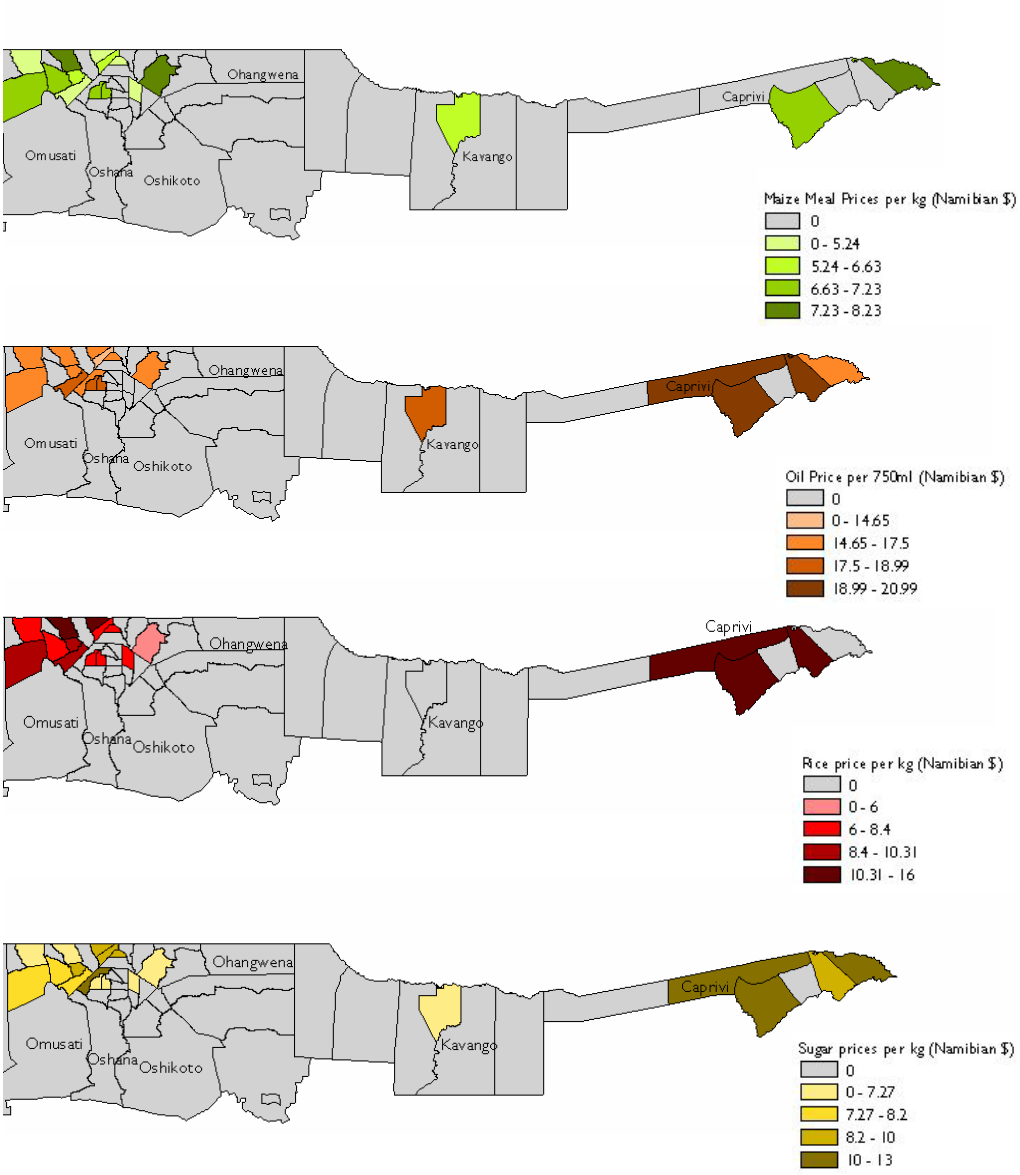
Spot prices on SAFEX have been pushed up in the last couple of years following bad harvests in South Africa. However, this year a very good harvest is expected but prices still remain high and little suggest they will fall to levels seen during the previous good harvest of 2005 (below $100/MT). This shows that the South African price is indeed kept high by global price developments. Nevertheless, over the last months there have been some price decreases that should be linked to expectations of the good harvest in South Africa, as farmers have started releasing stocks[7].

Figure 2.c: Maize Meal Price Evolution in South Africa (SAFEX)



[7] Preliminary overview of impact of price increases in Eastern and Southern Africa, Andrzej golebiowsky, April 2008, WFP internal

Figure 3: Prices variation for Maize meal, Oil, Rice and Sugar in the area visited by the mission:



Key Conclusions:

- As usual, Namibia will need to import food from South Africa and elsewhere. Maize especially should be readily available because of a good South-African harvest season. Therefore, no macro level shortages of grain are expected.
- For Mahangu, there is largely a barter or gift economy, which will be disrupted in poor harvest areas
- Villagers are concerned by price rises. Prices at the moment are highest in Caprivi for certain commodities. The evolution of cooking oil prices especially over the past year (more than doubled) is a key concern for rural and urban communities.
- SAFEX is the main market (bulk) for maize in Southern Africa, and closely linked to maize meal market in Namibia.

Household Level Food Security

Overview

In the analysis of the household survey data, the determination of vulnerable households takes into account both the households' chronic food insecurity as well as the impact that the recent shocks have had or will have in the coming months on the household's food security.

Analysis of the household survey data was carried out in several steps[8]. First, households were classified according to their current food security situation as measured by an indicator which takes into account the combination of a households' food consumption at present and its ability to access or purchase food serves as a measure of overall household food security.

To predict how household food security will change over the coming year as a result of the floods and other shocks experienced, the next step in the analysis was to classify households according to the type and severity of shocks they had experienced in the previous months. Finally, the members of each food security group and vulnerability group were described, for effective recommendations and targeting.

Given the low impact of the flood in Kavango and the small sample size for the household survey, no food security analysis was conducted for Kavango. The food security analysis will be presented separately for Caprivi and for the four Northern Central regions of Ohangwena, Omusati, Oshana, and Oshikoto. The physical and socio-economic differences between Caprivi and the Northern-Central regions necessitated that these two areas be analyzed separately.

Food Consumption

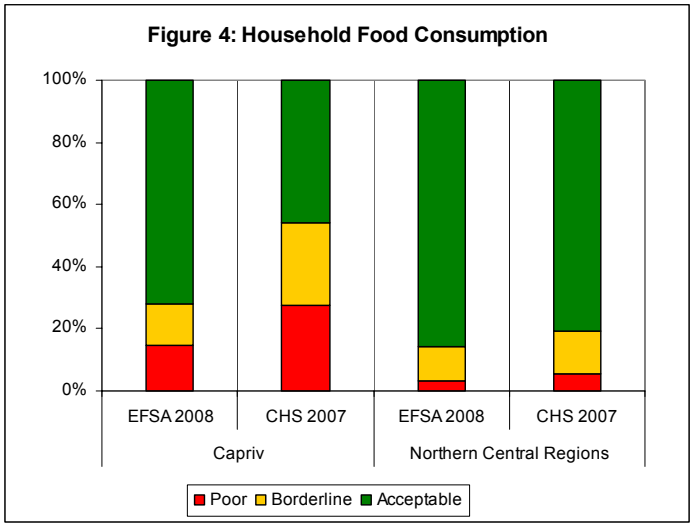


Figure 4 shows the results of a food consumption analysis for each of the two areas surveyed, comparing the results to the 2007 WFP Community Household Surveillance (CHS) Survey, which was conducted in the same regions where the EFSA took place. Using a 7-day recall period, information was collected on the variety and frequency of different foods and food groups to calculate a weighted food consumption score. Weights were based on the nutritional density of the foods. Households were then classified as having either 'poor', 'borderline' or 'acceptable' consumption based on the analysis of the data.

Households with 'borderline' consumption are eating the equivalent of cereals and vegetables on a daily basis plus pulses and oils about 4 times per week. Those with 'poor'

[8] See annex 3 for a flow chart detailing the food security analysis process.

consumption managed to eat the equivalent of only cereals and vegetables on a daily basis. This is considered a bare minimum and is a sign of extreme household food insecurity[9].

As in the 2007 CHS, the Caprivi region has the highest percentage of households with poor consumption (15%), although the number of households with poor consumption is not as high as in the May 2007 CHS. It is important to note, however, that the 2007 CHS was conducted region-wide, while the EFSA was restricted to areas which had been impacted by flood.

Table 2: Average # days food consumed in past week

	Acceptable Consumption	Borderline Consumption	Poor Consumption
Maize	6	5	5
Oil	5	4	2
Fish	5	2	0
Sugar	3	2	1
Other Cereals	2	1	1
Bread/Pasta	2	1	1
Meat	2	1	0
Beans	1	1	0
Milk	1	0	0
Nuts	1	0	0
Vegetables	1	1	0

It is possible that households in flooded areas have access to additional sources of food (fish) than households who are not in flooded areas, explaining the apparent improvement in consumption between 2007 and 2008. In addition, the 2007 CHS targeted mainly WFP food beneficiaries, who by definition constituted the poorest 20% of any given community. In the four Northern Central regions, food consumption patterns are similar when comparing the EFSA data with the 2007 CHS data. Nineteen percent of households had poor to borderline food consumption while 81% of households had acceptable consumption. It is important to note that while a relatively large proportion of the population in the northern central regions currently has acceptable food consumption, 50% of the households surveyed in these areas reported that food crop production was either their first or second most important livelihood source, and these households obtain 34% of their total food from own production. Given that the recent natural disasters have seriously impacted this seasons' agricultural production in flood affected areas, it is probable that food consumption scores will decrease for many land-dependent households in the coming months.

Table 2 illustrates the differences in average weekly consumption frequencies by food group for the three food consumption groups. Households with poor food consumption eat little more than staple grains and oil, indicating a serious nutritional deficit. Households with borderline consumption supplement their staple food consumption with occasional vegetables, meat, and fish, while households with acceptable consumption manage to regularly consume fish, and occasionally meat, nuts, vegetables, and milk. A decline in food consumption in the northern central regions should be taken very seriously, as those households with poor consumption at present are only barely consuming enough food.

Key Conclusions

- Current levels of food consumption in both Caprivi and the Northern Central regions are essentially the same as they were one year ago at this time.

[9] See annex 4 for more information on the food consumption score.

- However, as data was collected in the immediate post harvest situation, food consumption can be expected to deteriorate as households eat what little they have harvested this year.
- Those households who already have borderline or poor food consumption are barely meeting their daily needs and will be particularly vulnerable in the coming months.

Food Access

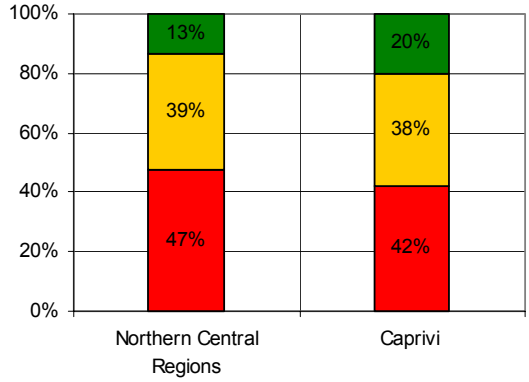
The food access indicator measures a households' ability to both purchase and produce food for its members. In the regions surveyed, households relied on a variety of sources to earn money. Considering that the survey was conducted in rural areas only, the majority of the households have access to arable land (90%) and are either principally crop producers or use crop production to supplement their other livelihood sources. Therefore, a food access indicator which was a combination of production capacity and the expenditure per capita (a proxy indicator for income earned) was constructed for each household. Households were first classified as small, medium, or large producers depending on their production of staple cereal per capita and ownership of livestock. Households were also classified as having either small, medium, or large expenditure per capita, and then the two indicators were combined to create a consolidated food access indicator, wherein households were categorized as having good, medium, or poor access to food. For a more detailed explanation of the food access indicator, see Annex 5.

Table 3: Indicators by Food Access Category

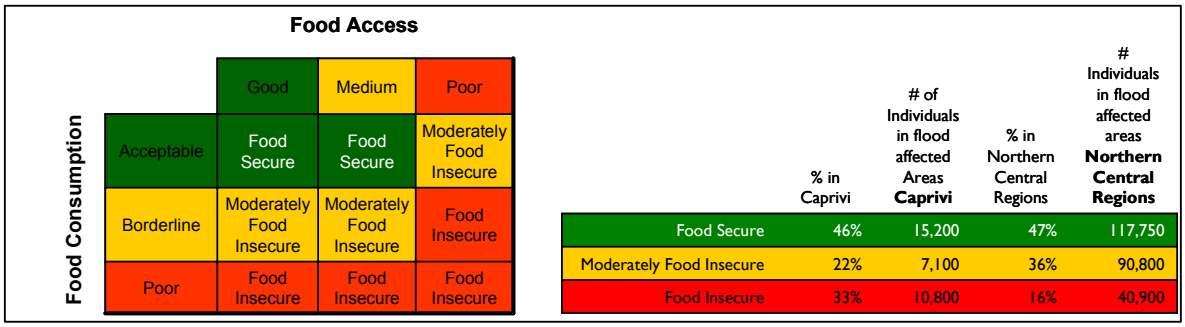
	Good	Medium	Poor
Average Expenditure Per Capita	N$226	N$172	N$51
Average Production of Staple Food (kg)	81kg	27kg	16kg
Number of Livestock Owned	35	15	9

Figure 5 shows the results of the food access analysis for each of the two areas surveyed. For the Northern Central regions, 47% of the households have poor food access, while only 13% have good food access. The situation is similar in Caprivi. By individual region, the percentage of households in flood affected areas with poor food access varies somewhat, with nearly 60% of households in Ohangwena and Oshikoto having poor food access while around 40% of households in Oshana and Omusati have poor access. Table 3 illustrates the characteristics of the households in the three food access groups. Households with poor food access spend on average $51 per capita on all monthly expenses, while households in the good food access category spend on average N$226 per capita. In comparison, the average price for a 10kg bag of Bokomo maize meal in the Northern Central regions was N$44. Therefore, if households with poor food access were to buy all of the food for their household members, they would barely manage to buy more than maize meal to eat during a month. In addition, although food production is the most common livelihood activity for all of the access groups, those with

Figure 5: Food Access Groups



poor food access reported that they produced on average only 16kg of staple food per capita this year, an amount which will not last longer than a few months.



	% in Caprivi	# of Individuals in flood affected Areas **Caprivi**	% in Northern Central Regions	# Individuals in flood affected areas **Northern Central Regions**
Food Secure	46%	15,200	47%	117,750
Moderately Food Insecure	22%	7,100	36%	90,800
Food Insecure	33%	10,800	16%	40,900

Key Conclusions

- 47% of households in the Northern Central regions and 42% of households in Caprivi have poor food access at the moment, meaning that they have low expenditure per capita, low production of the cereal staple food in the region, and own few livestock.
- Households with poor food access will have difficulties providing enough food for their families this year. Their level of expenditure per capita is barely enough to purchase enough maize meal per person to eat during the month, and their staple cereal production this year is not expected to last longer than a few months.

Food Security

The food consumption indicator and the food access indicator were combined to create a consolidated food security indicator; a measurement both of the quality of household food consumption at present and the ability of the household to continue to maintain that level of food consumption in the future. Figure 6 shows the analysis of food access and food consumption indicators to create a food security indicator with three levels. In addition, households were classified in terms of the coping strategies that they use to maintain their household food consumption, and then households who were classified as moderately food insecure and who use coping mechanisms which pose a risk to life were reclassified as food insecure[10].

