

ZAMBIA FOOD SECURITY ISSUES PAPER

for

Forum for Food Security



in Southern Africa

Preface

This is one of five Country Issues Papers commissioned by the Forum for Food Security in Southern Africa.

The papers describe the food security policy framework in each focus country (Malawi, Mozambique, Lesotho, Zambia and Zimbabwe) and document the current priority food security concerns there, together with the range of stakeholder opinions on them. The papers have been written by residents of each country with knowledge of and expertise in the food security and policy environment.

The purpose of the papers is to identify the specific food security issues that are currently of greatest concern to stakeholders across the region, in order to provide a country-driven focus for the analytical work of the Forum for Food Security in Southern Africa.

As such, the papers are not intended to provide comprehensive data or detailed analysis on the food security situation in each focus country, as this is available from other sources. Neither do the Forum for Food Security, its consortium members, and funders necessarily subscribe to the views expressed.

The following people have been involved in the production of this Country Issues Paper:

Thomson Kalinda, Agricultural Economist & Extensionist, Lecturer & Head of Department, University of Zambia, Department of Agricultural Economics & Extension Education

Fabian Maimbo, Agricultural Economist, Senior Lecturer, University of Zambia, Department of Agricultural Economics & Extension Education

Mubanga Mushimba, Agricultural Economist, Principal Economist, Policy and Planning Branch, Ministry of Agriculture & Co-operatives

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List of Abbreviations and Acronyms

ADB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti-Retroviral
ASIP	Agricultural Sector Investment Programme
CLUSA	Cooperative league of the United States of America
CSO	Central Statistical Office
DDCC	District Development Coordinating Committee
DFID	Department for International Development
DMA	Disaster Management Authority
EEOA	Economic Expansion in Outlying Areas Programme
EU	European Union
FAO	Food and Agriculture Organization
FISC	Farm Improvement with Soil Conservation
FMU	Food Management Unit
FRA	Food Reserve Agency
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
GTZ	German Agency for Technical Co-operation
HIPC	Heavily Indebted Poor Country
HIV	Human Immuno-Deficiency Virus
IMF	International Monetary Fund
JICA	Japanese International Cooperative Agency
MACO	Ministry of Agriculture and Cooperatives
MCDF	Ministry of Community Development and Social Services
MAFF	Ministry of Agriculture, Food and Fisheries
MDD	Movement for Multiparty Democracy
MFNP	Ministry of Finance and National Planning
MoFED	Ministry of Finance and Economic Development
MT	Metric Tons
NEWS	National Early Warning System
NEWU	National Early Warning Unit
NFNC	National Food and Nutrition Commission
NGO	Non Governmental Organization
NISIR	National Institute for Scientific and Industrial Research
NORAD	Norwegian Agency for Development
OVC	Orphans and Vulnerable Children
PAM	Programme Against Malnutrition
PWAS	Public Welfare Assistance Scheme
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
SHEMP	Smallholder Enterprise and Marketing Programme
SCAFE	Soil Conservation and Agro-Forestry Extension
Sida	Swedish International Development Agency
UN	United Nations
UNAIDS	United Nations AIDS Programme
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNZA	University of Zambia
USAID	United States Agency for International Development
WFP	World Food Programme
WHO	World Health Organisation
ZVAC	Zambia National Vulnerability Assessment Committee

Summary

Zambia recorded a maize deficit during the 2001/2002-production season. Though there were surpluses in other crops, its food security situation is serious; whichever measure of food security one uses. The average percentage of household income that is spent on food is rising, indicating that Zambia households are finding it increasingly difficult to feed themselves (UNDP 2000). Chronic malnutrition (stunting) has affected about 45 to 47 percent of the rural households, whilst malnutrition (wasting) has inflicted about 6 percent of all rural households. The high level of poverty in Zambia has largely contributed to malnutrition especially among young children. The vicious cycle of malnutrition exacerbated by poverty has negative effects on human and socio-economic development for the country. The consequences of poor nutrition are stunted mental and physical growth and development, poor health, poor reproductive performance, reduced productivity and potential, and increased risk of poverty.

Zambia's situation in 2003 is in stark contrast to the 1970s. In 2000, the HDI for Zambia was lower than in the 1970s and 1980s and Zambia had slipped to 153rd in the world HDI rankings. In 1985 the United Nations reclassified Zambia from a low-middle-income country to a low-income country. By 1999, Zambia had been reclassified as a least developed country (LDC) of the world (UNDP, 1999). Poverty is widespread in both urban and rural areas. Between 1996 and 1998, poverty increased from 69.2 percent to 72.9 percent of the population. Poverty in the rural areas is higher (83.1%) than in urban areas (56%). Since the 1970s, Zambia has been experiencing economic and social problems resulting in deteriorating living standards and conditions for most of the people. This dramatic decline is viewed as resulting from the collapse of copper mining in the north of the country as international demand has fallen (Ferguson, 1999) and from the impact of the Zambian Structural Adjustment Programme (SAP). As incomes continue to decline, human survival in Zambia has become more and more difficult. Most people have been affected in the areas of food security, health, sanitation, education and employment.

In view of the high levels of poverty, the government has identified "Poverty Reduction and Economic Growth" as the overall objective of the economy. This means that all sectors of the economy are expected to design and implement programmes, which will make a significant contribution to poverty reduction and economic growth. The goal of the government is to reduce poverty to 50 percent of the population by year 2004 (CSO, 1999).

Despite its huge potential, Zambia's agriculture sector is not making a significant contribution to poverty reduction and overall growth of the economy. In 2000, Zambian GDP grew by 3.5 percent per year while the agriculture sector growth rate was only 1.8% (GRZ-MoFED, 2000). Agriculture sector growth rate is far lower than the population growth rate of 2.9 percent per year. Agricultural performance on smallholdings has been particularly constrained due to lack of access to resources, geographical isolation causing lack of access to services and markets, lack of productive assets such as oxen and mechanized farm implements, and the lack of labour due to the impact of HIV/AIDS. There is a growing debate in Zambia about the impacts of HIV/AIDS on food security. Most recently the Zambia VAC (April 2003) failed to find any evidence to support the notion of 'new variant famine' operating in the country. Poor households find themselves in a vicious cycle where disease and malnutrition lower productivity, thus lowering production, forcing family members to work for other families during the peak labour months, thereby causing smaller yields on their own plots. A combination of a large

number of men who have left farming for urban employment and an increasing number of female-headed households without the labour force to ensure household food security is having a devastating effect on rural communities.

In urban contexts there is also growing food insecurity and the relationships between rural and urban households (particularly in the context of HIV/AIDS) are not altogether clear. Urban areas have been experiencing a faster rate of increase in severe forms of stunting in the 1990s. Given increasing urban poverty and insecurity, programmes to combat food insecurity need to extend beyond supporting rural producers to consider appropriate social production mechanisms to support the purchasing power of both urban and rural inhabitants. The government, however, remains heavily focused on production issues and lacks the capacity or resources to implement a large-scale social protection programme that support people's access to food in either rural or urban areas.

1 The Institutional Framework for Food Security Policy Decision Making

1.1 Current food security situation in Zambia

Zambia recorded a maize deficit during the 2001/2002-production season. The food balance sheet based on the final crop forecasting figures showed that Zambia had a total maize deficit of 634,274 Metric tonnes. However, surpluses of 251,636 Metric tonnes for cassava and 26,998 Metric tonnes for sweet potatoes (other tubers) resulted in a total food deficit of 432,588 Metric tonnes (GRZ, 2002).

Zambia's food security situation is serious despite the occasional surpluses the country produces during good crop years. Whichever measure of food security one uses, Zambia is no longer able to feed itself. As a result, chronic malnutrition (stunting) has affected about 45 to 47 percent of the rural households, whilst malnutrition (wasting) has inflicted about 6 percent of all rural households. In addition to this, only 59% of the population has access to safe water and this has serious negative implications on the health and nutrition status of the people (WB, 1994; WB, 1996). Therefore, the children affected with chronic malnutrition will remain physically and/mentally impaired for life, even if they survive. This high rate of malnutrition has serious implications on Zambia's development prospects.

The main sources of Zambia's food insecurity at household level are an inability to produce enough food due to lack of agricultural service support and technical exigencies such as unfavourable climatic conditions, disease and insect attacks, etc; inadequate incomes and inability to purchase food; inadequate market and transport systems to take food from surplus to deficit areas within the country; and the impact of HIV/AIDs on the productive capacity of households. The detrimental impact that HIV/AIDs may have on rural households' productive capacity and food security has been experienced in some of Zambia's rural communities.

It is clear that, even with the present technology, Zambia is capable of growing enough food (except in worst drought years) to provide its 10 million people with sufficient food. The problem is access to that food by low-income households. A large portion of Zambia's poor cannot command food resources because they simply cannot afford to purchase it at the prevailing prices. In rural areas, the small-scale farm households are not able to command food resources because of their low per capita productivity – to grow and store enough food to provide for their families through out the year. The two-to-three months prior to the harvest are a period of sufficient national deprivation for many rural households in Zambia.