As illustrated in Figure 6, 32.5% of the flood affected households in Caprivi and 16.4% of the flood affected households in the Northern Central regions are food insecure. These households have either borderline consumption and poor food access, or poor consumption with any type of food access. Households with poor food consumption are barely meeting their households' daily nutritional requirements; therefore all households with poor consumption were classified as Food Insecure. It is interesting to note that there nearly twice as many Food Insecure households in the Caprivi as in the other regions surveyed. This high level of food insecurity may be due to the high prevalence of HIV and AIDS in Caprivi (43%, according to the 2004 Sentinel Survey), and the regular and recurrent floods and other natural events to which this region is subject.

A total of 21.5% of flood-affected households in Caprivi and 36.5% of flood-affected households in the Northern Central regions are characterized as Moderately Food Insecure.

[10] Households answered questions concerning the number of times they utilize certain 'coping mechanisms' in response to household food shortages. Coping mechanisms which pose a 'risk to life' include: skipping entire days without eating sometimes, often, or daily; limiting portion size at meal times often or daily; reducing the number of meals eaten in a day often or daily; sending household members to beg sometimes, often, or daily; or adults eating less than children at mealtimes often or daily.

These households either have Borderline food consumption paired with good or medium food access, or Acceptable food consumption paired with poor food access. These households are managing to maintain their household consumption at a level that does not threaten health, but because many in this group have poor or medium food access, this group is extremely vulnerable to any shock or unusual event which may upset the moderate means by which they maintain their nutritional status.

Finally, 46% of flood affected households in Caprivi and 47% of flood affected households in the Northern Central regions are food secure. These households all have acceptable food consumption and good or medium food access. The households in this group are food secure not only at present, but should be able to maintain acceptable levels of food consumption in the face of shocks such as flooding or crop failure. This group has the highest expenditure per capita and owns the largest number of livestock, so they will be the best equipped to cope with any adverse conditions.

Key Conclusions

- There are high levels of food insecurity in all regions surveyed. 33% of households in Caprivi and 16% of households in the Northern Central regions are currently food insecure. Less than 50% of households in both regions are food secure.

Chronic Versus Transitory Food Insecurity

There is considerable evidence to suggest that although the survey found high levels of food insecurity in both Caprivi and the Northern Central regions, much of this food insecurity is the result of long term poverty (chronic), rather than solely as a result of the recent floods and other natural disasters that have hit the regions (transitory). When comparing food consumption scores to the same scores in the 2007 CHS survey, levels appear to be the same or better in May 2008 than they were 1 year ago in the same regions. In addition, when households are categorized according to the number of different types of assets which they own (a proxy indicator for wealth), asset wealth this year is essentially the same as it was in May 2007. In the households surveyed for the EFSA, 35% of households in Caprivi and 7% of households in the Northern Central regions were asset poor[11]. In the May 2007 CHS, 29% of households in Caprivi and 11% of households in the Northern Central regions were asset poor. As in the CHS, virtually no households who own cattle or other livestock (over 97%) are selling any animals at the moment.

Table 4 Comparison between May 2007 and May 2008

	Caprivi	**Northern Central Regions**
Food Consumption Score	Same or Improved from 2007	Same or Improved from 2007
Asset Wealth	Slightly decreased from 2007	Same or Improved from 2007
Livestock Sales	No livestock sales (no change)	No livestock sales (no change)
Coping Strategies Index	Increased (worse) than in 2007	Same or Improved from 2007

Compared to the May 2007 CHS, levels of coping, the responses used by households to manage food shortages, are increased in Caprivi. The level of coping is measured by a simple index, the Coping Strategies Index (CSI), whereby higher numbers in the index indicate more serious levels of coping. In the 2007 CHS the CSI in Caprivi was 46, while in the flood affected areas of Caprivi, the EFSA found coping at an average of 70. The CSI in the Northern Central regions is similar to levels seen one year ago. The increase in CSI in

[11] Asset poor households are those owning 4 or fewer assets, out of a possible 19 queries. Examples of assets owned include a bed, table, chair, axe, plough, etc.

Caprivi while food consumption and asset wealth have stayed relatively static may indicate that households in Caprivi are under stress, while maintaining their food consumption.

Given that food consumption and asset ownership levels, levels of selling cattle, as well as coping strategies (Caprivi excluded) have changed little between May 2007 and the time of this survey, it is likely that many of the households identified by the survey as food insecure are chronically food insecure. Most households depend on farming for a portion of the food which they consume (an average of 17% of the food consumed by households in Caprivi and 25% of the food consumed in the Northern Central regions is produced by the household), although most of the food consumed both in Caprivi and in the Northern Central region at the time of the assessment is purchased. The survey was conducted during the harvest period, and while the floods and crop pests experienced by households in these areas have seriously impacted crop production, most households have had at least some harvest, and so are able, for the moment, to maintain their food security.

Key Conclusions

- In the Northern Central regions, indicators of food security have not significantly changed from May 2007. It is therefore likely that the survey measured a chronic condition in this region
- In Caprivi, most indicators of food security have essentially stayed the same, while use of coping strategies has increased. This may be due to the difference in the targeted population of the May 2007 survey (which did not visit inaccessible areas) and the May 2008 EFSA.
- The current situation in the surveyed areas is largely chronic, and the greatest impacts of the floods in food security have not yet been felt. Under the Namibian Social Policy, many of these households received some kind of assistance, the pension grant being the most commonly cited by people interviewed during the mission. The mission considers that no additional emergency intervention is required to address the chronic situation but continuous strengthening of long term social protection support and developmental efforts is appropriate given the largely chronic nature of the situation.
- Transitory acute food insecurity, exacerbating the already chronic situation, can be expected to set in for those particularly vulnerable populations affected by the floods and other disasters from September onwards.

Shocks

While the food security of households in the surveyed areas may not yet be impacted by the recent natural disasters, many households certainly will face increased food insecurity in the coming months as a result of widespread crop failures. Therefore, households were categorized by the degree to which they had experienced a shock which impacted crop production in the past four months, and also by the degree to which they had been affected by rising food prices.

Crop production was chosen as the best indicator of the severity of the shock for households who cultivate. Households were asked to list the three most important shocks which had affected them (see Table 5). The seriousness of each shock was then evaluated by comparing the shock(s) with the households' reported staple cereal production in 2008, as compared with the previous year. The most serious shocks had the greatest impact on food production, as seen by comparing last years' harvest to the current year.

Table 5: Shocks experienced in each area by % of crop lost

	Caprivi	Northern Central Regions
Shock	Median Drop in staple cereal production from previous year	Median Drop in staple cereal production from previous year
Flood and Crop or Animal Disease *n(Caprivi)=6; n(NCR)=256*	0%	80%
Food and Drought *n(Caprivi)=15; n(NCR)=25*	82%	69%
Flood Only *n(Caprivi)=46; n(NCR)=144*	0%	71%
Crop Disease Only *n(Caprivi)=2; n(NCR)=25*	0%	70%
Drought and Animal Diseases *n(Caprivi)=21; n(NCR)=39*	59%	80%
Drought Only *n(Caprivi)=13; n(NCR)=31*	81%	85%
Flood and Food Price *n(Caprivi)=36; n(NCR)=28*	0%	65%
HIV Related Only *n(Caprivi)=10; n(NCR)=19*	0%	52%
No Shock *n(Caprivi)=26; n(NCR)=76*	20%	65%
Other *n(Caprivi)=25; n(NCR)=8*	0%	56%

Highlighted in orange on Table 5 are shocks which are associated with households reporting a greater drop in production. In Caprivi, households who did not experience a shock reported a 20% drop in production from the previous year. However, households who reported that they experienced drought (with any other combination of shocks) harvested less than 60% of what they harvested the previous year. Therefore, households experiencing drought were indeed impacted by a situation which was extraordinary this year.

In the Northern Central regions, those households who did not experience shock reported a 65% drop in crop production as compared with the previous year; this is already a serious drop in crop production which suggests that even without any particular circumstances this year was a bad harvest year for many households. However, households who reported experiencing flood, crop pest, animal diseases, or drought experienced an even sharper drop in crop production this year.

Therefore, households in Caprivi who have experienced drought, and households in the Northern Central regions who have experienced flood, drought, crop pests, or animal diseases have been impacted by shocks which caused an extraordinarily poor cropping

season this year. However, not all shock-affected households will be vulnerable to worsened food insecurity. Food Secure households have the resources to adjust to the poor season, and therefore will be able to maintain their food security. However, shock-affected households who are already food insecure, may indeed face serious food shortages in the coming months.

Key Conclusions

- Households in Caprivi who said that they were impacted by floods this year have seen essentially no change in their normal crop production. Only households affected by drought in Caprivi had a drop in crop production.
- Households in the Northern Central regions who said that they were impacted by floods, crop pests, drought, or animal diseases have seen a large drop (over 65%) in crop production as compared to 2007.
- The most vulnerable households are shock affected households who are predominantly crop producing, have experienced a drop in crop production from last year, and are already food insecure or moderately food insecure.

Future vulnerability because of rising prices:

Due to rising global food prices it is likely that many households in Namibia, especially those who are cash dependent and already food insecure will face difficulties in maintaining their food security in the face of rising prices. Even in the rural areas where the EFSA was conducted, many households are highly dependent on purchase as a source of food - 30% of households in the surveyed areas of both Caprivi and the Northern-Central regions are dependent on purchase for more than 75% of the food that they consume.

These households are more likely than the average household to rely on a government child welfare grant, remittance, or government pension as their primary source of income In addition, they are more likely to be headed by females (63% in the northern central regions), have a lower expenditure per capita than the mean (N$76-84 per month), but a higher percentage share of expenditures on food items (6-8% greater than the group not as vulnerable to price rises) Close monitoring of the price of staple foods in Namibia in the coming months is essential to ensure that vulnerable households do not become seriously food insecure as a result of the price rises.

Key Conclusions:

- Many households in the rural areas surveyed in the EFSA are vulnerable to rising staple food prices. These households are already poor and predominantly dependent upon government pensions or grants, or remittances as their principal income source. Baseline data are critical to be able to build up scenario and forecast the impact of expected prices increased.
- Although the survey did not assess the situation in urban areas, it is likely that many poor urban households will also be negatively impacted by a rise in prices
- There is a need for close monitoring of the prices of staple cereals to ensure that household food security, for cash dependent households, is not endangered.

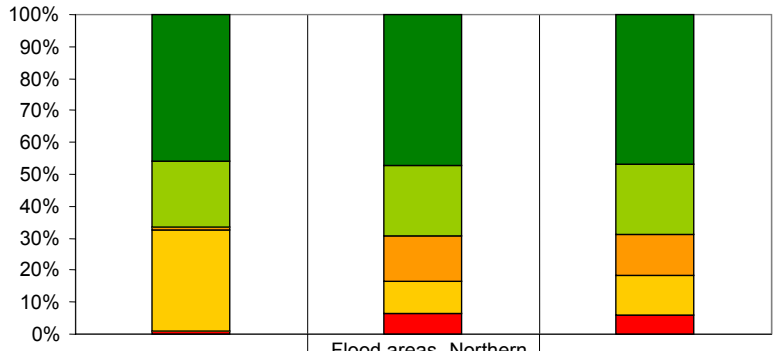
Vulnerable to Temporary Food Insecurity

Figure 7 shows the breakdown of the survey population, by survey area, into the five different food security and vulnerability groups. The five groups represent households who are food secure, moderately food insecure but not affected by extraordinary shocks,

moderately food insecure and affected by extraordinary shocks, food insecure but not affected by extraordinary shocks and food insecure and affected by extraordinary shocks.

The two categories of households affected by extraordinary shocks, in red, are the households who will face difficulties in the coming months to maintain their food security at its current and already vulnerable level.

Figure 7: Food Insecurity and Vulnerability



	Flooded areas - Caprivi	Flood areas- Northern Central Regions	All Flooded Areas
Food Secure	15,238	117,745	132,983
Moderately food insecure- No Shock	6,791	54,881	61,672
Moderately food insecure with Shock	330	35,922	36,252
Food insecure-No Shock	10,435	24,946	35,381
Food Insecure with Shock	330	16,215	16,545

A total of 660 people in Caprivi, only 2% of the survey population, are exceptionally vulnerable this year because of unusual shocks. After having met with the REMU team in Caprivi, the mission believes that the local government has the capacity to address these immediate problems. However, in the Northern Central regions, 6.5% of the population, representing 16,215 individuals, is already currently food insecure and in addition exceptionally vulnerable to further deterioration in food security because of the unusual shocks these households have experienced.

Around 36,000 people, 14.4% of the survey population, are currently moderately food insecure and also have experienced shocks which will make these households vulnerable to serious deterioration in food security because of crop failure and pre-existing chronic food insecurity. In total about 52,100 people in the survey area are vulnerable to deteriorations in food security in the coming months. These households will require additional assistance in order to maintain their food consumption at acceptable levels the next harvest.

Those households in the surveyed areas who responded that the only shock they had experienced was crop disease saw the same median drop in food production (approximately 70% off the previous year) as those households who had experienced flood. It should be noted that the crop pests, droughts, sporadic rainfall, and other shocks were not only restricted to the flooded areas of the 4 northern regions, but extended throughout those regions.

Therefore, it is reasonable to predict that many food insecure and vulnerable households throughout the four Northern Regions of Omusati, Ohangwena, Oshikoto, and Oshana will experience difficulties meeting their basic food requirements. If the same percentages of vulnerable households (6.5% food insecure and vulnerable, 14.4% moderately food insecure and vulnerable) are extended to the entire rural population of the 4 Northern Central

regions, then a total of approximately 146,000 people are predicted to be seriously food insecure in the coming months.

Table 6 shows the breakdown of these vulnerable people by region.

Table 6: Vulnerable households in the rural areas of the Northern Central Regions

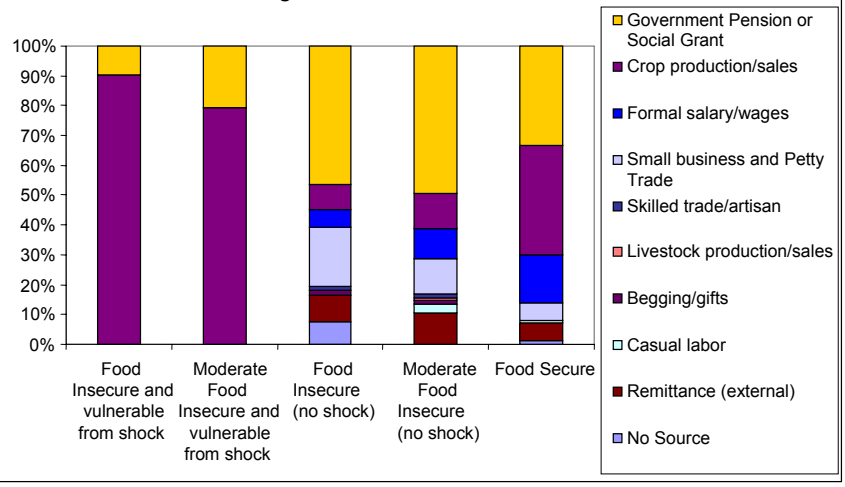
	Ohangwena	**Omusati**	**Oshana**	**Oshikoto**	***Total***
Food Insecure with shock	14,600	14,810	7,180	8,800	*45,390*
Moderately Food Insecure with shock	32,380	32,810	15,900	19,460	*100,550*
Total Experiencing Shock	46,980	47,620	23,080	28,260	*145,940*

Although not shown in the table, it is additionally predicted that in the rural areas of the Caprivi region, 1,200 people will be vulnerable to increased food insecurity this year. Those who have experienced a shock and are also already vulnerable to food insecurity are the population who will be in need of temporary assistance in the coming months leading up to a successful 2009 harvest. However, there is clearly a pre-existing and chronic food insecurity situation in these regions, particularly high in Caprivi, which is more appropriately addressed with long-term social and developmental assistance to food insecure populations.