A number of stakeholder institutions and key actors have been involved in the planning and implementation of programmes and projects aimed at improving food security in Zambia. Over the years, their roles have changed or even conflicted as they pursue the single objective of improving the food situation in the country. This section of the paper provides an insight into the various institutions and policies that have been playing key roles of addressing food security issues in Zambia. Given the long history and multitude of institutions, this attempt at examining this aspect of Zambia's development efforts is far from being exhaustive. It has not been possible to examine all institutions but a good attempt has been made to examine the major institutions or actors and the current power structures, policies, plans and processes relevant to food security in the country.

1.2 Roles, responsibilities and power structures of key players

Stakeholders are those groups of individuals and institutions that stand to either gain or lose from changes in policies and projects in the agricultural or food sector. In the agricultural sector context, an analysis of stakeholders is deemed useful in order to understand the complexity and the compatibility problems between the roles and responsibilities of key actors involved in food security. However, stakeholders are not solely those involved in agriculture (because food production is not the sole problem in Zambia. Upstream and downstream of the agricultural sector are active players involved in food production, marketing, management and distribution. Beyond this there are key stakeholders who are involved in, for example, social protection and economic growth outside the agricultural sector that may support household purchasing power.

Zambia has quite a number of organizations that are involved in addressing food security issues. These among others include government departments (Policy legislation and implementation, research and extension); non-governmental organization and the church (Policy advocacy/lobbying and food security project implementation); the University and other research institutions (Research and monitoring activities); the cooperating partners/donors (provision of funding and monitoring networks); and the private sector (input and produce marketing, and transportation). These institutions complement each other in the implementation of food security programmes.

1.2.1 Key actors at the central level of government

The Government of Zambia has recognized that the present low agricultural production and poverty levels are unacceptable. It is against this background that the current Poverty Reduction Strategy Paper and the Interim National Development Plan and policy statements emphasize the need to tackle poverty and unemployment as a way of enhancing household food security. Similarly, in an effort to enhance food security the central structures of the Government have embarked on a number of measures that include the restructuring the public service and forging public-private sector partnerships (GRZ-PRSP, 2002). The following government institutions are involved in the policy formulation process to ensure food security.

1.2.1.1 The Parliament

According to the Constitution of the Republic of Zambia, the legislative power is vested in Parliament, which consists of the President and the National Assembly. The Constitution is the supreme law of the Republic of Zambia. Subject to the provisions of the Zambian Constitution, bills passed by the National Assembly and assented to by the President exercise the legislative power of Parliament. In performing its functions, Parliament constitutes Portfolio Committees one of which is the Portfolio Committee on Agriculture. The Portfolio Committee on Agriculture will normally consider draft legislation on all agricultural matters before finalization by the National Assembly. Parliament is therefore responsible for approving all government policies including food security policies as well as programmes aimed at promoting food security.

1.2.1.2 The Disaster Management Unit (DMU)

Under the Vice-Presidents office, a Disaster Management Unit (DMU) is tasked with coordination responsibilities for all sectors that deal with food security. It coordinates and networks with all governmental departments, UN organisations, Non-governmental Organisations and private institutions to minimize overlaps and duplication of efforts in the implementation of food security programmes.

Arising mainly from adverse weather conditions that prevailed during the last two successive agricultural seasons (2000/01 and 2001/02), the government has also established a Disaster Management and Mitigation Unit under the office of the Vice President. This office is responsible for the overall management and coordination of emergency response to the food crisis. The unit reports to a Technical Committee of Permanent Secretaries, and provides secretarial back up to the apex committee on disaster management whose membership comprises of the Ministers of the concerned ministries and is chaired by the Vice-President. For its relief operations, the unit relies on government and other organizations such as the World Food Programme (WFP), UNICEF, the Food and Agriculture Organization (FAO), UNDP, UNFPA, national and international NGOs, and other donors

Priority actions to emergency responses include provision of adequate food relief, access to water, health and nutrition, agriculture, education and support for special protection of children and other vulnerable sections of society.

The DMU therefore plans and coordinates the management of national disasters including food shortages disasters. Further, it also advises government on the extent of the disasters and solicits for funds and donations from the international community when a crisis is envisaged. It also coordinates and facilitates all national crisis management projects, especially those that are related to food security.

1.2.1.3 The Ministry of Finance and National Planning

The Ministry of Finance and National Planning plays a critical role in agri-food policy formulation and implementation. This Ministry is mandated to develop the country's macro-economic framework, and effectively mobilize and manage public financial resources for the social and economic benefit of the Zambian people. The Ministry has the executive powers to advise parliament on the amount of resources available for the plans and programmes intended for the agricultural sector and food security programmes. It also allocates funds for the implementation of the already approved programmes that are geared towards strengthening the national food security.

During the budgeting process for the food security programmes, the Ministry of Agriculture and Cooperatives collaborates with the Ministry of Finance and National planning to determine which programmes can be implemented since that depends on the resources or funds that are available.

1.2.1.4 The Ministry of Foreign Affairs

The Ministry of Foreign Affairs is responsible for international diplomatic relations, technical assistance and economic assistance from international cooperating partners. The Ministry is therefore responsible for soliciting for both financial and commodity assistance from donor agencies and countries. It thus facilitates the appeals for donations and assistance that are meant to ensure food security in the country.

The importance of collaboration between the Ministry of Foreign Affairs and other key players such as the Ministries of Agriculture & Co-operatives, Finance & National Planning, and Transport & Communications, etc. regarding food security issues cannot be over-emphasized. When well coordinated the stakeholders review government resources and determine what could be sourced from the donor community and thus avoid duplication of efforts. Presently there are high levels of coordination and partnerships among these ministries and other stakeholders.

1.2.1.5 The Ministry of Agriculture and Co-operatives¹

The Ministry of Agriculture and Co-operatives is mandated to initiate and implement policies on issues of food security in the country. The Ministry is also involved in the research and dissemination of appropriate agricultural production technologies. It also facilitates the availability of various farming inputs and equipment to all categories of farmers through the private sectors. Agricultural marketing in Zambia is liberalized. In this regard, the role of the government through the Ministry is to provide an enabling environment for all players in the market. Therefore the Ministry of Agriculture & Co-operatives regulates and monitors the marketing of agricultural products for both the local and export markets.

Due to private sector failure to fill up the gap by the withdrawal of government in input marketing, in the transition, government is still involved in input distribution to small-scale farmers. This is one of the major responsibilities of the government through the Ministry of Agriculture despite the liberalization of agricultural marketing. It is envisaged that the private sector will take up the challenge that agricultural inputs marketing and distribution is a business, which can be run profitably. In developed countries, the private sector is known to be efficient in delivering agro-inputs and other services as well as employment creation. Greater involvement of the private sector and other stakeholders in the agricultural sector will increase the role of the private sector in the food security decision-making process.

1.2.1.6 The Food Reserve Agency (FRA)/Crop Marketing Authority (CMA)

The Food Reserve Agency (FRA) was established for the purpose of operating a national food reserve through an Act of parliament (1995). The Food Reserve Act emphasized the building of capacity for the private sector through institutionalised assistance and promotion of joint ventures between the public and private sectors. In addition to maintaining the national strategic food reserve, the FRA is responsible for administration of the government owned storage facilities; introduction of grades and standards, and the annual registration of traders and processors of designated commodities. It is also responsible for receiving and storage of the food donations meant for alleviating food insecurity.

Through the private sector, the FRA facilitates the transportation of food commodities to food deficit areas throughout the country where it is needed by beneficiaries. This is usually done under the instruction of the Disaster Management Unit (DMU) in the office of the Vice-President. The DMU in collaboration with the Provincial and district level institutions, monitoring networks, NGOs, donors, and other relevant stakeholders decide where to transport the food commodities.

It is a widely perceived view by stakeholders in the agricultural sector that the FRA has failed to meet their expectations and has failed to impact positively on food security. Against this background, government is in the process of establishing a Crop Marketing Authority (CMA) through an Act of Parliament to replace the FRA. It is envisaged that the CMA will provide market opportunities to rural smallholders and will be expected to have a positive effect on groups that are now vulnerable to food insecurity. However, the CMA will not be responsible for disaster management and mitigation activities. This is a function under the Vice-President's office, aimed at providing relief to households that have

¹ The Ministry of Agriculture and Cooperatives was previously known as the Ministry of Agriculture, Food and Fisheries. The name change was effected in 2002 by the new government and simply reflects the new emphasis to develop farmers' organizations like cooperatives. The Ministry names are used interchangeably throughout this paper and this is to reflect a timeline or historical dimension of specific issues that are being discussed.

experienced a shock and are temporary or chronically food insecure. The CMA's link with the disaster and mitigation management function will be limited to offering part of its strategic reserve stocks for sale to government and donors, and to receive and store food aid on behalf of government at a charge (GRZ, CMA Concept Note 2003)

1.2.2 Monitoring networks

Monitoring networks are crucial in assessing the food situation and networking with relevant institutions to ensure that food supplies are sufficient and distributed to the people in need in deficit areas.