Key Conclusions:

- The most vulnerable people are food insecure and moderately food insecure households who have been affected by serious drops in crop production this year. 52,000 people in the surveyed areas will require assistance to maintain their food security at acceptable levels through to the next harvest season.
- The causes of crop production decreases are not limited to the floods. Households who said that crop pests had affected their fields also saw serious decreases in crop production this year. Therefore, it is reasonable to extend the estimates of vulnerable people to the rural areas of the regions as a whole, because the entire Northern Central region has been impacted by the crop pests, an additional 94,000 people are predicted to be seriously food insecure in the coming months.
- In total there are 146,000 people who will require emergency assistance in the rural areas of the Northern Central regions in the coming months to maintain their household food security.
- In Caprivi there are high levels of chronic food insecurity but relatively few households made more vulnerable this year because of the floods. The mission believes that no external assistance is required in Caprivi given the existing local government capacity.

Figure 8: Livelihood Sources



Characteristics of the Vulnerable Groups

Because so few households in Caprivi were identified as vulnerable to the recent shocks (only 4 households out of 200 surveyed), the characteristics

of vulnerable households will be presented below for the Northern Central flood affected regions only.

As illustrated in Figure 8, the vast majority of both food insecure and moderately food insecure households who are vulnerable from the shocks are crop producers. The remaining vulnerable households are those with government pensions who have crop production as a secondary income source. Those with government pensions who also are involved in crop production were included in the vulnerable groups because government pension alone was not considered a good livelihood strategy, in terms of sustainable, reliable and sufficient source of income.

The food insecure and moderately food insecure that have not been affected by shocks practice a variety of livelihood sources, but the majority of households reporting that they had no source of income are food insecure. The majority of the households reporting that they rely on formal salary and wages as an income source are food secure (73%).

Food insecure and vulnerable to shock (6.5% of surveyed households)

- Likely to have been relocated in the past 4 months (7%),
- Likely to have been forced to change principal livelihood source in the last four months (45%), and
- Has had an acutely ill adult household member (19%) during the flooding period.
- Has the lowest ability to rely on relatives for money (93% have not received monetary support)
- Highest need to rely on relatives for food (14% have received food from relatives, meaning that they have some support systems but are more dependent on in-kind transfers than more food secure groups.
- 55% of the cereals that they consume come from the households' own production.
- Lowest production per capita of staple cereal
- 71% of these households are already engaged in negative coping strategies such as skipping entire days without eating or reducing portion sizes at meal time.
- Spend on average N$48 per capita only, compared with the food secure group which spends on average N$197 per capita.
- Majority of households in this group own less than 10 key assets, out of a list of major assets queried, including beds, table, mobile phone, car, chair, etc.

Moderately food insecure and vulnerable to shock (14.4%)

While these households are slightly better off to begin with than the previous group, this is also the group that has been most seriously impacted by the flooding and other natural disasters.

- 31% of the group has had to change livelihood source in the last 4 months,
- 13% of these households have had an acutely ill adult household member during the flooding period.
- Most likely to have had their household damaged in the past 4 months (67%),
- Most likely to have lost assets in the past four months (47%), indicating that they have slightly more assets than the vulnerable food insecure group,

- 21% of this group is using coping strategies that are a risk to their livelihoods such as borrowing food or eating less preferred foods.
- Mainly rely on their own production to obtain the cereals they eat - 55% of the cereals come from that household's own production, as compared with other groups who rely on own production for only 27-37% of the cereal consumed
- Spends on average N$54 per capita per month, and
- Owns in general less than 10 assets, out of a list of major assets queried.

Both the food insecure and moderately food insecure households who are vulnerable do not have much cash available or other means of generating income, and also have lost their major source of food this year. At the time of the writing of this report, a 10kg bag of maize, reasonable for one person to consume in a month, in Ohangwena cost on average N$45, nearly the entire per capita monthly expenditure of the most affected and food insecure vulnerability group. Although there are strong social bonds within villages and families which these vulnerable households can rely on for assistance, even for the largest farmers it has been a bad year, and there will be less extra to give to households in need.

Food Security Groups

The assessment offered an opportunity to analyse information concerning the underlying chronic situation in the survey areas. Chronic food insecurity in all regions surveyed is high, and it is important to describe the households in the food security groups, for better targeting of long-term developmental and social assistance programmes. Figures 9 and 10 on the following two pages describe the food security groups.

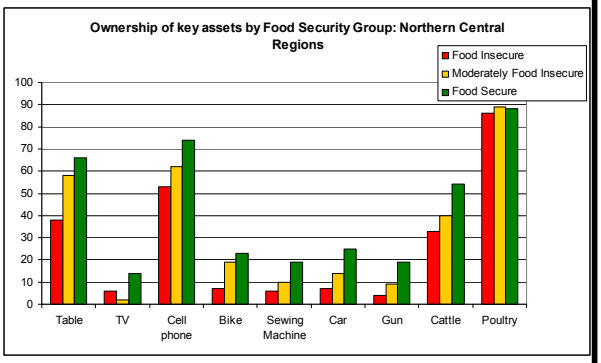
The food insecure group detailed on the following pages consists of households who are highly vulnerable to any number of disasters, present and future, including floods and droughts, rising food prices, and AIDS. In Caprivi in particular, chronic food insecurity is high, encompassing 27,900 people in rural areas region-wide. In the rural areas of the Northern Central regions of Ohangwena, Omusati, Oshana, and Oshikoto, there are an estimated 114,500 chronically food insecure people. Households in these groups could benefit greatly, if they are not already, from government social assistance programmes such as the old age pension and the child welfare grants for orphans and fostered children.

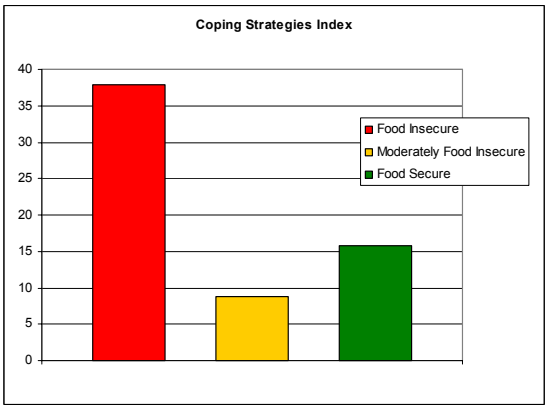
Key Conclusions

- Chronic food insecurity is high, and although emergency interventions are not recommended for the chronically food insecure, these households should be the focus of long term social and developmental assistance.
- The food insecure households are the poorest households in terms of cash expenditure and crop production, have poor food consumption at the moment, and can generally be targeted for assistance based upon the criteria given in the text.

Figure 9: Characteristics of Food Security Groups – Northern Central Regions

Food Insecure: 40,911 people in the survey area, 114,500 in the rural Northern Central regions	❖67% female headed HHs ❖Nearly 40% are widowed, under 30% married. ❖more than average number proportionally have no education, less have above grade 10. ❖more likely to use pond or stream water than food secure group (24%) ❖12% in concrete/tin house, 83% in mud thatch hut ❖over 50% of those with no income source, less than 10% of those who depend on formal salary/wages ❖Adults and children 6-18 eat 2 meals per day, children 0-5 eat 3
Moderately Food Insecure: 90,803 people in the survey area, 254,200 in the rural Northern Central Regions	❖The average group ❖65% female headed HHs ❖more likely to use pond or stream water 26% ❖23% in concrete/tin, 79% in mud thatch ❖livelihoods mostly distributed as for population as a whole. Less than 20% of the formal salary/wages group. ❖Adults and children 6-18 eat 2 meals per day, children 0-5 eat 3
Food Secure: 117,745 people in the survey area, 329,600 in the rural Northern Central regions	❖48% female headed HHs ❖Under 20% widowed, 44% married ❖more likely to have water piped into the compound (20%) ❖29% in concrete/tin house, 63% in mud thatch hut ❖most of the hh with hh head having higher education ❖over 70% of those with formal salary/wages as their first livelihood, only 35% of those involved in petty trade, otherwise proportionally represented ❖Adults eat 2 meals per day, children 6-18 eat 3, children 0-5 eat 4

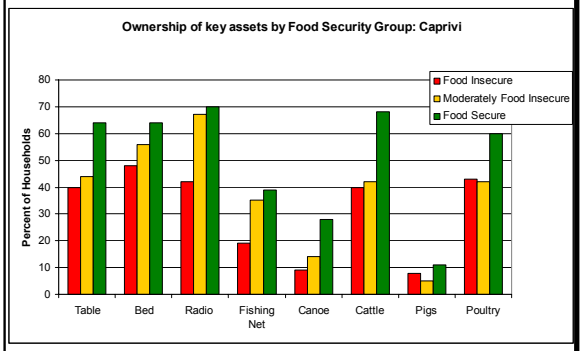
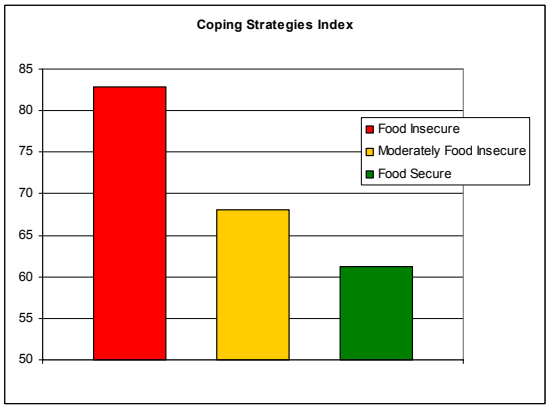




Median number of times food is consumed per week

	Cereal	Meat/ Fish	Oil	Sugar
Food Insecure	7	4	4	1
Moderately Food Insecure	7	7	6	2
Food Secure	7	7	7	4

Figure 10: Characteristics of Food Security Groups - Caprivi

Food Insecure: 10,766 people in the survey area, 19,700 rural region-wide	❖45% female headed HHs ❖50% host orphans ❖23% have a chronically ill household member ❖Least education of all groups: 45% of HH head cannot read, 63% have not had higher than primary school education ❖Over 80% of the group dependent upon child welfare grants, only 20% of the fishing and formal salary/wages groups, otherwise proportionally represented in other livelihood sources. ❖All household members eat a median of 2 meals per day	
Moderately Food Insecure: 7,122 people in the survey area, 13,000 rural region-wide	❖40% female headed HHs ❖Over 70% host orphans ❖9% have a chronically ill member ❖Average group for education 70% of HH heads can read, ❖Most are food crop producers, 40% of this group. Proportionally represented in pensioners, formal salary and wages, very few with casual labour, fishing, or small business as a livelihood source ❖Adults and children 6-18 eat 2 meals per day, children 0-5 eat 3	
Food Secure: 15,238 in the survey area, 27,890 rural region-wide	❖27% female headed Hhs ❖over 70% host orphans ❖4% have a chronically ill member ❖Most educated group; 75% of HH head can read, over 55% have some secondary school education ❖over 70% of those with small business or fishing as their first livelihood source, over 60% of those with small businesses, but only 30% of the food crop production group ❖Adults eat 2 meals per day, children 0-18 eat 2	

Median number of times food is consumed per week

	Cereal	Meat/ Fish	Oil	Sugar
Food Insecure	7	1	2	0
Moderately Food Insecure	7	6	4	3
Food Secure	7	7	6	5

Food consumption, utilization, nutritional and health status

Note that a more detailed analytical report done by UNICEF is also available.

Growth monitoring of children is essential in the nutrition surveillance activities of the nutritional status of the population. However, in normal time, most children go to a health facility at 9 months to get vaccinated but does not really come back for growth monitoring except when really sick. Also, some health facilities do not have the adequate material (scale, height board, MUAC) and training to ensure proper growth monitoring. None of the Primary Health Care (PHC) services were able to confirm when the peak of malnutrition is habitually in a normal year. They referred us to the National Health Information System (HIS) to get information on peak of malnutrition although most fear malnutrition outbreaks in the coming months due to bad food crop production. Also, monthly data regarding the number of underweight children confused between new cases and follow-up visits so the same chil can appear twice in the system. Also, PHC services do not use any guidelines or directives for treatment of severe malnutrition. PHC services staff has not been trained to face malnutrition outbreaks either. Some PHC services said that they will refer malnutrition cases to different stakeholders for food assistance and continue giving care to the best of their knowledge.

Some district are already training community workers on different health topics including some nutrition but there is still a lot of organisation and training to do. Definition of community workers, common training modules, their community tasks and motivation incentives needs also to be designed at National level and feedback needs to be given to regional level.

Maternal health and nutrition

Data collection on nutrition and health topics was done over 383 women aged 15 to 49 years through direct interviews (mean age of 31.4 years). The Ohangwena and Omusati region were more represented due to the highest number of household flooded included in this survey (Table 7).

Table 7 Number of women and proportion (%) of total sample according to regions. (n=338)

Regions	Number of women	Proportion (%) of total sample
Caprivi	63	18.6
Kavango	3	0.9
Ohangwena	86	25.4
Omusati	168	49.7
Oshana	14	4.1
Oshikoto	4	1.2
Total	338	100

Weight and height were measured in all women except in 18 women who could not stand straight enough to allow measurement of height. The mean Body Mass Index (BMI) of women was 22 kg/m^2 with a range from 16 to 40. Nearly 11% of women had a BMI under 18.5 kg/m^2 indicating underweight or malnutrition (Table 9). However, the present survey do not highlight if this adult malnutrition is due to the flood and its impact on food intake or to a chronic situation in this population. The prevalence of underweight among women (< 45 kg) seems lower (11% vs. 15-16% respectively) than what was found in the Namibia Community and Household Surveillance (CHS): Round 2[12] survey made in May 2007 but the same was found for obesity (3% vs. 3% respectively). The underweight rate could be lower in the actual survey because it is harvest season and food availability in the household is better than in May 2007. Still 21.3% of women have a BMI near the underweight cut-off and could lose weight and shift t the lower BMI category in period of low food intake.

[12] Ministry of Gender Equality and Child Welfare and the UN World Food Programme. Namibia Community and Household Surveillance (CHS): Round 2. An impact Assessment of the Ministry of Gender Equality and Child Welfare / UN World Food Programme Food Support Programme for Orphans and Vulnerable Children (OVC) in Northern Namibia. December 2007.

Table 8: Number and proportion (%) of women according to Body Mass Index (BMI) categories. (n=320)

BMI categories	Number of women	Proportion (%) of total sample
<16	0	0
16-18.4	34	10.6
18.5-19.9	68	21.3
20-24	161	50.3
25-29	47	14.7
≥30	10	3.1
Total	320	100

Child health and nutrition

Data collection on nutrition and health topics was done over 484 children through interviews with their principal carer (52.1% being their own mother). The Ohangwena and Omusati region were more represented due to the highest number of household flooded included in this survey. The female to male ratio was 0.95 (236:248) (Table 9).