1.2.2.1 National Early Warning System

The Zambia National Early Warning System (NEWS) was established in 1982 following a recommendation of the World Food Conference held in Rome in 1974. The National Early Warning System facilitated the establishment of an Early Warning Unit (EWA) within the Policy and Planning Branch (PPB) of the Ministry of Agriculture & Co-operatives. The Policy and Planning Branch is also the Secretariat to the National Early Warning System in particular, to two National committees, namely, the National Early Warning Committee which is chaired by the Permanent Secretary, MACO and the Technical Early Warning Co-ordinating Committee chaired by the Director, Policy and Planning. Membership on these Committees is drawn from various stakeholders such as the Agricultural Statistics and Early Warning Unit of PPB, the Agricultural Marketing and Information Centre (AMIC), Central statistics Office (CSO), Department of Meteorology (DOM), financial lending institutions and agricultural input suppliers and manufactures, and the Zambia National Farmers Union (ZNFU), NGOs like PAM, and donors, etc.

The role of the NEWS is to assist government in the planning and execution of food production and supply management programmes in order to ensure and safeguard the food security for the population, government requires sufficient, timely, reliable and accurate data. The NEWS therefore provides government with information on crop prospects over time, food supply/demand situations, food availability and stock levels of agricultural inputs (i.e. organic fertilizers, hybrid seeds and agro-chemicals) and regional cereal stocks, etc. Such data enables government its decision-making process on issues such as pricing, internal distribution of food from surplus to deficit areas, storage and transport arrangements, and relief programmes, etc. In an effort to provide timely and accurate information, the NEWS relies on each of the collaborative departments or institutions related to its specific field of specialisation. The NEWS monitoring networks have been effective as was case during the recent food crisis. Collaborating institutions worked together in sharing information about the impending food deficit.

The NEWS collaborates with a number of institutions both within and outside government. The major contributors to the NEWS are the following institutions:

1. Department of Meteorology (DOM): Data series collected from DOM include agrometeorological data, such as assessment of crop conditions, water stress, moisture content of soils, interpretation of the Normalized Difference Vegetative Index (NDVI), Rain Cloud Duration (RCD) and Cloud Cover Duration (CCD) using remote sensing, a general assessment of climatic conditions, such as rainfall patterns, hours of sunshine etc.

DOM has also developed crop yield simulation models for maize to determine yields. The model uses historical data trends on production and average yields provided to them by MACO. The model is of significance importance, as this would provide information on crop

phonological stages and crop conditions by identifying the major constraints to plant growth during the early stages of its growth.

2. Central Statistical Office (CSO) and MACO: Crop forecast data is provided jointly by CSO and MACO. The first crop forecast by the early warning project was conducted in 1982. It is on-going and every effort is being made to improve it. Three estimates of expected production, expected sales, estimated areas planted, and estimated yield per hectare for thirteen (13) major crops (maize, soyabeans, sunflower, mixed beans, seed cotton, millet, groundnuts, irrigated wheat, rain-fed wheat, paddy rice, sorghum, Virginia and barley tobacco) are prepared every year. This is during the Preliminary Crop Forecast done by the end of February, the Final Crop Forecast carried out by the end of April and the Post Harvest Survey, usually conducted in October.

Initially, MACO and CSO used to conduct separate crop forecasts until the 1992/93 agricultural season. MACO in conjunction with CSO have created and maintain a crop data bank. This enables data users to have access to one set of data and information on crop forecasts. This includes all interested stakeholders such as farmers and private agricultural traders.

3. Extension Section-MACO: Through the Department of Agriculture, Extension Section, the MACO monitors crop phonological stages and crop conditions and incidence of pest and disease out-breaks. This information is vital especially in assessing the country's food requirements during crop forecasts.

4. Agricultural Marketing Information Centre (AMIC)-MACO: The AMIC, Food Security Division (MACO), in conjunction with the major agricultural input manufacturers and distributors provides the NEWS with data and information regarding the status quo on agricultural inputs, both in terms of supply and services available. Data and information collected includes; the availability of inorganic fertilizers, seeds, credit facilities, grain bags, tarpaulins, regional stocks, purchases and mill intakes, cereal and other food prices, storage and transport facilities available and costs, demand and availability of funds for farm inputs and crop purchases (purchasing prices for crops), national and provincial demand and supply of major food crops, and so on.

5. CSO, MOH, UNICEF, NFNC, FAO, PAM AND MACO: These institutions make up the National Early Warning System (NEWS). Household food security and nutrition monitoring is carried out jointly by CSO, Ministry of Health (MOH), UNICEF, National Food and Nutrition Commission (NFNC), FAO, Programme Against Malnutrition (PAM) and MACO. The major emphasis on household food security and nutrition monitoring is to provide data and information on food availability and accessibility to vulnerable groups in the country.

In a nutshell the NEWS gives advance warning of impending changes in food security position in the country and thus enhances government's preparedness in responding to emerging food shortages and eventually takes mitigation action.

1.2.2.2 Zambia Vulnerability Assessment Committee (ZVAC)

Independent and objective vulnerability assessments are very important for adequate and timely responses to disasters. These assessments are also used to identify populations at risk of severe food shortages and famine. There is a Vulnerability Assessment Committee in Zambia and is comprised of technical specialists representing most of the key players in food security. These include the Ministry of Agriculture, Central Statistics Office, Meteorological Department, Disaster Management and Mitigation Unit, National Food and

Nutrition Commission, Civil Society and NGOs, NEWU, CARE, World Food Programme, FEWS and other donors like UNICEF, OXFAM, and the Red Cross Society. The Vulnerability Assessment Committee is multi-sectoral in nature and therefore, coordinates institutions dealing with food security issues and ensures full participation of various institutions in vulnerability assessments. Further, it also advises policy makers as well as donors and other stakeholders on the status of food security and measures to improve it.

The Committee focuses on household food security and provides adequate and timely information sufficient for responding to famine and other forms of food insecurity. It conducts regular vulnerability and livelihood assessments in the country and produce reports that contain an in-depth analysis of the food security situation and an examination of access of different groups to food and cash income in relation to their food needs, shocks, and stresses experienced by households due to famine while at the same time identifying the coping strategies employed by different socio-economic groups. Additionally, the committee carries out food security monitoring in order to track food security changes for long-term recommendations.

1.2.2.3 The National Food and Nutrition Commission (NFNC)

The increase in child malnutrition is partly responsible for the corresponding increase in child mortality and decreased life expectancy observed over the same period. The HIV/AIDS pandemic with a prevalence of 1 in every 5 adults (20%) further compounds the situation worsening the poverty levels. This is further worsened with over 70% of the Zambian population being food insecure. This means they do not have access to meet the individual daily nutrient requirements for an active and health life.

Government commitment to reducing malnutrition in Zambia dates back to 1967, when the National Food and Nutrition Commission (NFNC) was established through the Act of Parliament with the aim of advising Government on food and nutrition policy and to coordinate food and nutrition activities in Zambia. The Commission, which in the Ministry of Health, is in charged with the responsibility of reducing malnutrition and improving the nutrition of the country. Therefore NFNC is involved in field research, nutrition education, food and nutrition surveys and also the activity of integrating the food and nutrition components in the national programmes throughout the country. This Act mandates the National Food and Nutrition Commission to promote food and nutrition activities and to advise the government accordingly. In pursuance of this mandate, the NFNC has undertaken several activities aimed at nutritional improvement with varying degrees of success and failures.

Among the major interventions are those integrated in Primary Health Care (PHC). These include National Breast Feeding Program (supported by the Code of Marketing Breast Milk Substitutes); Growth Monitoring and Promotion, and Participatory Community Based Nutrition activities; Universal Child Immunization; Micronutrient Control (including Vitamin A supplementation program, Sugar fortification and promotion of consumption of micronutrient rich foods). Other programs include Supplementary Feeding for malnourished children; Integrated Management of Childhood Illness (MCI) but is not inclusive.

An appropriate national nutrition program needs to be appropriately targeted and should include the main nutritionally vulnerable groups such as the elderly, the physically and mentally handicapped, street children, the chronically ill, young children and women of childbearing age. It also needs to take into account the fact that women are usually responsible for household food but that their status within households makes it difficult to

deliver effective nutrition programmes. Precise planning and implementation of nutrition activities in Zambia has been constrained by lack of a national food and nutrition policy, inadequately trained manpower and inadequate funding. Although many institutions are involved in nutrition activities, there is little or no coordination between them. Further, there are no explicit sectoral guidelines for developing and implementing nutrition interventions as a result of which there is little or no effort to incorporate nutrition considerations in sectoral policies and programs. The NFNC's mandate to oversee all nutrition activities in the country has not had adequate support and resources for effective operationalisation. For NFNC to carry out its mandate of advising government on issues of nutrition, back-stopping on technical issues and co-ordination of nutrition activities in the country, there is need to strengthen its institutional capacity.

1.2.3 Research Institutions

Agricultural Research in Zambia is conducted by various institutions such as the Agricultural Research Branch of the Ministry of Agriculture & Co-operatives, the University of Zambia and other agencies such as the Forest Research Division, the National Institute for Scientific and Industrial Research (NISIR), and the private sector (consulting firms). From time to time, private consulting firms are contracted to conduct research or surveys on topical food security issues by government and donor agencies. The research findings are key in the policy makers' decision-making process.

Despite a variety of inadequacies in the various research programmes, crop and livestock research has generated a number of technologies for adoption by all categories of farmers. Some of the research findings have influenced the policy making decision process in food security issues in the country.

1.2.3.1 Research Branch of the Ministry of Agriculture & Co-operatives

The Research Branch of the Ministry of Agriculture & Co-operatives is mandated to carry out agricultural research. The Branch has a network of regional research stations where commodity research and farming systems research is conducted. Evaluations studies that have been conducted point to the fact that research and extension activities within the Ministry of Agriculture has not been very effective in disseminating research findings or technologies to farmers. This has resulted in results that are rarely applied since they do not necessarily address and farmers' needs (GRZ-ASIP, 1994). However, with the ASIP programme, efforts were made to coordinate research efforts of different departments and to make research to be appropriate to the needs of the farmers in the various agro-ecological zones. Emphasis has also been on participatory research-extension approaches and feedback from the farmers to enable them to improve their production mechanisms and meet their food security goals. Thus, various crop cultivars are being tested and promoted in different agro-ecological zones to check their potential as well as to adapt them to those specific conditions. Currently, the emphasis is on food crops such as maize, cassava, sorghum, millet and food legumes (GRZ-PRSP, 2002).

1.2.3.2 The University of Zambia

The School of Agricultural Sciences of University of Zambia is involved in strengthening research in food production and in agricultural development in general. It has been collaborating with the Research Branch of the Ministry of Agriculture & Co-operatives in conducting breeding programmes both in crops and livestock that are expected to improve productivity. Focus of these research activities has been on food crops and livestock.

The University invites Policy makers, technical staff and farmers to information dissemination workshops, seminars and open days so that they can utilise the information to improve on production and ultimately to food security. In similar vein, the Crop Science Department in the University has been contracted by NGOs and other private sector firms to mount various courses that address food security issues to their employees. A popular course has been in mushroom production for food production and as livelihood strategy for the self-employed or retrenched workers.

Similarly, various institutes and departments within the University through a multi-disciplinary approach have been contracted to carry out evaluations studies of various government projects or programmes. For example, the Institute of Economic and Social Research (INESOR) has been evaluating the ASIP and they have also been carrying out various studies examining changes and impacts of economic restructuring in the agricultural and economic sectors.

1.2.3.3 Non-Governmental Organisations

NGOs in Zambia are mainly involved in advocacy work for the poor and vulnerable. NGOs like PAM, CARE, World Vision involved in the distribution of food relief have also been carrying out extension work as way of promoting sustainable and drought resistant crops like cassava and sorghum. They have been involved in small-scale research and participatory extension on various field crops on how to adapt them to the local conditions. Similarly, the Conservation Farming Unit (CFU) under the Zambia National Farmers Union (ZNFU) has been behind the promotion of conservation farming among smallholder farmers to sustainably produce food while preserving the environment. Small-scale localized research being conducted by NGOs, such as HODI, has been producing valuable information pertaining to food security among smallholder households.

The majority of NGOs operate in isolation and do not regard themselves as part and parcel of the government efforts thus, limiting their chances of influencing policy. Lack of regular consultations amongst NGOs as well as with government has also resulted in conflicts and duplication of efforts. For instance during the current food distribution programme it became apparent that some areas had not received food aid at all while others were receiving food baskets from several NGOs. The criteria used to target the people in need also differed according to the priorities of different NGOs.

1.2.4 District and local level Institutions

In Zambia, all governmental departments are represented at the district level. For instance, most of the Ministry of Agriculture & Co-operatives responsibilities at district level are coordinated through the District Agricultural Co-ordinator's Office. Additionally there is a District Agricultural Committee (DAC) whose membership is drawn from the public, private and other relevant stakeholders. The DAC is responsible for approving all agricultural related programmes at district level.

Planning and implementation of all the district development programmes is coordinated by the District Development Co-ordination Committee (DDCC). Members of the DDCC are drawn from all government departments, selected private sector organizations, civil society, NGOs, and the local authorities (District Council). The DDCC is chaired by the District Administrator (DA), who is the central government representation at the local level.

The Decentralization policy has already been formulated but is yet to be adopted by the government. The policy is aimed at local authorities and is meant to decentralise and

devolve most of the powers to local levels. At the district level, the local authorities deal with needs of the local communities in aspects like water and sanitation, health and nutrition, food and logistics as well as agriculture. If well coordinated, local government structures would ensure that the felt needs of the communities are taken on board when making decisions.

1.2.5 Food security related donor community projects

Over the last decade, both Multilateral and Bilateral institutions and agencies have supported activities aimed at developing the agriculture sector in Zambia, the notable ones being the World Bank, International Fund for Agricultural Development (IFAD), United Nations Development Programme (UNDP), Swedish International Development Agency (Sida), Japanese International Cooperation Agency (JICA) and the Food and Agricultural Organization (FAO).

The donor support in the past was channelled through many different projects in different parts of Zambia. In 1996, the Ministry of Agriculture, Food and Fisheries initiated the Agricultural Sector Investment Programme (ASIP) in order to coordinate and harmonize the development of the agriculture sector. The donors then identified different components of ASIP that they could support. The World Bank has however been the major financier of ASIP.

1.2.5.1 The World Bank

Since 1996, the Ministry of Agriculture, Food and Fisheries has been implementing the Agricultural Sector Investment Program (ASIP) chiefly under the support of the World Bank through a loan contracted from the International Development Association (IDA) by the Government of the Republic of Zambia. The IDA credit is US\$ 55.6 million but total disbursement as at July 25, 2001 is US\$51.99 million.

The ASIP was conceived and designed to achieve five major developmental goals, namely:

- (a) Improved Food Security
- (b) Enhanced agricultural growth
- (c) Enhanced contribution to income and employment generation
- (d) Increased agro-based export earnings as a contribution to balance of payments
- (e) Enhanced contribution to Sustainable Industrial Development

The implementation period of ASIP was initially four years – 1996 to 1999. The program was extended for one year to include the year 2000. Following discussions with the World Bank, and in full consideration of the more than US\$10 million balance of the loan proceeds the implementation period of the programme was, toward the end of 2000, extended for another one year, January to December 2001. The estimated program cost of the ASIP was US\$350 million with the World Bank (IDA) contributing US\$56 million.

IDA support to the sector has been to Soils and Crops Research, Seed Control and Certification, Golden Valley Agricultural Research Trust, Cotton Development Trust, Extension (District and Provincial activities which lately included Participatory Extension Approach (PEA) Pilot Programme), Soil Fertility Improvement, Rural Investment Fund (RIF), Training, Financial Management Unit (FMU), and Policy and Planning Branch

(PPB). About two years ago, the IDA started providing support to the HIV/AIDS program in the MAFF.

IDA support to ASIP has been channelled within the framework of the four main components of the programme, namely:

- (a) **Policy and Institutional Improvements (US\$28.4 million)** focused on outstanding policy reforms in key areas of marketing, trade and pricing, food security, and land use and land tenure. The component also included support to institutional restructuring and strengthening.
- (b) **Public Investment (US\$182.7 million)** through which investments were made in priority areas of Research, Extension, Livestock, Fisheries, Irrigation, Farm Power and Mechanization, and Agricultural training.
- (c) **Private Sector Development (US\$85.6 million)** focused on the creation of an enabling environment and incentives for the public sector. The component also supported the establishment of the Golden Valley Agricultural Research Trust.
- (d) **Pilot Investment Schemes (US\$53.3 million)** focused on the establishment of a rural investment fund (RIF) to support small-scale capital investments in rural communities on a matching grant basis.

1.2.5.2 Swedish International Development Agency (SIDA)

The Sida support to the agricultural sector under ASIP was implemented from 1999 to 2002. Sida supported the agricultural sector with resources amounting to one hundred and thirty-five million Swedish Kroner (SEK135, 000,000). Projects covered in this programme are:

1. Multiplication and Distribution of Improved Seed and Planting Materials;
2. Land Management and Conservation Farming (SCAFE);
3. Economic Expansion in Outlying Areas (EEOA);
4. ZNFU/Conservation Farming Unit;
5. Smallholder Farmer Access to Processing, Extension, and Seeds Project;
6. Sida Support to Policy and Planning Branch of ASIP.

Box 1 Sida agricultural sector projects

1. Multiplication and Distribution of improved Seed and Planting Materials Project

MDSP was implemented by Zambia Seed Company Limited (Zamseed), which is contracted by MAFF. The project operates in Northern, Southern, Western and North-western Provinces.