Table 9. Number of children and proportion (%) of total sample according to regions. (n=484)

Regions	Number of children	Proportion (%) of total sample	Number of girls	Number of boys
Caprivi	59	12.2	24	35
Kavango	2	0.4	1	1
Ohangwena	125	25.8	67	58
Omusati	264	54.5	126	138
Oshana	23	4.8	11	12
Oshikoto	11	2.3	7	4
Total	484	100	236	248

Table 10. Proportion of children according to age group. (n=484)

Age groups (months)	Number of children	Proportion (%) of total sample	Number of girls	Number of boys
6-11	58	12.0	24	34
12-17	55	11.4	25	30
18-23	49	10.1	25	24
24-29	44	9.1	26	18
30-35	48	9.9	23	25
36-41	53	11.0	31	22
42-47	61	12.6	28	33
48-53	69	14.3	29	40
54-59	47	9.7	25	22
Total	484	100	236	248

Children were aged 6 to 59 months with a mean age of 32.9 months. The proportion of children in each age group was similar. The number of female was slightly lower in the 6-17 months age groups but no age difference was noted (T-test, p=0.583) (Table 10).

Antenatal care attendance and sources of information during pregnancy

Table 11. Sources of antenatal care during pregnancy of the child. (n=484)

Health staff or other source of information	Number of mothers attending the antenatal care	Proportion (%)
Doctors	84	21.4
Nurse	362	92.1
Midwife	108	27.5
Friends or relatives	70	17.8
Others	43	10.9

According to the information given by the principal carers, the mother of 393 children (81.2%) attended antenatal care during pregnancy but 77 carers did not know if antenatal care were received (15.9%). Antenatal care was given to mothers by different sources (professional and non professional) and sometimes by multiples sources during the same pregnancy. The other sources of information or care were not specified (Table 11).

Breastfeeding and size at birth

A total of 414 children (85.5%) were ever breastfed. However, only 250 (51.7%) of them were exclusively breastfed and 93 (19.2%) were still breastfed on the interview day. The children still being breastfed were significantly younger that the other (16.9 months vs 37.8 months, T-test, $p < 0.000$).

Table 12. Number of children according to size at birth. (n=484)

Size at birth	Number of children	Proportion (%)
Very large (>4kg)	42	8.7
Larger than normal (3.5-4 kg)	47	9.7
Normal (2.5-3.5 kg)	361	75.6
Smaller than normal (1.5-2.4 kg)	25	5.2
Very small (<1.5 kg)	9	1.9
Total	484	100

A qualitative denomination for size at birth was used as a proxy to determine birth weight when the health status card and birth weight was not available. Most of children were of normal size at birth and 7.1% were of small birth weight (Table 12).

Routine vitamin A supplementation, measles vaccination and de-worming

Almost 75% of children received at least one vitamin A capsule during routine supplementation and 66% received measles vaccination at 9 months. However, only 33% received deworming tablets. Many principal caregivers did not have the full health information regarding their pupils so survey results are incomplete (Table 13). Also, information on vitamin A supplementation and de-worming tablets do not inform on the number of capsules or tablets received over time during infancy (from 9 to 59 months).

Table 13. Number and proportion (%) of children who received routine care (vitamin A supplementation, measles vaccination and deworming tablets). (n=484)

Routine care	Number and proportion (%) of children who received routine care	Number of children for whom the principal carer did not know the information
Vitamin A supplementation at least once	360 (74.4)	88 (18.2)
Measles vaccination at 9 months	338 (69.8)	21 (4.9)
De-worming tablets in the last 6 months	159 (32.9)	62 (12.8)

Sickness episodes and visit to health centre in the past 2 weeks

In the two past weeks before the survey, 95 children (19.6%) were healthy and no sickness episode mentioned by their carers. Fever and coughing episodes were both reported in about 25% of children while diarrhoea was less common (10%). It is also possible that one child had more than one sickness episodes in the past two weeks. However, only 18% of children went to the health facility to get treatment (Table 14).

Table 14. Number and proportion (%) of children who had sickness episode(s) and visited to health centre to get treatment in the past 2 weeks. (n=484)

Sickness episode and visit to health facility in the past 2 weeks	Number and proportion (%) of children who had sickness episode	Number of children for whom the principal carer did not know the information
Fever	110 (22.7)	16 (3.3)
Coughing	134 (27.7)	11 (2.3)
If coughing, was short of breath	58 (12.0)	1 (0.7)
Diarrhoea	49 (10.1)	5 (1.0)
Went to health facility for treatment	87 (18.0)	7 (1.4)

Malnutrition in children

Anthropometric measurements were taken on all 484 children in the sample (weight, height and oedema). Measurement errors were common and 75 children could not be considered in the analysis. A total of 4 children with oedemas were detected, all in Caprivi regions; 3 being present in the same family. It appears that these cases are known from the health facility and are also related to HIV status. These 4 children would have influenced the severe malnutrition rate and make it appear higher than reality so they were excluded from the analysis. The statistical program Emergency Nutrition Assessment (ENA) for Smart (October 2007) was used for the estimation of malnutrition rate.

Estimation of malnutrition rate cannot be presented separately by region due to the non random sampling method used in this survey. The constituencies chosen do not represent their region and some regions are over-represented. Also, the number of children assessed in some regions was too small to allow desegregation of malnutrition rate by region.

Global acute malnutrition (GAM) rate (z-score) was estimated at 7.6% with NCHS 1977 standards and at 8.3% with WHO 2005 standards. Severe acute malnutrition was found in 1.2% (NCHS 1977) and 3.7% (WHO 2005) of children. Malnutrition results needs to be interpreted with caution.

Acute malnutrition rate brings information on the actual nutritional situation in children after this flood period. The GAM rate is still under 10% showing a non emergency situation and is similar to what was found in the 2006 DHS national survey (7.9%)[13]. However, one need to consider that most of households still have access to their food stock, the month of May being the harvesting season and that food production in 2008 will be decreased due to flood incidents in these surveyed regions. It is also important to not consider the prevalence of underweight and/or stunting shown in Table 15 and Table 16, as indicators of flood impact since they represent the chronic nutrition situation of these children possibly due to a low food intake in quantity and quality over time and not necessarily in the last months.

Key Conclusions:

- Current prevalence of underweight among women and malnutrition among under 5 children are currently comparable to what was found in the 2006 DHS national survey.
- However, one needs to consider that most of households still have access to their food stock. A deterioration of the nutritional condition of both women and children is expected given the decreased food production in 2008.

[13] Namibia. National DHS Preliminary Results. Ministry of Health and Social Services. June 2007.

Table 15. Estimation of the prevalence of acute malnutrition according to region based on weight / height (W/H) z-score and percentage of the median using NCHS 1977 and WHO 2005 reference standards. (n=409)

		% children with severe wasting (<-3 z-score)		% children with moderate wasting (≥ -3 and <-2 z-score)		% children with global acute malnutrition (<-2 z score)	
Regions	# children	NCHS 1977	WHO 2005	NCHS 1977	WHO 2005	NCHS 1977	WHO 2005
Caprivi	42	(0) 0.0 %	(0) 0.0 %	(1) 2.4 % (0.0 – 7.0)	(1) 2.4 % (0.0 – 7.0)	(1) 2.4 % (0.0 – 7.0)	(1) 2.4 % (0.0 – 7.0)
Kavango	2	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %
Ohangwena	121	(1) 0.8 % (0.0 – 2.4)	(2) 1.7 % (0.0 – 3.9)	(6) 5.0 % (1.1 – 8.8)	(4) 3.3 % (0.1 – 6.5)	(7) 5.8 % (1.6 – 9.9)	(6) 5.0 % (1.1 – 8.8)
Omusati	214	(4) 1.9 % (0.1 – 3.7)	(4) 1.9 % (0.1 – 3.7)	(19) 8.9 % (5.1 – 12.7)	(19) 8.9 % (5.1 – 12.7)	(23) 10.7 % (6.6 – 14.9)	(23) 10.7 % (6.6 – 14.9)
Oshana	21	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %
Oshikoto	9	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %	(0) 0.0 %
Total	409	(5) 1.2 % (0.3 - 2.1)	(15) 3.7 % (0.8 - 6.5)	(26) 6.4 % (2.0 - 10.7)	(19) 4.6 % (1.5 - 7.7)	(31) 7.6 % (2.4 - 12.8)	(34) 8.3 % (2.4 - 14.2)

Table 16. Estimation of the prevalence of underweight based on weight / age (W/A) z-score according to NCHS 1977 and WHO 2005 reference standards. (n=409)

Reference	Indicator		Results		
			All (n=409)	Boys (n=199)	Girls (n=210)
NCHS, 1977	Z-scores	Underweight W/A < -2 z	(100) 24.4% (14.6-34.3 C.I.)	(68) 34.2% (20.9-47.4 C.I.)	(32) 15.2% (6.8-23.7 C.I.)
		Moderate underweight W/A ≥-3 z and < -2 z	(84) 20.5% (12.2-28.9 C.I.)	(59) 29.6% (17.6-41.7 C.I.)	(25) 11.9% (5.2-18.6 C.I.)
		Severe underweight W/A < -3 z	(16) 3.9% (1.0- 6.8 C.I.)	(9) 4.5% (1.2- 7.8 C.I.)	(7) 3.3% (0.9- 5.8 C.I.)
WHO, 2005	Z-scores	Underweight W/A < -2 z	(84) 20.5% (10.8-30.3 C.I.)	(58) 29.1% (16.1-42.1 C.I.)	(26) 12.4% (5.0-19.7 C.I.)
		Moderate underweight W/A ≥-3 z and < -2 z	(65) 15.9% (8.2-23.6 C.I.)	(46) 23.1% (12.7-33.5 C.I.)	(19) 9.0% (3.1-15.0 C.I.)
		Severe underweight W/A < -3 z	(19) 4.6% (1.3- 8.0 C.I.)	(12) 6.0% (1.6-10.5 C.I.)	(7) 3.3% (0.9- 5.8 C.I.)

Table 17. Estimation of the prevalence of stunting based on height / age (H/A) z-score according to NCHS 1977 and WHO 2005 reference standards. (n=409)

Reference	Indicator		Results		
			All (n=409)	Boys (n=199)	Girls (n=210)
NCHS, 1977	Z-scores	Stunting H/A < -2 z	(116) 28.4% (16.6-40.1 C.I.)	(74) 37.2% (20.3-54.1 C.I.)	(42) 20.0% (11.3-28.7 C.I.)
		Moderate stunting H/A ≥-3 z and < -2 z	(69) 16.9% (7.1-26.6 C.I.)	(45) 22.6% (11.1-34.1 C.I.)	(24) 11.4% (3.0-19.9 C.I.)
		Severe stunting H/A < -3 z	(47) 11.5% (5.6-17.4 C.I.)	(29) 14.6% (5.4-23.7 C.I.)	(18) 8.6% (3.0-14.2 C.I.)
WHO, 2005	Z-scores	Stunting H/A < -2 z	(140) 34.2% (20.0-48.5 C.I.)	(92) 46.2% (26.6-65.9 C.I.)	(48) 22.9% (13.1-32.6 C.I.)
		Moderate stunting H/A ≥-3 z and < -2 z	(80) 19.6% (10.0-29.1 C.I.)	(54) 27.1% (11.6-42.6 C.I.)	(26) 12.4% (4.0-20.8 C.I.)
		Severe stunting H/A < -3 z	(60) 14.7% (8.8-20.5 C.I.)	(38) 19.1% (7.2-31.0 C.I.)	(22) 10.5% (3.3-17.7 C.I.)

Discussion of response options

Based upon the information gathered from key informants and household questionnaires, the mission has managed to get a thorough picture of the current food security situation and has been able to make predictions about the future evolution and the necessary interventions to ensure that the food security of the most vulnerable individuals is not endangered.

In formulating recommendations for response, the mission has tried to incorporate an understanding of the current GRN plans and budgetary/technical capacity to respond to the crisis. Although technical support from partners maybe required implementing most of the recommended responses, the mission believes that the government, through DEM, has the capacity to address most of the issues. Whichever response options are eventually chosen need to be aligned with any recent policy development towards addressing social issues related to higher food and fuel prices.

The mission has found a need for emergency assistance to 52,000 vulnerable people living in flood affected areas of the northern central regions, and to an additional 94,000 people living in rural parts of the northern central regions which were not directly impacted by the flood. This assistance should be in the form of targeted food or cash vouchers given directly to the households. As for time frame for intervention, the mission findings indicate that in flood-affected areas, food reserves from the harvest will not last longer than three months. Therefore, for the 52,000 flood affected individuals in the Northern Central regions the mission recommends an intervention beginning in September 2008 and lasting until the end of a successful harvest season in April 2009. For the other 94,000 people living in rural non-flood affected areas of Ohangwena, Oshana, Oshikoto, and Omusati, according to the crop assessment mission these households have experienced a drop in crop production this year that is not as severe as the drop for the flood-affected areas. Therefore these people have a greater reserve of food stock than those in flood affected areas, and an intervention is recommended from January 2009 through to a successful harvest season in April 2009.

The main challenge, then, is to decide which type of intervention will be the most effective to address the rising food insecurity. The mission notes that while food for work is often recommended in Namibia in drought situations, this type of intervention presents a number of challenges and it is not a suitable response for the flood situation. The mission does not believe that a suitable number of food for work projects to target 52,000 people (approximately 9000 households) could be identified and organized within the time frame required to implement an intervention starting in September 2008. In addition the most vulnerable households in need of assistance may not have able bodied members who are able to participate in food for work projects. Many households in the surveyed areas consist mainly of the elderly and young children. In addition, those able bodied members of households should be able to focus on adequately preparing land and planting to ensure a successful harvest season. For these reasons the mission considered interventions of targeted distributions of food, food vouchers, or cash to the most vulnerable households according to the criteria outlined in the food security analysis.

Several challenges exist with this type of intervention, and a programme must be carefully formulated to take into account these difficulties. Targeting is of utmost importance, to ensure that limited resources are directed to those who are most in need. If a cash based intervention is chosen, care should be taken so that there will not be increased inflation. An additional reason to opt for a food based intervention is that according to the recent WFP feasibility study on food vouchers[14], the cost of a food basket maybe less than the same food

[14] Namibia, Food voucher pilot project, a feasibility study, WFP, November 2007

equivalent purchased through commercial market channels. However, the downside of a food-based intervention includes that there is often a lengthy supply chain before the food actually arrives to a distribution point. In particular, in certain areas where infrastructure has not yet been re-established after the flooding, transportation of food may be difficult. This may lead to delays in food distribution, a critical factor given the time frame of this operation. Finally, as with cash, the supply of food can distort the market and local economy, reduce local producers' income and be a disincentive to future local food production if food is undertaken on a large scale, or continued for a prolonged period and at a time where farmers are trying to sell their own production. If the food option is chosen, food distributions must be stopped before the harvest period when local produce will again be sold.

Given the time constraints however, food **seems now to be the only practical option** for an emergency response beginning in September as cash / vouchers would require a level of planning and preparation for which there is insufficient time available.

Complementary to food assistance, affected populations must be provided with adequate agricultural support to ensure a successful 2009 harvest. The mission noted extensive cattle losses, reduced seed availability, and concerns about the cost of ploughing which will negatively impact the capacity of poor rural farmers to recover from the floods. For these reason, extensive agricultural extension support is needed, consisting of free or reduced cost improved variety seed distribution, availability of tractors and/or draught power for ploughing, and distribution of fertilizers (and pesticides if needed). The target population of these interventions should be the same as for the food assistance.

Because the nutrition situation is expected to deteriorate in flood-affected areas in the next 12 months, the mission notes that systematic monitoring of child malnutrition through existing health structures is essential, and that supplementary feeding centres for children will need to be established if the global acute malnutrition begins to rise (10% threshold for intervention). Given the relatively low capacity of rural health centres to identify and treat malnutrition, additional resources for rural clinics and hospitals are urgently needed. Namibia does not yet have a standard protocol to treat acute malnutrition, and monitoring (based upon meetings with regional health officials) is not consistent, especially in more remote areas visited by mobile health clinics which may or may not be functioning.