The main objective of MDSP was to develop a sustainable seed supply for the multiplication and distribution of the improved varieties of small grains, selected food legumes and roots and tubers in order to enhance food security and raise farmer income

2. Land Management and Conservation Farming (LM&CF)

Sida has supported the LM&CF since 1985. The main objective of programme was to have an improved and sustainable productivity of farms and agricultural lands for higher overall agricultural development. LM&CF covers about 21 districts in Eastern, Central, Lusaka and Southern Provinces.

LM&CF is implemented by the MAFF's Technical Services Branch (TSB). A consulting firm, Orgut/Agrisystems (Nordic) AB is assisting TSB in capacity and transfer of knowledge in the management of the programme. The main components of LM&CF are Land management and Conservation farming.

3. Economic Expansion in Outlying Areas (EEOA)

The Economic Expansion in Outlying Areas (EEOA) programme was initiated in 1995 and was implemented by a consortium led by RWA International on the basis of a contract with MAFF within the framework of ASIP. The programme is currently in its second phase (1998 – 2001)

EEOA main objective was to enable smallholders and local business enterprises in outlying areas to take advantage of the new economic policies implemented by the government, thereby improving their standard of living.

EEOA operated in Northern and Eastern Provinces. In Northern Province, the programme covered Mpika, Chinsali and Isoka Districts. Katete, Chadiza and Petauke Districts are covered in Eastern Province.

The Programme had four closely linked components Facilitation Process, Business and Management Training, Rural Economic Expansion Facility (REEF) for improved infrastructure and Financial Services for Economic Expansion.

4. Conservation Farming Unit (CFU)

CFU was funded by Sida as support to the Zambia National Framers Union (ZNFU). CFU was established to co-ordinate efforts to promote and demonstrate Conservation Farming Technologies among smallholders in Region I and II. Conservation farming (CF) is perceived as providing the best opportunity for farmers to reduce their costs, increase their productivity, ameliorate the effects of draught, improve their food security and protect the agricultural resource base from further degradation.

It works with organizations that provide an environment in which farmers are in a position to adopt and benefit from CF technologies. The CFU main clients are NGOs such as CLUSA, DAPP and out-grower schemes such as LONRHO. CFU operates in Central and Southern Provinces.

5. Small holder Farmer Access to Processing, Extension, and Seeds Project (SHAPES)

SHAPES was a project funded by Norad and Sida for a period of four years (2000 – 2003), implemented by the Programme Against Malnutrition (PAM). SHAPES is the successor to the Drought Rehabilitation Project (DRP), which provided drought stricken households with cereals, cash crops and legumes for household food security.

The main objective of SHAPES is to facilitate smallholder farmers to grow more food security crops. It is hoped that the food processing and storage component under SHAPES will help accelerate the adoption and utilization of some crops like cassava in non-cassava eating areas and sorghum and millet. The component will also reduce post-harvest losses and improve on the actual yields of the crops. This will lead to longer food availability and through improved net yield and food preservation.

The project is being implemented in Eastern, Central, Lusaka, Western and Southern Provinces. In Eastern province, the project covers Nyimba, Katete and Lundazi districts; in Central province, Chibombo and Mumbwa; in Lusaka the project operates in Chongwe and Kafue; in Western Kaoma district; in Southern Siavonga, Monze, Namwala, and Sinazongwe.

6. Sida Support to Policy and Planning Branch of ASIP

The overall objective of Sida support to the Policy and Planning Branch of MAFF is to strengthen the capacity of the Branch to conduct policy analysis and to effectively monitor and evaluate ASIP in order to improve co-ordination and implementation of ASIP programmes, provide sound agriculture policies and advice and enhance agricultural sector performance.

Project components includes short-term skills training, database management, monitoring and evaluation and policy studies and stakeholder coordination.

1.2.5.3 Japanese International Cooperation Agency (JICA)

The Ministry of Agriculture, Food and Fisheries has received assistance from the Japanese government in the form of project assistance, grants, technical experts and volunteers. The assistance has been designed to complement government efforts in pursuing agricultural sector objectives and strategies.

a) *The National Aquaculture Research and Development Centre*

In the fisheries sub-programme, the Japanese government has been assisting the Fisheries Department with experts, volunteers and equipment since the 1970's. One of the major beneficiaries of this assistance has been the Mwekera Fish Farm in Kitwe. The Fish farm was upgraded with technical co-operation from Japan. It was upgraded to a National Aquaculture Research and Development Centre (NARDC) to co-ordinate aquaculture development in the country. Mwekera became the referral centre for the 19 other centres countrywide.

Further, in 1997, the Japanese government gave a K5 billion grant for rehabilitation of NARDC so that it could meet its new role as the core for aquaculture development in the country. The grant provided for the setting up of new infrastructure and equipment making the NARDC the best facility in the SADC region.

b) *The Mongu/ Sefula Irrigation Scheme*

The other sub programme, which has received substantial support from the Japanese government, is Irrigation. With a grant of US\$7 million, Japan supported the initiation of the Mongu Rural Development Programme. The programme is located in Sefula, Western Province and consists of 200 hectares irrigated area, 30km of roads, 2.4km main canal, 13.1km of secondary and tertiary canals and 20.3km of drainage canals.

The major objective of the programme is to increase food security of farmers through increased food production and to increase financial security of farmers through increased production of rice as a cash crop.

1.2.5.4 United Nations Development Programme (UNDP)

The UNDP support aimed at complimenting Government initiative in rural development within the framework of the ASIP is called the Smallholder Farm System Diversification Programme (SFSDP). However the UNDP support ended on 31st December 2001.

The major objective was to improve incomes and food security of the smallholder farmers and vulnerable groups such as women and youth. The programme's strategy was to achieve the objective through the development and diversification of smallholder farm systems through increased the range, scale and profitability of crop, livestock and fish enterprises as well as commercialisation of production.

The Programme Components included Management and Co-ordination, Smallholder Seed Production, Food Crop Diversification, Animal Draft Power, Post-harvest and On-farm storage, Local Market Development and Smallholder Access to Credit, Conservation Technologies and Smallholder Aquaculture.

1.2.5.5 The African Development Bank (ADB)

The Ministry of Agriculture, Food and Fisheries implemented two ADB supported projects in the Eastern Province.

a) *The Zambia Agricultural Marketing, Processing and Infrastructure Project [ZAMPIP]* was financed by an ADB loan amounting to UA 9.2 Million [approx. US\$ 12

Million]. The loan agreement was signed on 28th November 2001. The project ended in 31st December 2002.

- b) **ASIP implementation support in Eastern Province.** The ADB was supporting this program through a loan amounting to UA 15.0 Million [approx. US\$ 19.7 Million] and the loan agreement was signed in 1997.

Both projects are being implemented concurrently. ZAMPIP was comprised of the Rural Credit Facility (RCF) and the Rural Investment Fund (RIF) is being implemented through the Zambia National Commercial Bank (ZNCB) that administers the credit scheme (on-lending and credit recoveries), and AFRICARE, an international Non Governmental Organisation that manages the scheme.

ADB support to ASIP implementation, on the other hand, is directly implemented by the MACO. The programme has four main components: Agricultural Development, Livestock Development, Infrastructure and Technical Assistance.

- c) **Future Support from the ADB.** On 7th September, 2000, the ADF Board of Directors approved the government's request for a loan of UA5.29 Million (approx. US\$ 6.9 Million) and a TAF grant of UA 0.76 Million (approx. US\$ 0.99 Million) to finance the Small-scale Irrigation Project [SIP]. SIP is to be implemented over a period of six [6] years and commenced in March 2002.

In addition, MACO has requested for assistance for the preparation and financing of the Agricultural Diversification project to be implemented in three [3] provinces, the Copperbelt, Central and Lusaka Provinces. The Bank's and MAFF are currently doing the feasibility analysis of this support.

1.2.5.6 International Fund for Agricultural Development (IFAD)

The IFAD support to the agriculture sector in Zambia within the framework of the ASIP is channelled through three projects:

a) Smallholder Enterprise and Marketing Programme (SHEMP)

The Smallholder Enterprise and Marketing Programme (SHEMP), which started in November 2000, is expected to benefit 30,000 smallholder farmers in seven focal areas. The focal areas are located predominantly in Southern, Lusaka and Central Provinces including a substantial part of Eastern Province and small parts of adjoining province such as Copperbelt where there is heavy concentration of trading/agricultural activity.

The total cost of SHEMP is estimated at USD 18.35 million and will last for seven years (end in December 2007). IFAD loan is USD 15.9 million (87%) while the beneficiaries will contribute 9% and USD 836,000 (5%) will come from co-financiers who include market intermediaries and an international NGO. It is managed by a consultancy firm, namely MASDAR Zambia Limited.

SHEMP has been designed to empower smallholder farmers to participate gainfully in the market economy. It is a business-oriented programme that is being implemented in collaboration with the private sector. Its primary objective is to improve smallholder incomes by improving the smallholders' access to inputs and services from the private sector.

b). Smallholder Irrigation and Water Use Programme (SIWUP)

The Smallholder Irrigation and Water Use Program (SIWUP) is another IFAD funded programme, which was implemented under the Agricultural Sector Investment Programme (ASIP). The objectives of the irrigation programme were to promote economically sustainable irrigation systems, expand the area under irrigation and contribute to increased crop production and improve income generation among irrigation farmers.

SIWUP was effectively started in 1996 and ended on 31st December 2001. The program focused on the drought prone provinces of Zambia namely: Central, Eastern, Lusaka, Southern, and Western Provinces.

As an ASIP sub-programme, SIWUP implemented its activities through the Technical Services Branch teams based in the five programme provinces. SIWUP had four main areas covering the following components:

1. Reinforcement of informal irrigation;
2. Transfer of Government schemes;
3. Community Development; and
4. Institutional strengthening.

c). Southern Province Household Food Security (SPHFSP)

The Southern Province Household Food Security Project (SPHFSP) started on 28th March 1995. It was expected to benefit 42,000 households (30,000 farmers out of the total 68,000 households in the area). The total cost of the project is estimated at USD23.4 million in which IFAD is contributing 65.8%, UNDP USD6.2 million, beneficiaries 0.8million and borrowers USD6.2million.

The project was scheduled to come to an end on 31st December 2001 but was extended to June 2003. Other project interventions in the areas are supported by GTZ, Belgian, UNICEF and EU among others.

The programme sets out to alleviate chronic malnutrition and improve the long-term resilience of rural households to food insecurity and to stabilize their access to food over the medium term. This will be achieved through: (i) increased food production and/or cash income with which to procure food, (ii) safety nets when crops and incomes are not available, (iii) safe drinking water.

SPHFSP consists of ten components, namely Participatory Research and Extension (PR&E), Animal Production and Health, Seed Multiplication, On-farm Storage, Rural Roads, Rural water Supply, Decentralization of MAFF, Monitoring and Evaluation, Community Development Fund (CDF) and Training.

1.2.5.7 The German Technical Assistance to Zambia (GTZ)

In Southern Province, GTZ has been involved in livestock and other agricultural activities in Mazabuka, Monze, Choma, Kalomo and Siavonga Districts.

GTZ was also involved in developing a Management Information System (MIS) for ASIP components. They have also trained District Marketing and Cooperatives Officers (DMCOs) in management of database for community projects and run Small Business Management course.

GTZ has further offered to assist the province in producing a training manual for Participatory Extension Approach (PEA) that includes gender, household food and nutrition security concerns.

1.2.5.8 Food and Agriculture Organisation of the UN (FAO)

The FAO Representation in Zambia coordinates and manages a programme of regular development activities. This includes FAO funded initiatives such as Technical Cooperation Programme (TCP) and Special Programme for Food Security (SPFS) activities. However, there has been a limited amount of direct emergency intervention in recent years. FAO has extensive interaction with the Government of Zambia through the Ministry of Agriculture and Co-operatives.

Following two successive years of adverse weather conditions that affected a number of districts in Zambia, the food security situation in the country reached a critical point. In May 2002 an FAO/WFP Crop and Food Supply Assessment Mission visited 40 of the 72 Districts in the country, collecting secondary data and cross-checking against information collected from field visits, interviews and discussions conducted with various actors in the sector. The results of the assessment show that the 2001/2002 cropping season was generally poor in five of Zambia's nine provinces. The more drought-affected areas were found in Southern Province, the southern part of Western Province and the strip along the Zambezi Valley in Eastern Province. The drought essentially exhausted affected households' coping mechanisms. Approximately half of the total rural population needs immediate agricultural assistance for early rehabilitation.

Given similar situations in a number of Southern African Developing Community (SADC) countries, a UN Consolidated Appeal (CAP) was launched in July 2002. The aim of the agriculture/food security component of the Zambia CAP is to stabilize food production levels through the provision of targeted expertise and inputs for the 2002/2003 rainy season. Seed multiplication and cassava planting activities in the 2002/03 season will provide extended stability by providing inputs for the 2003/04 season and beyond. The programme is funded by the UK Department for International Development (DFID) and is being implemented by FAO and partner NGOs.

The objective is that by mid-2003 the following should be in place:

Increased food security for 60, 000 households in Southern Zambia. This will be accomplished through establishing immediately accessible food production and improved potential for continued stability of yields and diversification of crops. Conservation farming inputs, with associated fertilizer; training and support are being provided;

A reinvigorated smallholder seed and planting material multiplication capacity. This will provide immediate inputs for the 2003/04 growing season through the addition/restoration of 2,000 smallholder seed and planting material producers. These producers will in turn be able to use this activity as an income generation process,

Ten new cassava nursery sites will have been established in Western Province. Each one hectare site will provide planting material for up to 15 hectares of cassava in 2003/04; and

Planting material for 2 000 households will be provided for the 2002/03 season. This will be sourced from existing SIDA-funded MDSP (Multiplication and Distribution of Seed

and Planting Material) nurseries. Contractual support will also be given to a research station for the maintenance of suitable breeder material for future years.

1.2.5.9 World Food Programme (WFP)

Like most countries in the SADC, Zambia has experienced food deficits due to the drought that affected the sub-region in the past two seasons. This year, Zambia's food relief requirements for poor and vulnerable households was been estimated at 175, 000 MT. This food relief will be met through pledges and donations from donor community. The Disaster Management Unit in the Vice President's office is coordinating this exercise. Further, the World Food Programmed (WFP) is coordinating all food relief imports and distribution.

The WFP collaborates with the Disaster Management Unit in terms of planning food security humanitarian assistance policies as well as soliciting funds to finance local food aid programmes especially during severe food insecurity situations like the current one being experienced in the country. It also works closely with the other national institutions responsible for food security to facilitate and monitor food aid distributions. Similarly, collaborations have been through government strategies such as Food for Work, feeding Programmes for the poor in both rural and urban areas, feeding programmes in primary or community based schools and dry rations to households that support orphaned and vulnerable children.

1.2.6 The private sector

Given the food deficits in Zambia in the 2001/2002 production season, it was imperative that Government properly addressed the issue of food imports in order to ensure that adequate and affordable food was available to the Zambian people while at the same time avoiding potential dangers to the lives and environmental conditions of the Zambian people. In order for the country to be able to meet the food requirements, there was a need for this shortfall to be met through importation, both for commercial purposes and for food relief to vulnerable communities.

Government therefore put in place measures to import maize to meet the food relief requirements of vulnerable areas as well as assist the private sector to avoid food shortages. The food imports were planned as follows: -

Commercial Imports	300,000 Metric tonnes
Food Relief	175,000 Metric tonnes
Strategic Reserves	156,000 metric tones

1.2.6.1 Commercial Imports

Commercial Imports were undertaken by the private sector through the Millers. The Millers have been importing the said quantity (300,000 Mt) of maize using their own resources for commercial trading. Government on the other hand facilitated the availability of foreign exchange, waived duty on imported maize, restricted imports of mealie meal, and levelled the playing field for the millers by ensuring that the importation of maize did not disturb the local maize market. A memorandum of understanding was signed with the private sector to bring in 300,000 metric tonnes of non-GM maize. .

The private sector takes the lead in cereal imports and there are no barriers to private sector imports. However, Government controls grain exports/imports and issues export/import permits to the commercial sector upon application. In Zambia the

government contracts imports to the private sector, and may subsidize prices when the price of mealie meal prices increase beyond the politically acceptable levels.

In view of uncertainties surrounding the likely consequences of consuming Genetically Modified Foods (GMFs), and in the absence of a national biotechnology and bio-safety policy framework as well as inadequate national capacity to deal with Genetically Modified Organisms (GMOs), it was determined that it would be risky for the country to import GM products. It was argued that the acceptance of GM maize and genetically modified foods (GMFs) in the absence of evidence of its safety on human health would pose a danger to the lives of citizens and the environment. The immediate possible threat of contaminating local indigenous and hybrid seed stock is also another serious risk posed by GMOs.

In this light, the Zambian Government decided not to accept genetically modified foods even in the current food deficit situation. This was decided after extensive consultations with various stakeholders, which culminated with a public debate which was held on 12th August 2002. The Government made its decision on the basis of this and other inquiries. However, foodstuffs, including maize that was already in the country, was banned and distribution stopped. Even if there were press reports that some people in rural communities had looted and consumed the banned GM maize which was stored at local storage sheds, the Government continued to make efforts to sensitize all Zambians not to acquire, consume or plant or otherwise deal with genetically modified seed, especially genetically modified maize that may come from neighbouring countries. Government ensured that there was enough of non-GM maize imported into the country to ensure that people were not forced to start consuming GM maize.

Whilst the government presents its decision on the GM issue as based on protecting the human health of people in the country, other stakeholders have suggested that, in fact, the move is a political one with the aim of demonstrating that the government is not a dumping ground for surplus grain from the United States. In response to these remarks, government is putting in place a National Bio-safety framework to regulate the importation and application of biotechnology and genetically modified organisms (GMOs). Further more, government will build capacity to detect GMOs and manage unplanned or unanticipated entry of GMOs into the environment.