The mission notes also that during the floods, water-borne diseases lead to several deaths and increased incidence of diarrhoeal illness. Strengthening of the water and health sectors is recommended to avert similar disasters in the future. Specifically, the water sector should be improved to extend the availability of free or low cost filtered tap water, and rural health facilities should be better funded and staffed because at present large portions of the rural population do not have adequate access to necessary medical care.

In addition to the emergency response, the mission has noted a high level of chronic food insecurity throughout the surveyed areas. The types of responses to address chronic food insecurity are not emergency food distributions but rather long term strengthening and expansion of social welfare grants. The old age pensions provided by the GRN are very important as grandparents contribute enormously to social safety nets in the surveyed regions by letting the entire family share their social pension in times of need and by looking after their grandchildren while parents are away or are suffering from HIV and AIDS. Yet, these informal safety nets are strained even in normal times due to the high levels of unemployment and the growing burden of children of parents infected with HIV and AIDS. The government social safety nets that attempt to assist the neediest in society, namely the elderly, people living with disabilities, orphans and vulnerable children as well as foster parents should be increased, and however several challenges still remain. For the orphan maintenance grants and foster care grants, many caretakers cannot access these grants

because of a lack of necessary documentation required for the application: birth certificates, death certificates, and other identity papers. It should be noted that should the prices for basic food commodities rise significantly in the future, social grants should be increased accordingly to keep up with the inflation.

Finally, the mission recommends careful monitoring of the food security situation in Caprivi, Kavango, Ohangwena, Omusati, Oshana, and Oshikoto in the coming months to validate the findings of the food security assessment once the lean season has begun. This monitoring should include review of the child malnutrition monitoring, and short field assessments to collect community impressions of the food security situation. Particularly given the trend in rising prices for staple cereal foods, if the cost of staple cereals rises significantly, more comprehensive interventions may be required.

Although technical support maybe required to implement some of the below recommendations, the mission believes that the GRN, through DEM, has the budgetary allocations for 2008/9 to address the most urgent emergency food needs identified in the regions covered by this assessment.

Key Recommendations

Short/Medium Term (September 2008-April 2009)

- Emergency relief, in the form of food, as from the beginning of September to the next harvest, April 2009 for 52,000 people in the flood-affected areas of Oshana, Oshikoto, Omusati, and Ohangwena regions.
- Emergency relief, in the form of food, from the beginning of January 2009 for an additional 94,000 rural people living in non-flood affected areas of Oshikito, Ohangwena, Omusati, and Oshana until the next harvest in April 2009.
- Systematic monitoring of any interventions to ensure good targeting, adequate distribution and sufficient logistical support.
- Agriculture support for the same 52,000 people in flood-affected areas of the Northern Central Regions an additional 94,000 people in the rest of the region, consisting of subsidized or free access to improved varieties of seeds, fertilizers, draught animals, and tractors.
- Strengthening of malnutrition monitoring systems through community health centres and mobile clinics, and preparation for a supplementary feeding intervention for children under 5 in case the Global Acute Malnutrition rate should rise above 10%. A t the same time there should be a refinement and training on protocols for the treatment of acute malnutrition.
- Monitoring of the food security situation in September by the Namibian VAC to validate most likely scenario as presented in this report by meeting with community members in all six regions under study. Market information should also be systematically collected (at various sites within each region) to be aware of any price rises and subsequent necessity to expand/adjust emergency response.

Long Term (throughout affected regions)

- Improvement of water quality through developing more systematic treatment/ storage systems. Decreasing the cost of public tap water when available.
- Systematic support to the health systems, particularly of mobile clinics. Additional public information campaigns to disseminate information regarding the benefits of hygiene and breastfeeding.
- Livestock support, ensuring that proper grazing pasture and water are made available in all regions together with adequate veterinary treatments.
- Long term strengthening of the agricultural sector with informational campaigns on the benefits of using improved seed varieties, the use of fertilizers, and the implementation of conservation agriculture techniques.
- General expansion of existing social safety nets, including campaigns to increase the possession of identity documents required for inclusion in social grant systems. Care should be taken that the amounts of the grants are kept current with price inflation.

Annexes

Annex 1: Assessment instruments used
- Community Questionnaire
- Household questionnaire
- Market pricing
- Traders' check list

Annex 2: Community Questionnaire Analysis
Annex 3: Food Security flow chart
Annex 4: Food Consumption Score
Annex 5: Food Access Score

Annex 1: Assessments Instruments

Community Questionnaire

Date of Survey		|__|__| |__|__| 2007	
Enumerator Name :			
Region			
District			
Enumeration District			
Village			GPS coordinates

Names of people met:

Name	Activity/ Profile
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

SECTION I – DEMOGRAPHY

1.1	Village Population?	|__|__|__|__|__| inhabitants
1.2	How many households are there in the village?	|__|__|__|__| households
1.3	How many household in the village are led by women? What are the usual number/ %?	|__|__|__|households or |__|__| % now |__|__|__|households or |__|__| % normally
1.4	Over the past 4 months have any people left the village temporarily?	1. More than usual
		2. Same as usual ► **1.6**
		3. Less than usual ► **1.6**
1.5 If more than usual :		
1.5.a Who left the village ?		1. head of households alone
		2. young men alone
		3. young women alone
		4. entire families
1.5.b Main destination ? Name of the location (if known) **:** _____		1. in the district
		2. in the region
		3. outside the region
1.5.c Planned activities in the destination area		1. agricultural wage labour
		2. urban wage labour
		3. other_____
1.5.d. Reason for leaving		1. Decreased agricultural production
		2. Crop Selling problems
		3. Insecurity (thefts)
		4. Insecurity (pest, cholera, etc.)
		5. Village was flooded
		6. Village was inaccessible due to flooding
		7. other _____

1.6	Over the past 3 months, are there any people who arrived temporarily in the village?	1. More than usual
		2. As usual ► **2**
		3. Less than usual ► **2**
1.7 If more arrival than usual:		
1.7.a Who arrived in the village ?		1. heads of households alone
		2. young men alone
		3. young women alone
		4. entire families
1.7.b Where most of the new comers come from ? Name of the location : _____		1. from within the same district
		2. from the same region
		3. outside the region
1.7.c Main reason for displacement ?		1. decreased crop production
		2. crop selling problems
		3. insecurity (thefts)
		4. insecurity(pest, cholera)
		5. Village was flooded
		6.Village was inaccessible due to flooding
		7. other_____

I.1 Section II – Access/ remoteness

2.1	Have access roads to the village been cut off by the recent floods?	Yes	No► **2.4**
2.2	Has villagers' travel time to other areas increased as a result of the	Yes	No
2.3	How long did the village stay out of reach?	|__|__|__| days	

2.4	Is there/ were there any public transport in the village?	**Before**	**Now**
		yes►**2.8** no	yes► **2.8** No
2.5	If not, how far is/ was the nearest public transport?	**Before**	**Now**
		< 1 hour	< 1 hour
		1 - 3 hours	1 - 3 hours
		3 - 6 hours	3 - 6 hours
		> 6 hours	> 6 hours
2.6	How far is/ was the nearest road used by public transport?	**Before**	**Now**
		|__|__|__|	|__|__|__| km
2.7	Is this road usable by public transport all year round in normal	yes	No
2.8	If no, how long does it stay unusable?	|__|__| months	
2.9	How long does it take to reach the district capital?	|__|__| hours	
2.10	Is there a market in the village?	Yes►	No
2.11	If no, how far is the nearest market you use/ were using?	**Before**	**Now**
		< 1 hour	< 1 hour
		1 -3 hours	1 -3 hours
		3 - 6 hours	3 - 6 hours
		> 6 hours	> 6 hours
2.12	What is the frequency of the market you are/ were using?	**Before**	**Now**
		7 days a week	7 days a week
		Twice a week	Twice a week
		Once a week	Once a week
		Once every 2	Once every 2
		Other	Other (specify)

2.13	What do you think of the market supply in essential items compared to last year same month?	Good
		medium
		Bad

SECTION III - EDUCATION

3.1	Is there a primary school in the village?	Yes► **3.3**	No
3.2	If no, how far is the nearest primary school ?	**Before the Floods**	**Now**
		Less than half an hour	Less than half an hour
		½ hour to 1 hour	½ hour to 1 hour
		1 to 3 hours	1 to 3 hours
		More than 3 hours	More than 3 hours
3.3	Are the schools attended by the children of the village have been affected by the recent floods?	yes	no► **3.5**
3.4	If yes, how long did it take to fix it and allow access again to the school?	|__|__|__| days	
		Still being fixed	
3.5	Number of children enrolled now/ before the floods?	**before**	**now**
		|__|__|__|__|__| children	|__|__|__|__|__| children

3.6	What are the main reasons why school aged children in the village are not attending schools at the moment?	(1)

		(2)	
		(3)	
		(4)	
3.7	What are the main education needs in the village – as a consequence of recent flooding and more generally (list them in order of importance)?	**Recent**	**General**
		(1)	(1)
		(2)	(2)
		(3)	(3)

SECTION IV – HEALTH

4.1	Do you have a health centre in the village?	Yes	No► **4.3**
4.2	If yes, which type?	Health post	
		Clinic	
		Hospital	
		Other (specify)	
4.3	If no, how far is the nearest health centre?	**Before the floods**	**Now**
		Less than an hour	Less than an hour
		1 hour to 3 hours	1 hour to 3 hours
		3 to 6 hours	3 to 6 hours
		More than 6 hours	More than 6 hours
4.4	Have these health structures been affected by the recent flooding?	yes	No► **4.8**
4.5	How long did it take for the structures to be operational again?	|__|__|__| days	
		Still being fixed	

4.10	What are the main health needs in the village – result of the recent flooding – more generally? (List them in order of importance)	**Recent**	**General**
4.11	What have been the most common diseases the last 4 months?	(1)_____	
		(2)_____	
		(3)_____	
4.12	Which age groups have been most affected by the above three diseases?	(1)__(Under 5s, 5-17s, 18-60, 60+)_____	
		(2)_____	
		(3)_____	

SECTION V – WATER SUPPLY

5.1	What is the main source of drinking water in the village?	Running water in house	
		Public tap/ pump	
		Well	
		River, basin, etc.	
		Other (specify)_____	
5.2	Are you facing any specific water supply issues resulting from the recent flooding?	yes	No► **6**
5.3	If yes, specify :		

SECTION VI – LOCAL ECONOMY

		Before the floods	Now
6.1	Using *proportional piling*, estimate the percentage of household in the village involved in the following livelihood activities?	|__|__|% Agriculture only	|__|__|% Agriculture only
		|__|__|% Livestock raising only	|__|__|% Livestock raising only
		|__|__|% Agriculture and livestock	|__|__|% Agriculture and livestock
		|__|__| % Employment	|__|__| % Employment
		|__|__| % Fishing	|__|__| % Fishing
		|__|__| % Small trade	|__|__| % Small trade
		|__|__| % Civil Servant	|__|__| % Civil Servant
		|__|__| % Others : _____	|__|__| % Others : _____

6.2 Agricultural Production Status	**6.2.a) Rough estimate of Area harvested**		**6.2.b) Rough Estimate of Quantity produced (bags… convert into kg/ Mt after interview)**		**6.2.c) % of Household involved in second cropping**
Specify Crops Type	This year	Last year	This year	Last year	

6.3	**Livestock status** (Current situation compared to last year same period)) :	
		Worse
		Normal
		Good
		Very Good
6.3.b	Grazing Lands	Worse
		normal
		Good
		Very good
6.3.c	Water Points	Worse
		Normal
		Good
		Very Good
6.3.d	Sanitary status of animals (if any illness is reported fill the following table for the 3 major problem))	Normal
		Deterioration

Animal	**Problem**	**Number of affected households**	**% Animal affected**	**Code : percentage**	
				1	<5%
				2	5-10%
				3	10-25%
				4	25-50%

				5	>50%
6.4	Has your village faced problems with locusts or army worms this year that have affected the harvest?		Yes	No (Skip to 6.6)	
6.5	If yes, have any of the farmers in your village had access to pesticides to control the problem		Yes	No	

6.6	**Fishing**	
6.6.a	Fish catchments (this month compare to last year same period)	lower
		normal
		higher
6.6.b	Fish selling prices	lower
		normal
		higher
6.6.c	The middlemen/ buyer were	absent
		Not enough
		Adequate number

6.7	**Cash Crop – if any**	
6.7.a	Harvest this month compared to last year same period	lower
		normal
		higher
6.7.b	Selling price of cash crops	lower
		normal
		higher
6.7.c	Middlemen/ buyers	absent
		Not enough
		Adequate number

6.8 Agricultural labour work			
6.8.a	Wage Labour Rate for a man per day	a. Namibian $	
		b. Food payment equivalent	
6.8.b	Wage labour Rate for a woman per day	a. Namibian $	
		b. Food payment equivalent	
6.7 Employment opportunities			
6.8.a	Agricultural labour work	Less	
		Normal	
		More	
6.8.b	Labour work Other sector	Less	
		Normal	
		More	

6.9 Other Income Generating Activities (identify the 3 main other income sources implemented this month and compare to last year same period)

Activity	**6.8.a level of implementation**			**6.8.b level of income generated**		
	less	normal	more	less	normal	more

SECTION VII – FOOD AID, ASSISTANCE

7.1	Did anyone in your village receive Food Aid in the past 2 months	Yes	No ► **7.11**
7.2	If yes, what type of assistance	General distribution	
		School feeding	
		Food for Work	
		Other (specify) _____	
7.3	When did the last food distribution ahs taken place?	|__|__| weeks	

7.4	Who are the food aid beneficiaries in the village?	Under 5 children
		Pregnant/ lactating women
		Households
		Others
7.5	How many households received food aid?	|__|__|__|__| households
7.6	Did all the affected households in the village receive food aid last month?	Yes, all affected households
		No, not all affected households
		No, none of the affected households
7.7	If no, why?	Not enough food given
		Distribution problems
		Beneficiary selection problems
		Other (specify)

7.11	Are there any community groups/ association in the village involved in development activities?	Yes	No

Association / Groups	**Number**	**Communitarian activity**
Farmer Associations	|__||__|	
Credit Associations	|__||__|	
Water Management Association	|__||__|	
Other Socio-economic development association	|__||__|	
Other (sport, political, religious…)	|__||__|	

7.12	Who are the different NGOs intervening in the village?	a.
		b.
		c.
		d.
7.13	What are the activities implemented by these NGOs?	a.
		b.
		c.
		d.

SECTION VIII – SHOCK AND COPING

8.1.	What are likely to be the **issues for food security in the village in the coming months** (Quantify as much as possible (%) (e.g.: flood reducing maize production to 50% below last year, price of food commodities increased by 60% compared to 2 years ago, etc.
8.2	What **livelihood group** is likely to be more affected and why?

8.3	**Response Strategies -** What are the main strategies used by households to try and cope with the above hazards? (e.g. sale of livestock, migration in search of labour, increase in remittances, collection of wild foods, etc)

8.4	**Estimated Number of people affected** by recent hazard(s)	
8.5 a)	What could be the **consequences of a 50% raise of prices (compared to a normal year)** of basic commodities on people life?	
8.5.b)	How many household would be affected?	
8.5.c)	How many household would not be able to meet their minimum food requirement?	