1.2.6.2 Food Relief

The food relief requirement (175,000 Mt) for the vulnerable households will be met through pledges and donations from the donor community. The Disaster Management Unit in the Vice President's office is coordinating this exercise. Further, the World Food Programmed (WFP) is coordinating all food relief imports and distribution.

In view of the rejection of GMO maize and products distributed by WFP, Government has put in measures to cushion this through: -

- 1. Importation of maize through an open tender system:**
- 2. Purchase of excess roller meal from millers:**
- 3. Purchase of cassava chips:**

1.2.6.3 Local Purchases

The Food Reserve Agency has continued to purchase maize locally from areas, which were not adversely affected by the weather. Maize purchase under this programme is also being used for relief food.

The survey that NEWU was important in facilitating the confirmation of the planned imports to ensure that there is a reduction of the food deficit and to minimise the effects of famine. Nevertheless food availability does not always ensure access since the peoples' purchasing power is a crucial component of food security. As a result some interventions have to be in the form of food subsidies.

1.2.7 The media

The print and electronic media play a crucial role in disseminating information about agriculture and food security issues in Zambia. Farmers' programmes, especially on the radio are popular with farmers as they impart information on agriculture such as crop and animal husbandry practices, and agricultural marketing. This information equips the farmers with knowledge that they can use to produce quality crops for own consumption and sale at good prices. Radio programmes allow for feedback from the farming community if these programmes are freely allowed to operate and openly consider food security issues, the immediate needs and priorities of the communities could be integrated within the decision making process and probably within policy formulation processes.

1.3 Policy framework analysis

A number of reforms pertaining to various policy instruments have instituted over years in Zambia to make food available for all and to redress the depressing hunger situation. The policy efforts towards food availability are seen in both the Agricultural Sector Policy objectives and the various strategies that have been proposed and implemented.

1.3.1 Agricultural sector policy goals and strategies

1.3.1.1 Agriculture Sector Investment Programme (ASIP)

Prior to 1991, the Government of the Republic of Zambia heavily controlled the marketing of agricultural produce and inputs in Zambia through parastatals and other government supported.

After 1991, the sector strategies to attain the long-term objectives changed to the creation of the enabling environment for private sector development through withdraw of government involvement in production, marketing, and distribution of inputs; privatisation of parastatals, elimination of price controls, elimination of direct subsidies, etc. At the same time the government realized that there was fragmented approach to the development of the agriculture sector and that the performance of the sector could only be improved through efficient utilization of resources. Therefore, the government embarked on stakeholder consultations to develop the Agriculture Sector Investment Programme (ASIP).

ASIP was a holistic approach to provide improved and sustainable services through efficient use of resources. In order to achieve this, ASIP was expected to provide an integrated and coordinated framework for the development of the agricultural sector. The major underlying assumption was that all Donors were expected to contribute to the "basket funding", with the Ministry of Agriculture and Cooperatives (MACO) deciding on how and where to channel the funds. The strategies to achieve the objectives of ASIP focused on activities to enhance production through free market development, reduction of government role in commercial activity, and provision of efficient public services.

The interventions of ASIP were organized around the following sub-programmes: Extension, Irrigation, Research, Agriculture Training, Animal Production and Health, Agriculture Finance, Marketing and trade, Seeds, New Product Development, Farm Power and mechanization, Policy and Planning, Standards, and the Rural Investment Fund.

The implementation of ASIP started in January 1996 and was expected to end in December 1999. Due to teething problems (restructuring of MAFF, delays in disbursement of funds, etc), the implementation of ASIP started slowly and therefore, the programme was extended for two years (up to the end of 2001) to permit completion of some activities.

Meanwhile, as mentioned above, the government has been forced to intervene in the agricultural sector in the 2002/2003 farming season. This is in an effort to address the food crisis caused by the drought situation in the previous season.

1.3.1.2 National Agriculture Policy and the Vision (NAP)

The Government of Zambia is committed to the attainment of broad-based economic growth. In order to realize this goal, Zambia has implemented many economic, social and political reforms. The major socio-economic activities, which have a significant effect on the agricultural sector, include:

- The privatisation of the economy and its demands for efficiency and effectiveness.
- The democratisation process and the quest for greater participation of all stakeholders (farmers, NGOs, private sector, government, donors, etc).
- The globalisation and the need to maintain an international outlook in all the activities (SADC, COMESA, WTO, etc)
- The need to improve the standard of living of people.
- Sustainable utilization of natural resources.

Over the years, the government has given priority to the attainment of macroeconomic stability through careful implementation of fiscal and monetary policies. At the same time, the government recognizes the need to involve the private sector in the realization of the national goals and objectives and in the delivery of some of the services.

The vision for the agricultural sector as set out in the National Agricultural Policy (NAP) and as shared by the ACP is **“to promote development of an efficient, competitive and sustainable agricultural sector, which ensures food security and increased income”**. The ACP will also strive to contribute to the overall goal of the PRSP, which is to achieve **“poverty reduction and economic growth”**.

The main thrusts of the National Agricultural Policy are liberalization, commercialisation, promotion of public and private sector partnerships, and provision of effective services that will ensure sustainable agricultural growth. The vision for the agricultural sector recognizes the need to strengthen and expand the emerging opportunities and also deal with the challenges facing the agricultural sector. In line with this vision, the specific objectives of the agricultural sector are:

- 1) To ensure national and household food security through dependable annual production of adequate supplies of basic foodstuffs at competitive costs;
- 2) To contribute to sustainable industrial development by providing locally produced agro-based raw materials;

- 3) To increase agricultural exports thereby enhancing the sector's contribution to the national balance of payments;
- 4) To generate income and employment through increased agriculture production and productivity; and
- 5) To ensure that the existing agricultural resource base is maintained and improved upon.

The strategies to attain the objectives emphasize the following:

- 1) Strengthening and monitoring the liberalization of markets and facilitating private sector development.
- 2) Diversification of agricultural production.
- 3) Strengthening and facilitating the provision of agricultural services in order to increase productivity particularly among smallholder farmers.
- 4) Reviewing and realigning institutional and legislative arrangements.
- 5) Development of infrastructure in potentially productive agricultural areas.
- 6) Development and promotion of appropriate technology.
- 7) Promotion of gender equity in resource allocation and access to agricultural services.
- 8) Promotion of sustainable and environmentally sound agricultural practices.
- 9) Prevention and control of pests, crop and livestock diseases of national importance.
- 10) Strengthening emergency preparedness
- 11) Regulate the introduction and use of bio-technological products in particular, genetically modified organisms (GMOs).
- 12) Maintaining agro-biodiversity

Based on the agriculture sector objectives: diversification, raw material production, increasing exports, generating employment, and contribution to the GDP, the following are some of the achievements and constraints:

1.3.1.3 Achievements

Increasing diversification: In terms of area under cultivation, the volume of production, and the number of farmers involved in production, the major agricultural product is maize (the major staple food of most Zambians). Small and medium scale farmers², who account for approximately 70% of the maize consumed in Zambia, dominate the production of maize. In recent years, the contribution of maize to total agricultural production has decreased due to diversification into relatively more profitable crops and other staple foods (beans, groundnuts, sunflower, cassava, sweet potatoes, etc. This has provided a wider base for food security.

Increasing role of out-grower schemes: In the past, government controls in production and marketing discouraged the emergence of significant agribusiness activity. Under a liberalized environment, the private sector has quickly moved into the areas with surplus agricultural production. The out-grower schemes are facilitating small-scale production³ of

² In 1999/2000, small and medium scale farmers planted approximately 960,000 Ha accounting for the following proportions in national production: Maize (58.5%), Cassava (13.6%), and millet (17.9%)

³ The numbers of Small-scale farmers involved in the production of various crops are as follows: cotton (180,000), paprika (1,500), and tobacco (6,000).

targeted products, such as cotton, sunflower, vegetables, tobacco, paprika, etc, through provision of agricultural services (extension, credit, and marketing) which were previously supplied by the government. The major focus of agribusiness activity is on high value products

Agricultural exports: In the last few years, most of the poverty indicators have deteriorated, resulting in very low purchasing power. Therefore, the effective demand in the local market is very small and unlikely to absorb a significant increase in agricultural production. In order to overcome the local market constraints, the government has secured access to international markets through a number of trade agreements (ACP, EU, COMESA, SADC, SACU, etc). Zambia has comparative advantage in a number of agricultural products and the government has put in place incentives (appropriate exchange rate, the right financing facilities, duty exemptions and/or lower duty rates, etc) that promote the production of agricultural exports. In response to the incentives, there has been a significant increase in the volume, value, and variety of agricultural exports.

Rural infrastructure: A well-developed and maintained rural infrastructure is necessary for agricultural growth and overall rural development. The Rural Investment Fund (RIF) was established to facilitate development and rehabilitation of community identified infrastructures to support agricultural activities. Over the last five years, RIF has provided matching grants for construction and maintenance of infrastructure, such as rural access roads, bridges, cattle dips, dams, irrigation, storage, and market facilities. The improvements in rural infrastructure are contributing to rural incomes and poverty reduction.