SECTION IX– VILLAGE PRIORITIES

9.1	For the village inhabitants, what are the 3 immediate priorities to be implemented?	(1)_____
		(2)_____
		(3)_____
9.2	For the village inhabitants, what are the 3 long term priorities/ projects to be implemented?	(1)_____
		(2)_____
		(3)_____

Household Questionnaire

Region[15]_____|__|

Constituency _____|__|__|

Enumeration District _____|__|__|

GPS Coordinates |__|__||__|__||__|__|

Household number |__|__|

Date of interview |__|__|__|__|__|__|__|
Day Month Year

Enumerator Number _____|__|__|

Guidance for introducing yourself and the purpose of the interview:

- My name is _____ and I work for _____ (WFP).
- Your household has been selected by chance from all households in the area for this interview. The purpose of this interview is to obtain information on the effects of the recent floods on your household.
- The survey is voluntary and the information that you give will be confidential. The information will be used to prepare reports, but neither your, nor any other names, will be mentioned in any reports. There will be no way to identify that you gave this information.
- Could you please spare some time (around 40 minutes) for the interview?

NB to enumerator: DO NOT suggest in any way that household entitlements could depend on the outcome of the interview, as this will prejudice the answers.

Respondent should be household head or spouse of household head.

[15] Caprivi, Kavango, Ohangwena, Omusati, Oshana, Oshikoto

Section A: Household Demographics					
A1	Name of Respondent (for record only): _____				
A2	Sex of Head of Household	**1** = Male		**2** = Female	
A3	Age of Head of Household	Age in years: |__|__|			
A4	Marital status of Head of household.	**1** = Married (and living together) **2** = Partner, not married **3** = Divorced		**4** = Living apart, not divorced **5** = Widow or widower **6** = Never married	
A5	Can the Head/Spouse read a simple message in any language?	**Head**		**Spouse**	
		1 = Yes	**2** = No	**1** = Yes **2** = No **3** = No spouse	
A6	Total Number of People Living in the Household	**Males**	0 to 5: |___| 6-17: |___| 18-59: |___| 60+ |___|		
		Females	0 to 5: |___| 6-17: |___| 18-59: |___| 60+ |___|		
A7	What is the level of education of the household members? **For 3rd and 4th member – only if applicable**	Household head |___|	Spouse |___|	3rd adult member |___|	4th adult member |___|
Codes for A7	**1** = Nothing **2** = Lower primary (Grade 1-4)	**3** = Upper primary (Grade 5-7) **4** = Junior Secondary (Grade 8-10)		**5** = Senior Secondary (Grade 11-12) **6** = Higher education (University, college etc)	
A8	How many orphans (below the age of 18) are living in your household?	|___|			
A9	Before the onset of the floods were all of the children aged 6-14 in your household attending school regularly	**A. Males:** 1=Yes, 2= No 3= No such children in HH		**B. Females:** 1 = Yes, 2 = No 3 = No such children in HH	
A10	If the males were not attending regularly before the floods, list the 3 main reasons: ***A.*** |__| ***B.*** |__| ***C.*** |__|	If the females were not attending regularly before the floods, list the 3 main reasons: ***A.*** |__| ***B.*** |__| ***C.*** |__| :			
A11	Since the floods are all of the children aged 6-14 in your household attending school regularly?	**A. Males:** 1=Yes, 2= No 3= No such children in HH		**B. Females:** 1 = Yes, 2 = No 3 = No such children in HH	
A12	If the males are not attending regularly now, list the 3 main reasons: ***A.*** |__| ***B.*** |__| ***C.*** |__|	If the females are not attending regularly now, list the 3 main reasons: ***A.*** |__| ***B.*** |__| ***C.*** |__|			
Codes for A10, A12	1 = Illness	5 = Care for HH member	9 = Expensive/no money to pay	13= School damaged or closed because of floods	
	2 = Has to work for food or money	6= School is too far away	10 = Pregnancy	14= Teachers absent because of floods	
	3 = Incapable of continuing	7 = Not interested in school	11 = Marriage	88 = Other (specify)	
	4 = Help with HH work	8 = Hunger	12= Could no access school because of floods	98 = No (more) reasons	

A13	Has any member of your household died in the last 4 months?	1=Yes	2= No (Skip to **A16**)	
A14	For those who have died please complete the following 1 = Old Age 2 = Long term (chronic) illness 3 = Short-term (acute) illness 4 = Accident due to floods 5= Accident unrelated to floods	***Sex*** *(1=Male / 2= Female)* |__| |__| |__|	***Age*** |__|__| |__|__| |__|__|	***Cause of Death*** |__| |__| |__|
A15	Was this person a **main income earner**? *(skip if < 18 years)*	1 = Yes	2= No	
A16	Among the adults Aged 15 to 59 years old living in this household, is there anyone with a condition, illness or disability that prevents them to be fully functional?	1 = Yes	2= No (Skip to **A22)**	
A17	For those with such a condition, please complete the following: 1 = Long-term illness 2 = Recent illness 3 = Physical disability 4 = Mental disability	***Sex*** *(1=Male / 2= Female)* |__| |__| |__|	***Age*** |__|__| |__|__| |__|__|	***Condition*** |__| |__| |__|

A18	How many days of the last month have any of the chronically ill adults listed above not been able to work because of illness?	***HH Head:*** |__|__|	***Other bread winner*** |__|__|	***Other Adult*** |__|__|
A19	Have any of the chronically ill listed above have stopped taking medication since the onset of flooding?	1= Yes	2= No (Skip to **A21**)	
A20	Why have they stopped taking their medicine? 1= Lack of food 2= Side effects 3= No access to the health facility 4= drugs shortages 88= Other (specify) 98= Don't know	***HH Head:*** |__|__|	***Other bread winner*** |__|__|	***Other Adult*** |__|__|
A21	Is he/she working the same number of hours per day as before the onset of the floods? 1 = Yes 2 = No	***HH Head:*** |__|__|	***Other bread winner*** |__|__|	***Other Adult*** |__|__|

A22	During the last 4 months has your entire household been relocated due to flooding?	1= Yes	2= No (Skip to **A25**)
A 23	If yes, for how long was your household relocated?	Time (in months) |__|__|	
A24	Where was your household relocated to?	**1=** To relatives 2= To a relocation center 3= Other (specify)	
A25	During the last 4 months has anyone from your household left the village for at least one month and not returned?	**0** = No (skip to section **B**)	**4** = to relieve strain on HH
		1 = to work	**5** = marriage
		2 = for school	**6** = death of parent or caretaker
		3 = to help other HH	**7** = other reason

Section B: Flood Impact on Dwellings and equipment			
B4	What is the main source of **drinking** water for your household?	A: Before the Floods |__|__|	B: Now |__|__|
	Please indicate the major material of the roof and floor – based on observation		
Codes for B4 :	**1** = Piped into dwelling, yard or plot **2** = Public tap/neighbouring house **3** = Borehole with pump	**5** = Rain water **6** = Unprotected well **7** = Pond, river or stream	
B2	Has your household been damaged as a result of the floods?	1= Yes	2= No (Skip to **B4**)
B5	*Record both time in minutes and distance in km to access source*	A: Before the floods |__|__| *Minutes*	B: Now |__|__| *Minutes*
B3	***Write 99 or 99.999 if don't know, Write 00 or 00.000 if water on premise*** If your household has been damaged, have you been able to repair the damage yet?	1= Yes |__|__| *Km*	2= No |__|__| *Km*

B6	What is the main source of ***cooking fuel*** for this household?	A: Before the Floods |__|__|	B: Now |__|__|
Codes for B6:	1 = Electricity 2 = Wood 3 = Charcoal 4 = Gas	5 = Kerosene 6 = Cow dung 7 = Other	
B7	How far is the source of fuel from your household? *Record both time in minutes and distance in km to access source* ***Write 99 or 99.999 if don't know, Write 00 or 00.000 if fuel source is on premise***	A; Before the floods |__|__| *Minutes* |__|__| *Km*	B: Now |__|__| *Minutes* |__|__| *Km*

I.1.1.1.1.1	I.1.1.1.1.2	Before the floods, which of the following assets were owned by you or any member or your household? I.1.1.1.1.3 **1= Own, 2= Do not own**						
	I.1.1.1.1.1.4	**1. Chair**	|__|	**I.1.1.1.1.1.5**	**8. Axe**	I.1.1.1.1.1.6 |__|	**I.1.1.1.1.1.7**	**15. Hand Mill**	|__|
	I.1.1.1.1.1.8	**2. Table**	|__|	**I.1.1.1.1.1.9**	**9. Sickle**	|__|	**I.1.1.1.1.1.10**	**16. Bicycle**	I.1.1.1.1.1.11
	I.1.1.1.1.1.12	**3. Bed**	|__|	**I.1.1.1.1.1.13**	**10. Panga/ Machete**	|__|	**I.1.1.1.1.1.14**	**17. Harrow**	|__|
	I.1.1.1.1.1.15	**4. TV**	|__|	**I.1.1.1.1.1.16**	**11. Mortar/ pestle**	|__|	**I.1.1.1.1.1.17**	**18. Plough**	|__|
	I.1.1.1.1.1.18	**5. Radio**	|__|	**I.1.1.1.1.1.19**	**12. Hoe**	|__|	**I.1.1.1.1.1.20**	**19. Sewing machine**	|__|
	6. Fishing nets		|__|	**I.1.1.1.1.1.21**	**13. Ox Cart**	|__|	20. Car/motorcycle		|__|
	7. Canoes		|__|	14. Hammer Mill		|__|	21. Gun		|__|
	8. Bed pallet/mattress		|__|	15. Blanket		|__|	22. Cell phone		|__|
I.1.1.1.1.1.22	In the past 3 months, did your household purchase any assets?						1 = Yes		2 = No
I.1.1.1.1.1.23	I.1.1.1.1.1.24 During the flood, how many of the following assets were LOST by you or any member of your household? I.1.1.1.1.1.25 **If a specific asset is not owned, enter '0'**								

	I.1.1.1.1.1.26	1. Chair	|__|	I.1.1.1.1.1.27	8. Axe	I.1.1.1.1.1.28	|__|	I.1.1.1.1.1.29	15. Hand Mill	|__|
	I.1.1.1.1.1.30	2. Table	|__|	I.1.1.1.1.1.31	9. Sickle	|__|		I.1.1.1.1.1.32	16. Bicycle	I.1.1.1.1.1.33
	I.1.1.1.1.1.34	3. Bed	|__|	I.1.1.1.1.1.35	10. Panga/ Machete	|__|		I.1.1.1.1.1.36	17. Harrow	|__|
	I.1.1.1.1.1.37	4. TV	|__|	I.1.1.1.1.1.38	11. Mortar/ pestle	|__|		I.1.1.1.1.1.39	18. Plough	|__|
	I.1.1.1.1.1.40	5. Radio	|__|	I.1.1.1.1.1.41	12. Hoe	|__|		I.1.1.1.1.1.42	19. Sewing machine	|__|
	6. Fishing nets		|__|	I.1.1.1.1.1.43	13. Ox Cart	|__|		20. Car/motorcycle		|__|
	7. Canoes		|__|	14. Hammer Mill		|__|		21. Gun		|__|
	8. Bed pallet/mattress		|__|	15. Blanket		|__|		22. Cell phone		|__|

Section C – Agricultural production			
C1	Does your household have access to any arable land?	1= Yes	2= No (Skip to **C15**)
C2	Total land you cultivated in 2007/08 agricultural season: *(circle one)*	**0** = Did not cultivate	
		1 = < 0.5 ha	**3** = 1 to 2 ha
		2 = 0.5 to 1 ha	**4** = 2 or more ha
C3	Compared to last season (2006/07) is the area of land under cultivation in 2007/08 **larger**, the **same** or **less**?	**1** = Larger (skip to B6)	
		2 = Same (skip to B6)	
		3 = Less	

	a – By order of importance, What are the main crops cultivated by your household this year? *Please enter code for up to 5 main crops from list below.*	**b –** What was your production of [crop] in kg this year? *Please provide estimate if answer is in other unit*	**c –** What will you do with the production? *1 = Mostly sell; 2 = Mostly keep for home use; 3 = Some sales & some kept; 4 = used to pay for sharecropped land*	**d –** Of the proportion you keep, how many months will it last for household consumption? *(if cash crop write 99.9)*	**e.** How did you acquire seeds/planting material this year? *1 = Purchase; 2 = Exchange with farmers; 3 = Gift from relatives/family; 4 = Reserved from previous harvest; 5 = received from NGOs, govt; 6= did not get seeds this year; 7= Other*
C4	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C5	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C6	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C7	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C8	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|

***Crop codes* C4-C13**	*4 = Sweet potatoes*	*8 = Beans/peas*	
1 = Maize	*5 = Irish potatoes*	*9 = Vegetables*	
2 = Sorghum	*6 = Cassava*	*10 = Wheat*	
3 = Millet/Mahangu	*7 = Groundnuts*	*11 = Cotton*	

	a – By order of importance, What are the main crops cultivated by your household last year? *Please enter code for up to 5 main crops from list below.*	**b –** What was your production of [crop] in kg last year? *Please provide estimate if answer is in other unit*	**c –** What did you do with the production? *1 = Mostly sell; 2 = Mostly keep for home use; 3 = Some sales & some kept; 4 = used to pay for sharecropped land*	**d –** Of the proportion you kept, how many months did it last for household consumption? *(if cash crop write 99.9)*	**c.** How did you acquire seeds/planting material last year *1 = Purchase; 2 = Exchange with farmers; 3 = Gift from relatives/family; 4 = Reserved from previous harvest; 5 = received from NGOs, govt; 6= Did not get seeds this year; 7= Other*
C9	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C10	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C11	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C12	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C13	|__|__|	|__|__|.|__|	|__|	|__|__|.|__|	|__|__|
C14	**Did you use pesticides?**			A. This year? 1= yes 2=0	B. Last year? 1=yes, 2=0

I.1.1.1.1.1.44	Did you or do you plan to engage in a second cropping season this year?	1= Yes	2= No
I.1.1.1.1.1.45	**How many of the following animals do your family own?**		
	Cattle |__|__|	Donkeys/Horses |__|__|	Pigs |__|__|
	Sheep/goats |__|__|	Poultry |__|__|__|	

I.1.1.1.1.1.46	Have you sold or bartered any sheep, goats or pigs as a result of the floods?		1 = Yes	2 = No (skip to ***C18***)
I.1.1.1.1.1.47	**Codes for C17, C19, C21**	**I.1.1.1.1.1.48** **1 = No longer needed**	2 = To pay daily expenses	
		I.1.1.1.1.1.49 **3 = To buy food for HH**	4 = To pay medical expenses	
		I.1.1.1.1.1.50 **5 = To pay for other emergency**	6 = To pay off debt	
		I.1.1.1.1.1.51 **7 =- To pay for social event**	8 = To pay for a funeral	
		I.1.1.1.1.1.52 **9 = To pay school costs**	88 = other	
		I.1.1.1.1.1.53 **98 = No second reason**		
I.1.1.1.1.1.54	If yes, why?	*Reason 1* |__|__|	*Reason 2* |__|__|	
I.1.1.1.1.1.55	Have you sold or bartered any poultry as a result of the floods?		1 = Yes	2 = No (skip to ***C20***)
I.1.1.1.1.1.56	If yes, why?	*Reason 1* |__|__|	*Reason 2* |__|__|	
I.1.1.1.1.1.57	Have you sold or bartered any cattle as a result of the floods?		1 = Yes	2 = No (Skip to section **D**)
I.1.1.1.1.1.58	If yes, why?	*Reason 1* |__|__|	*Reason 2* |__|__|	
I.1.1.1.1.1.59	**A: As a result of the floods how many of your livestock have died in the past 4 months?**	**B: Why have they died?**	**1= Drowned 2=Illness**	**3= Starvation/drought 88= Other**
	Cattle |__|__|	|__|__|		
	Sheep/goats |__|__|	|__|__|		
	Donkeys/Horses |__|__|	|__|__|		
	Poultry |__|__|__|	|__|__|		
	Pigs |__|__|	|__|__|		

I.1.1.1.1.1.59.1 D. Household income and external support			
Please complete the table, one activity at a time, using the livelihood source codes below	**D1 –** Before the floods,what were your household's most important livelihood sources? *(use activity code, up to 3 activities)*	**D2 -** Using proportional piling or 'divide the pie' methods, please estimate the relative contribution to total income of each source ***(%)***	**D3 -** Who participated in these activities? *(see codes below)*

I.2	*a*	**Most important**	|__|__|	|__|__|__|	|__|
I.3	*b*	**Second**	|__|__|	|__|__|	|__|
I.4	*c*	**Third**	|__|__|	|__|__|	|__|

Livelihood source codes for D1-D3, D6:	*6 = livestock production/sales*	*12 = fishing*	*1 = Men only*
1 = remittance	*7 = skilled trade/artisan*	*13 = pension grant*	*2 = Women only*
2 = Food crop production/sales	*8 = small business*	*14 = vegetable production/sales*	*3 = Adults only*
3 = Cash crop production	*9 = petty trade (firewood sales, etc.)*	*15 = Food assistance*	*4 = Adults and children*
4 = casual labour	*10 = government child welfare grant*	*16 = No other source*	*5 = Children only*
5 = begging/gifts	*11 = formal salary/wages*	*88 = Other _____*	

I.5	***D5***	Have you changed your livelihood activities as a result of flooding?	1= Yes	2= No (Skip to **D7**)
I.6	***D6***	If yes, what are your three main livelihood sources now?	A: Most important |__|	B: Second |__| / C: Third |__|
I.7	***D7***	During the past 4 months, has your household received any of the following type of support from **relatives / friends**? *(circle all that apply)*	1 = Money / 2 = Food	3 = Clothing / 4 = Agricultural inputs
I.8	***D8***	For how often did your household receive this support?	***Money*** |__|	***Food*** |__|

Codes for D8*: 1=Every month, 2=Occasionally (not regular), 3=Only when asked for, 4=Only started 98= Did not receive money from friends/relatives (skip to Section **E**)*

I.9	***D9***	Do you expect to continue to receive this support?	***Money***		***Food***	
			1 = Yes	2 = No	1 = Yes	2 = No

Section E: Assistance				
E1	Did any members of your household receive food aid at any time during the last 4 months?	1 = Yes	2= No (Skip to **E5**)	
E2	When in the past 4 months did your HH receive food ration**?** *(Ask for each individual month, circle all that apply)*	1 = February 2008 2 = March 2008	3 = April 2008 4= May 2008	
E3	What type of food assistance did your receive?	1= Maize Meal 2=Rice/other cereal 3=Beans/pulses	4=Oil 5=Canned meat/fish 6=other??	
E4	From where did your household receive the food assistance?	1= GRN 2=NRCS 3=WFP	4= Religious organization 5=family member/individual 6= Other??? 7= don't know	
E5	Did any members of your household receive non-food aid at any time during the last 4 months?	1=yes	2=no	
E6	When in the past 4 months did your HH receive non- food assistance**?** *(Ask for each individual month, circle all that apply)*	1 = February 2008 2 = March 2008	3 = April 2008 4= May 2008	
E7	What type of non-food assistance did you receive?	1=tent 2=tools for cultivation 3=clothing 4= educational support	3= cooking fuel 4= water 5=medicines 6=mosquito net 7=blanket	8= mattress/bedroll 9=skills training 10=0ther
E8	From where did your household receive the non-food assistance?	1=GRN 2=NRCS	4=religious organization 5=family member/individual 6=Other?? 7= don't know	

F. Access to credit				
I.10	***F1***	During the past 4 months, did you or any member of your HH borrow money?	1 = Yes	2 = No ***(skip to Section G)***
I.11	***F2***	What was the primary reason for borrowing?	1 = to buy food	2 = pay for health care
			3 = pay for funeral	4 = pay for social event
			5 = buy agric inputs	6 = pay for education; 88=other
I.12	***F3***	From whom did you borrow?	1= friend/relative	2 = money lender
			3 = bank/formal lending institution	4 = informal savings group; 88=other

Section G– Expenditure					
Did you spend money on [item] **last 30 days** for domestic consumption? ***If none, write 0 and go to next item***		Estimated expenditure during the last month in ***Namibian Dollars***			Estimated expenditure during the last month in ***Namibian Dollars***
G1	Cereals (maize, maize flour, rice, etc.)		**G8**	Milk	
G2	Roots and tubers (yams, potatoes, etc)		**G9**	Sugar/Salt	
G3	Bread		**G10**	Milling	
G4	Legumes (beans, peas, groundnuts)		**G11**	Alcohol & Tobacco	
G5	Fruits & vegetables		**G12**	Soap & HH items	
G6	Fish/Meat/Eggs/poultry		**G13**	Transport	
G7	Oil, fat, butter		**G14**	Fuel (wood, paraffin, etc.)	
	In the past **6 Months** how much money have you spent on each of the following items or service? *Use the following table, write 0 if no expenditure.*				
		Estimated expenditure in **Namibian Dollars**			Estimated expenditure in **Namibian Dollars**
G15	Medical expenses, health care		**G20**	Debt repayment	
G16	Clothing, shoes		**G21**	Education, school fees, uniform, etc	
G17	Equipment, tools, seeds, animals		**G22**	Celebrations, social events	
G18	Construction, house repair		**G23**	Funerals	
G19	Hiring labour (not for house repair/construction)				

H. Household food stock and sources				
H1	Over the past 2 months, did your household primarily obtain its cereal from: *(circle code)*	1 = Own harvest	2 = Casual labour	
		3 = Borrowing	4 = Gift	
		5 = Purchase	6 = Food aid	
		7 = Bartering	8 = Other	
H2	Is this the normal source of cereal for your household at this time of year?		1 = Yes	2 = No
H3	How much staple food from your own production do you have in stock now? ***(2, 3, & 4 – skip to H)***	1 = None	2 = Up to one month	
		3 = Enough for 2-3 months	4 = Enough for 4+ months	
H4	How much staple food from your own production did you have at this time last year?	1 = None	2 = Up to one month	
		3 = Enough for 2-3 months	4 = Enough for 4+ months	
H5	Who in your household makes decisions about how food is used?	1 = Males	2 = Females 3= Both	
H6	Do you anticipate your HH facing serious food shortages before the next harvest (2009)?	1= yes	2=no (skip to section I)	
H7	If yes, what are the reasons your HH will face this shortage (up to 2)?	First Reason |__|	Second Reason |__|	
Codes for H7: 1= Total crop failure; 2= lack of additional livelihood sources/capacity to purchase additional food; 3=lack of ability to produce extra food; 88= other(specify), 98= no more reasons				

I.12.1.1 I. Food Consumption		
I.13 11	How many meals did the adults (19+) in this household eat **yesterday**?	|__| **NUMBER OF MEALS**
I.14 12	How many meals did the adolescents (6-18) in this household eat **yesterday**?	|__| **NUMBER OF MEALS**
13	How many meals did the children (6-59 months old) in this household eat **yesterday**? ***IF NO CHILDREN IN THE HH, WRITE 98 for N/A***	|__|__| **NUMBER OF MEALS**

14: Over the last seven days, how many days did you consume the following foods?

	Number of ***days*** **I.14.1.1.1** (0 to 7)
A. Maize, maize porridge	**I.14.1.1.2** |__|
B. Other cereal (rice, sorghum, millet/mahangu, etc)	|__|
C. Cassava, potatoes, sweet potatoes	|__|
D. Sugar or sugar products	|__|
E. Beans and peas	|__|
F. Groundnuts	|__|
G. Vegetables/ relish /leaves	|__|
H. Bread, pasta	|__|
I. Fruits	|__|
I.14.1.1.3 J. Beef, goat, pork or other red meat	|__|
I.14.1.1.4 K. Poultry or eggs	|__|
L. Fish	|__|
M. Oils/fats/butter	|__|
N. Milk/yogurt/other dairy	|__|
O. CSB	|__|

I 5	What were your 3 main sources for food?	A; First Source B: Second Source C: Third Source

Source codes for I 5 1 = From own production, 2 = Casual labour, 88= Other, 3 = Borrowed, 4 = Gift, 98= No more sources, 5 = Purchases, 6 = Food aid, 7 = Barter, 8 = Hunting/gathering/catching

Section J: Shocks and Coping Strategies

What are the three main problems which affected your household during the last 4 months? *Probe: Did you experience any other problems??*				
J1	A: First Shock |__|	B: Second Shock |__|	C: Third Shock |__|	
CODES:	1= Drought/prolonged dry spell	2= Floods/ prolonged water-logging	3= Erosion	4= Unusually high level of crop pests & disease
	5= Unusually high level of livestock diseases	6= Unusually high level of human disease	7= Unusually high prices for food	8= Unusually high cost of agric. inputs (seed, fertilizer, etc.)
	9= Loss or reduced employment for a household member	10= Reduced income of a household member	11= Serious illness or accident of household member	12= Death the Head of the household
	13= Death a working household member	14= Death of other household member	15= Theft of productive resources	88= Other (specify)
	98= No shock			

As a result of each of the shocks experienced in the past three months above, how frequently did your household resort to using one or more of the following strategies in order to have access to food? **CIRCLE ONLY ONE ANSWER PER STRATEGY.**

		Never	Seldom (1-3 days/month)	Sometimes (1-2 days /week)	Often (3-6 days a week)	Daily
J2 a-c	Skip entire days without eating?	1	2	3	4	5
J3 a-c	Limit portion size at mealtimes?	1	2	3	4	5
J4 a-c	Reduce number of meals eaten per day?	1	2	3	4	5
J5 a-c	Borrow food or rely on help from friends or relatives?	1	2	3	4	5
J6 a-c	Rely on less expensive or less preferred foods?	1	2	3	4	5
J7 a-c	Purchase/borrow food on credit?	1	2	3	4	5
J8 a-c	Gather unusual types or amounts of wild food / hunt/ fish?	1	2	3	4	5
J9 a-c	Harvest immature crops (e.g. green maize)?	1	2	3	4	5
J10 a-c	Send household members to eat elsewhere?	1	2	3	4	5
J11 a-c	Send household members to beg?	1	2	3	4	5
J12 a-c	Reduce adult consumption so children can eat?	1	2	3	4	5
J13 a-c	Rely on casual labour for food?	1	2	3	4	5

I.14.1.2	**J14 a-c**	I.14.1.3	For each of the above shocks, has the household recovered?	I.14.1.4	1 = Yes	I.14.1.5 2= Partially	I.14.1.6 3= No

I.14.1.7	**J15**	I.14.1.8	Has your household experienced any household/homestead theft in the past 4 months?	I.14.1.9	1 = Yes	I.14.1.10	2 = No
I.14.1.11	**J16**	I.14.1.12	Have you sold any household assets to buy food?	I.14.1.13	1 = Yes	I.14.1.14	2 = No
I.14.1.15	**J17**	I.14.1.16	Have you sold any household assets to pay for health care/medical expenses?	I.14.1.17	1 = Yes	I.14.1.18	2 = No

Section L – Child Health and Nutrition

ASK ONLY IF THERE ARE CHILDREN < 60 MONTHS IN THE HOUSEHOLD, ELSE, CONCLUDE HH INTERVIEW

Read: Now I would like to ask you some questions about your children *(Continue the interview with the same woman)*

Starting with the youngest child, please enter the children's first names and ask the following question for one child at the time:

6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10
First name (NOTE number equals mothers code)	Birth month *(Jan =1 Dec = 12)*	Birth year **(Must be born after May 12, 2002)**	Child's age in months	Child gender? *1 = Male* *2 = Female*	Are you the mother of [Name] *1 = Yes* *2 = No* **→ 6.13**	When you were pregnant with [NAME], did you get antenatal care? (if yes, whom) 1 = Doctor 2 = Nurse 3 = Midwives 4 = Relative or Friend 5 = Other 6 = No one	Did you ever breastfeed [NAME]? (if no, → **6.13**) *1 = Yes* *2 = No*	Was the child exclusively breastfed for the first six months? *1 = Yes* *2 = No*	Is [NAME] still beir breastfed? *1 = Yes* *2 = No*
1	____	_____	___	__	__	__	__	__	__
2	____	_____	___	__	__	__	__	__	__
3	____	_____	___	__	__	__	__	__	__

6.11	6.12	6.13	6.14	6.15	6.16	6.17	6.18	6.19
When [NAME] was born, was he/she (use code) 1 = Very large 2 = Larger than normal 3 = Normal 4 = Smaller than normal 5 = very small	Has [NAME] ever received a vitamin A capsule (supplement) like this one? *Show capsule* 1 = Yes 2 = No 3 = Don't know	Has [NAME] been ill with a fever at any time in the past 2 weeks? 1 = Yes 2 = No 3 = Don't know	Has [NAME] been ill with a cough at any time in the past 2 weeks? 1 = Yes 2 = No 3 = Don't know	When [NAME] was ill with a cough did he/she breathe with short rapid breaths? 1 = Yes 2 = No 3 = Don't know	Has [NAME] been ill with diarrhea at any time in the past 2 weeks? *(Diarrhea: perceived by mother as 3 or more loose stools per day for 3days or one large watery stool or blood in stool)* 1 = Yes 2 = No 3 = Don't know	**If the child was sick** in the previous 2weeks, was [NAME] seen at a health facility during the illness? 1 = Yes 2 = No 3 = Don't know	**If 9months or older**; Has [NAME] ever received a measles vaccination – an injection in the arm? *(check yellow card if available)* 1 = Yes 2 = No 3 = Don't know	Has [NAME] received deworming tablets in the last 6 months? 1 = Yes 2 = No 3 = Don't know
__	__	__	__	__	__	__	__	__
__	__	__	__	__	__	__	__	__

|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

Name *(see above)*	**6.20 - Child weight in kilograms**	**6.21 – Child height/length in centimeters**	**Note: Children < 24 months should be measured lying down, even if they CAN stand up!**
1	|__|__|.|__|	|__|__|__|.|__|	
2	|__|__|.|__|	|__|__|__|.|__|	
3	|__|__|.|__|	|__|__|__|.|__|	

MARKET PRICING

District: _____ *Village:*_____

*Locality:*_____

Enumerator: _____ *Date :*_____

	Seller 1			Seller 2			Seller 3			Average			
Item	**Source/ Brand**	**Unit**	**Price**	**Source/ Brand**	**Unit**	**Price**	**Source/ Brand**	**Unit**	**Price**	**Unit**	**Price**	**Change compared to past weeks**	**C co**
FOOD													
Maize grain													
Maize flour													
Rice													
Beans													
Ground Nuts													
Dry Fish													
Sugar													
Veg. Oil													
NON FOOD													
Soap													
Charcoal													
Kerosene													

- how *terms of trade* between produce and basic foods and essential non-food items have changed in the last few weeks and in the last year-or-two?
- items that are in short/declining supply and relatively expensive; items that are plentiful/in increasing supply and relatively cheap?
- the reasons for changes in availability and price as perceived by buyers and sellers?

Trader's checklist:

1. Type of market (primary, secondary, consumer market)

2. Type of trader interviewed - very small scale (little space, small amounts visible), medium scale, large scale (large space or shop, various items and amounts visible)

3. What are the types of goods being sold by the trader interviewed?

4. What are the main commodities sold in the market?

5. What is the level of activity in the market? (market striving, calm, slow)

6. What is the frequency of the market?

7. What are the main type of traders in the market (farmers, local retailers, retailers from larger cities, middleman, wholesaler etc)

8. What are the other main actors in the market? Are there problems or specific constraints between these? (buyers, sellers, creditors, firm/commission agents, tax collectors, government agents, market officials, or others in this market)

9. How often do you trade on this market?

10. How long have you been engaged in the trade that you are doing now?

11. Do you have other activities than trading and what are these?

12. For each of the main commodities traded:
    a. How does your overall volume of sales this week compare to when your activity as at its highest?
    b. What are the volumes this week?
    c. Which months is the busiest one? What volumes? Explain
    d. Any changes over the last 3-4 months because of the floods? What?

13. For each of the main commodities – would you be able to bring more to the market if people had more money to buy, by how much, and how long time would it take?

14. Main trade routes for the market (inflows/outflows) and catchments area of traders:
    a. From whom/where do you purchase the majority of the goods at the moment and has it changed since the onset of the floods? Secondary sources? If the source of your goods has changed since the floods, why?
        - Purchase scheme over the year – for each month: Origin, actors, volume, price, destination
    b. To whom do you sell the majority of the goods at the moment and has it changed compared to before the floods? Secondary customers? If the source of your goods has changed, why?
        - Sale scheme over the year - for each month: origin, actors, volume, price
    c. Other way of putting this info –
        - What are the three main food commodities traders buy locally and current price to traders?
        - What are the three main food commodities traders buy beyond this locality to sell within this market and current price to customers?

15. Where else do you go and trade apart from this market?

16. What helps you decide what market/which village you go to for cereal trade? (distance, market day, availability, prices, trust/know area and customers, number of buyers)

17. Sources of information of market information for prices and availability?

18. Costing – for each of the main commodities – purchase cost, transport cost (from where to where), storage, loading, taxes, other and selling price – ie marketing margin. (for prices more will do a more specific pricing sheet). How have your prices changed in the last 4 months since the onset of the floods?

19. Storage
    a. What are the storage conditions/where do you store?
    b. What is your total capacity?
    c. Losses as a result of the floods? Percentage of total trade and explanation.

20. Credit – do you buy goods on credit, who lends you the credit, extend credit to consumers?

21. Three most important constraints when trading? (list alternatives for the trader)

22. Potential shocks that affect markets:
    a. What were the three main shocks that affected markets over the last 3 years? (drought, floods, prices spikes, taxes etc etc)
    b. How did it affect the market?
    c. How did traders react/compensate?
    d. In specific how has this recent flood affected you and the larger market?

23. Are there certain key food commodities for which you're concerned about price increases in the next six months? Why do you expect the price to increase?

24. Are there certain key food commodities for which you're concerned about a shortage in the next six months? Why do you expect a shortage?

25. Are there HHs that don't use markets to buy food? What are their characteristics (Distance from market, female headed household, caste, ethnicity, …)?

<u>Prices:</u>

We will make a separate sheet for market prices, but the information that needs to be collected is the following:

1. selling prices of *staple food items* and *other important food items* (e.g. beans, essential condiments) of average quality – prices per kg or the usual local measure; how these prices compare with what is normal for the season; how prices have changed in the last few months and in the last year-or-two and the reasons for this
2. selling prices for *essential non-food items* (e.g. soap, fuel-wood and/or other cooking fuel, household utensils, clothing); how prices have changed in the last few weeks and in the last year-or-two and the reasons for this
3. selling prices for *agricultural inputs* (e.g. seeds) and *other raw materials* used in local productive activities; how prices have changed in the last few weeks and in the last year-or-two and the reasons for this
4. buying and selling prices of *agricultural* (including livestock – healthy animals) and *other products* that refugees and local people (especially poor people) have to sell; how prices have changed in the last few weeks and in the last year-or-two and the reasons for this
5. how *terms of trade* between produce and basic foods and essential non-food items have changed in the last few months and in the last year-or-two and the reasons for this

6. Comparison of prices between the camp and the nearest outside market

In addition - checklist for labour and services markets

- daily wage rate for casual, *unskilled labour*; how the rate compares with what is normal for the season; how the rate has changed in the last few months and in the last year-or-two;
- the reasons for changes in the supply and demand for unskilled labour, and in daily rates, as perceived by contractors and labourers themselves;
- the skills and services that are in plentiful supply, and those for which demand exceeds supply.

Annex 2 – Community Questionnaire Analysis

Table A: Percentage of villages reporting more temporary migration than usual

North Central Region	10%
Caprivi	26%

Table B1: Availability of health facilities in village

North Central Region	22% (clinic, 2 hospitals)
Caprivi	55% - clinic

Table B2: Distance to the nearest health facility

	Before the flood				After the flood			
	Less than 1h	1 to 3 h	3 to 6h	More than 6h	Less than 1h	1 to 3 h	3 to 6h	More than 6h
North Central Region	14%	74%	12%		2%	67%	26%	5%
Caprivi	23%	62%	15%	8%		64%	36%	

Table B3: Main source of water

North Central Region	74% public tap; 16% well; 56% river
Caprivi	26% public tap; 11% well; 63% river, basin, etc.

Table C1: Flood Impact on village accessibility (1)

	% villages saying access roads to the village having been cut off by the recent floods	% villages saying villagers' travel time to other areas increased as a result of the floods
North Central Region	94%	86%
Caprivi	68%	26%

Table C2: Flood Impact on village accessibility (2)

	Average number of days the village stayed out of reach	% villages with road access usable all year round in normal circumstances	Average period of time the road access to the village remains unusable
North Central Region	90	82%	3 months
Caprivi	156	26%	6.2 months

Table C3: Flood Impact on village accessibility (3)

	% of villages with available public transport in the village		Nearest road to the village used by public transport		Average time to reach constituency capital Before
	Before	Now	Before	Now	
North Central Region	72%	32%	6km	10 km	2h15
Caprivi	26%	26%	11km	26.5km*	3h45

** biased by the frequent use of boat instead*

Table D1: Access to Primary School

	% of villages having primary school in village	Distance to the nearest primary school					
		Before			Now		
		< 1 h	1 to 3 h	> 3 h	< 1 h	1 to 3 h	> 3 h
North Central Region	72%	80%	20%		27%	60%	13%
Caprivi	90%	90%			90%		

Table D2: School Infrastructure damages

	% of villages reporting that the school	Average time taken to fix it

	frequented by the children of the village has been damaged by flood	
North Central Region	62%	78 days (1 still being fixed)
Caprivi	26%	150 days (2 still being fixed)

Table E1: Estimated drop in production

	Estimated drop in Production Per Crop			Average drop in Production
North Central Region	Mahangu: -58%	Sorghum: -66%	Beans: -53%	-59%
Caprivi	Maize: - 48%	Sorghum: -47%	Mahangu: -43%	-46%

Table E2: Percentage of villages reporting a problem with armyworms of locusts and their access to pesticide

	% of villages reporting a problem with armyworms or locusts	% of villages reporting they had access to pesticide to control the problem
North Central Region	80%	20%
Caprivi	15%	5%

Table F: Livestock situation

	% of villages reporting animal status worse than last year	% of villages reporting grazing conditions worse than last year	% of villages reporting water points condition worse than last year	% of villages reporting deterioration of health condition of the livestock
North Central Region	90%	90%	47%	88%
Caprivi	63%	58%	36%	74%

Table G: Fishing

	Fishes catchments this year	Prices of fish this year	Number of buyers this year*
North Central Region	80% higher	71% lower	75% absent or not enough
Caprivi	73% lower	57% normal to higher	79% absent

** to be interpreted with care since there isn't a market for dry fishes in all the places visited.*

Table H1: Physical access to market

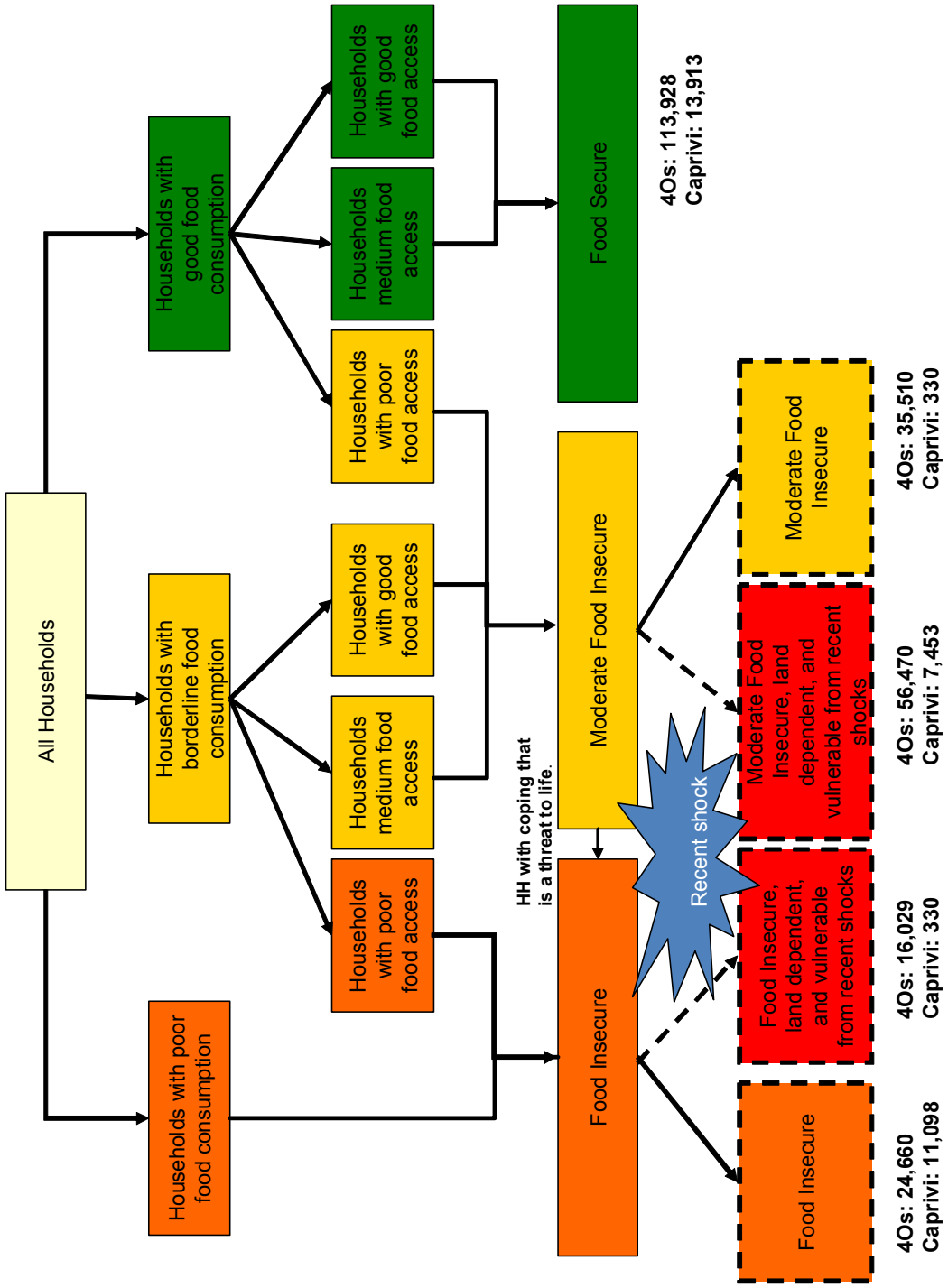
	% of villages having a market in village	Distance to the nearest market place					
		Before			Now		
		< 1 h	1 to 3 h	> 3 h	< 1 h	1 to 3 h	> 3 h
North Central Region	18%	36%	54%	10%	9%	70%	18%
Caprivi	16%	21%	42%	21%	21%	37%	26%

Table H2: Market Supply

	Appreciation of the supply		
	good	medium	bad
North Central Region	38%	36%	26%
Caprivi	42%	21%	31%

Annex 3: Food Security Flow Chart

Flowchart depicting the process of assigning households to a food security group based upon their Food Consumption Score and Food Access Score



Annex 4: Food Consumption Score

Definition: The frequency weighted diet diversity score or "Food Consumption Score" is a score calculated using the frequency of consumption of different food groups consumed by a household during the 7 days before the survey.

Data collection module:

1. See attached household questionnaire (section I. Food Consumption)

Calculation Steps:

II. Using the data collected from the household questionnaire, group all the food items into specific groups:

	Food Items (examples)	Food Groups (definitive)	Weight (definitive)
1	Maize, maize porridge, rice, sorghum, millet, pasta, bread, and other cereals Cassava, potatoes and sweet potatoes, other tubers, plantains	Main Staples	2
2	Beans, Peas, groundnuts, and cashew nuts	Pulses	3
3	Vegetables, leaves	Vegetables	1
4	Fruits	Fruit	1
5	Beef, goat, poultry, pork, eggs, and fish	Meat and Fish	4
6	Milk, yoghurt, and other dairy	Milk	4
7	Sugar and sugar products, honey	Sugar	0.5
8	Oils, fats, and butter	Oil	0.5
9	Spices, tea, coffee, salt, fish powder, small amounts of milk for tea	Condiments	0

III. Sum all the values for each of the food groups, and multiply the value obtained for each food group by its weight (see weights in table above).

IV. Sum the weighted food group scores together, thus creating the food consumption score (FCS).

V. Using the appropriate thresholds (see below), group the food consumption scores into categories.

Once the food consumption score is calculated, the context-specific thresholds are determined based on the knowledge of the consumption behaviour in each country. In Southern Africa WFP has used the following thresholds throughout 4 years of data collection:

FCS Profiles

0-21 Poor consumption

21-35 Borderline Consumption

>35 Acceptable Consumption

Hence, a household with a score below 21is categorized as having poor consumption, between 21 and 25 as borderline, and above 35 as acceptable. For more information, validation of the indicator as a proxy of food security, and discussion of these thresholds, please refer to the Food Consumption Score Technical Guidance Sheet, WFP Vulnerability Analysis Mapping Branch (January 2008).

Annex 5. Food Access Score

The food access score was a combination of the following three measures. For each measure, every household surveyed was rated as having poor, average, or good access.

1. Production of staple cereal food per capita: Households were grouped as having either good, medium, or poor production based upon the level of production of staple cereal food per capita in 2006. In Caprivi the staple cereal food was maize, in the Northern Central regions, the staple cereal food was Millet. Because cereal production was distributed exponentially, to obtain a normal distribution the log of staple cereal production per capita in 2006 was taken , and then the cut-offs for good, medium, and poor production were defined using two-step cluster analysis in SPSSS. Then, using these cut-offs, households were fitted into production groups based upon their 2008 production. Households producing 35kg per per person or less of staple food had poor production, households producing between 35 and 150kg per person per month had medium production, and those with more than 150kg per person per month of staple food had good production.
2. Livestock Ownership: Households were grouped as having either good, medium, or poor production based upon their ownership of goats, pigs, sheep, donkeys, horses, or cattle. Qualitative cut-offs were formulated, so that households owning 5 or less animals were categorized as having poor livestock ownership, households with 6-30 cattle were categorized as medium livestock owners, and those with more than 30 cattle were categorized as good livestock owners.
3. Expenditure per capita: Households were grouped as having either good, medium, or poor expenditure per capita. Because expenditure per capita exhibited an exponential distribution among the population, the log of expenditure per capita was taken, and then cut-offs for the log of expenditure per capita established using two-step cluster analysis in SPSS. With these cut-offs, households spending less than N$30 per month per capita were said to have poor expenditure, those with expenditure between N$30 and N$ 106 per capita per month had medium expenditure, and households with expenditure greater than N$106 per month had good expenditure.