Consultations and partnerships: There have been improved consultations with stakeholders through the establishment of the Agricultural Consultative Forum (ACF) and the contracting of the provision of some services to NGOs and the private sector. As a result, there is an increase in the number of NGOs and private firms involved in delivering services to farmers, such as extension and inputs.

Restructuring of MACO: A key component of implementation of the policy was the restructuring of the Ministry of Agriculture and Cooperatives (MACO) to enable efficient implementation of the programme and provision of support services to farmers and other agribusiness firms. The restructuring of MACO was completed and an attempt has been made to fill the vacant posts with the qualified personnel. However, the poor conditions of service are major constraints to the completion of the recruitment and retention of qualified staff.

1.3.1.4 Constraints

While appreciating some of the achievements, a number of failures have also been observed:

Private sector activities were limited to a few areas. Even though the target of interventions was the small-scale farmer throughout the country, only some small-scale farmers along the line of rail benefited through the increasing number of out-grower schemes, which provide inputs, extension services, and marketing services. This has put many farmers, especially those in outlying areas, at a disadvantage.

Macro-economic instabilities. The liberalization of the economy was supposed to create the environment for increased private sector activities. This was not realized because the initial impact of the interventions made the macro-economic environment hostile in that it

resulted in high interest rates, high inflation, decreasing purchasing power, volatile exchange rates, etc. The result is that there are inadequate credit facilities. In most cases, long-term investment was abandoned in preference to short-term trading opportunities. This environment was not conducive to private sector investment in the agriculture sector.

Increasing food insecurity among smallholder farmers: Following the collapse of some of the institutions which used to provide services in rural areas, some small-scale farmers with potential to produce surplus food are failing. This is due to poor roads, long distances to markets, lack of inputs, and the collapse of channels for providing credit. One effect is that the number of food-insecure households has increased

Increasing outbreaks of livestock diseases: Most of the farmers are involved in the production of livestock at varying levels. The major livestock product is cattle, which is dominated by the small-scale farmers (traditional sector). Between 1996 and 1997, total cattle population decreased from approximately 5.5 million to 2.7 million animals. During this period, the small-scale cattle sub-sector suffered massive losses due to frequent outbreaks of contagious diseases. In areas where cattle production is a major activity, the loss of cattle has had negative effect on cultivated area and the net worth of families. The other problem is that the prevalence of diseases has restricted access to some external lucrative markets. After an extensive programme of animal vaccination, the cattle population increased to 2.9 million in 1999.

Inadequate Donor Funding to ASIP. One of the major assumptions of agricultural programmes was high Donor support through “Basket Funding” to be managed by MACO. It became apparent that only a few Donors strongly supported the Programme and that others were not happy with the Basket Funding approach. Some donors continued to directly or indirectly support on-going projects or establishing new projects.

Inconsistent policy pronouncements and implementation. Even though the focus of SAP has been to encourage private sector activities, the government argues that the private sector has failed to fill some of the vacuum created by the withdrawal of government services and the collapse of government-supported institutions (credit and marketing institutions). As a result, the government intervenes by providing some of the services, notably supplying fertilizer and maize marketing. This reduces private sector confidence in providing commercial services in those areas.

Infrastructure. Even though RIF has made contribution to some rural infrastructure improvement, many areas remained without any improvements. The poor rural infrastructure in many parts of the country is still constraining the effectiveness of the liberalization because it increases operational costs and cuts off certain areas from many agricultural services, especially those provided by the private sector.

Unfair regional trade practices. The liberalization policies and the various trade agreements the country has entered into have exposed local producers to tough competition from imports. Some stakeholders feel that Zambia’s trading partners have not liberalized their economies and many of them are still subsidizing production and exports. Under these conditions, trade liberalization is not benefiting the agricultural sector.

Gender inequality. Even though most of the small-scale farmers (65%) are women, programmes failed to design special interventions to address gender issues. The inequalities in access to services, training, representation, etc, for women are major areas of concern. As a result, women have failed to respond to the opportunities being created by the liberalized environment.

HIV/AIDS. HIV and AIDS have emerged as serious constraints to the development of the agriculture sector. The national HIV/AIDS prevalence is estimated at approximately 20 percent. In the agricultural sector, HIV/AIDS has resulted in loss of progressive farmers and staff. This has serious implications for the productivity and general development of the agricultural sector (see section 2.1.1).

1.3.2 Current agricultural sector programmes relevant to food security

1.3.2.1 The fertilizer support programme

In order to address the dynamic constraints to improve household food security and income for smallholder farm households within the liberalized policy framework, the Government of the Republic of Zambia has developed a three-year Fertilizer Support Programme (2003 –2004). The Fertilizer Support Programme is aimed at improving access of viable resource poor smallholder farmers organized in groups, associations and cooperatives to agricultural inputs by rebuilding their asset base through direct income transfers (subsidy). Further, it also aims at improving access of smallholder farmers to agricultural inputs and promoting private sector growth in order to effectively fill the gap left by the government withdrawal from fertilizer marketing.

The specific objectives are:

- i. To improve access of smallholder farmers to agricultural inputs.
- ii. To serve as a risk-sharing mechanism for smallholder farmers to cover part of the costs for improving agricultural productivity.
- iii. To expand markets for private sector input suppliers and increase their involvement in the distribution of agricultural inputs in rural areas, thereby reducing the direct role of government.
- iv. To facilitate the process of farmer organization, dissemination of knowledge and creation of other rural institutions that will contribute to the development of the agricultural sector.
- v. To reduce government's involvement in the distribution of agricultural inputs.

1.3.3 Food security pack

This is full grant programme for the Vulnerable but Viable farmers. This programme covers 200,000 beneficiaries who have been affected by floods, droughts, deaths, or are female or child headed households. It is implemented by the Ministry of Community Development and Social Services through a local NGO, Programme Against Malnutrition (PAM). The main objective of the programme is to improve crop productivity and household food security thereby contributing to the reduction of poverty among the targeted beneficiaries. The programme is also aimed at introducing an effective crop diversification policy that encourages farmers to grow a variety of food crops such as cereals, food legumes, cassava, and bananas and encourages seed multiplication and distribution among small-scale farmers. This contributes towards food security.

The following are the four main components of the programme:

- ***Crop Diversification*** – a food security pack is composed of cereals (maize millet, rice), legumes (groundnuts, beans), and a root/tuber crop (sweet potatoes, cassava) and other crops.

- **Market Entrepreneurship and Seed/Cereal Bank Development** - This focuses on capacity building among NGOs, farmers and traders, and beneficiaries in entrepreneurship, marketing and cereal bank development skills.
- **Alternative Livelihood Interventions** – This provides packs such as fish farming, small livestock rearing, animal care services and others crop production activities based on comparative advantage.
- **Soil Conservation** – Promotion crop production of practices that encourage sustainability such as conservation tillage, soil fertility improvements and erosion control.

1.3.3.1 Winter Maize Production

Zambian agriculture is heavily dependent on rainfall, resulting in food shortfalls as rainfall patterns change. This is unacceptable, especially when the country is well endowed with water and arable land resources, which currently are under utilized. To reduce shortfalls in crop production and enhance national food security, Government has encouraged and contracted large-scale farmers to produce maize under irrigation to meet the impending maize shortfall this year. Under the programme, about 1,500 hectares was planted and about 8,000 Mt tonnes of maize was harvested.

1.4 An analysis of institutional co-ordination and decision making processes

Zambia's institutional framework for food security decision-making processes and issues are complex. As shown in the previous sections, policies related to food security are often developed at the central level with the assistance of various donor institutions and other stakeholders. In instances of natural disasters like droughts or floods, efforts are made to integrate the needs of the people into the decision-making process. Past experiences showed that coordination or networking was a problem. There was little or any effective coordination or communication mechanisms between different actors geared towards formulation and revision of food security policies despite numerous meetings and workshops where different stakeholders were requested to air their views. There was also a noticeable overlap between key actors at central level, donors, NGOs and monitoring networks. For instance, nutrition is a crosscutting issue, which is currently split between the NFNC and the Ministries of Health, and Agriculture & Cooperatives. Another problem area was lack of networking between some NGOs resulting in duplication of efforts. In some cases lack of coordination resulted in situations where several NGOs focused in one area while some vulnerable people in other areas were left without any assistance in food relief activities.

Against this background, the Agricultural Consultative Forum (ACF) was formed to engage stakeholders in the process of policy formulation and to re-focus ASIP on fostering private/public partnerships. The formative phase benefited from backstopping services of a Consultant who was by the Royal Netherlands Embassy.

1.4.1 Agricultural consultative forum

The Agriculture Consultative Forum (ACF) which was formed on the basis of a recommendation from the 1998 Mid-Term Review of ASIP. It was initially called the ASIP Consultative Forum but changed the name in 2000 to make it more broad based in dealing with agriculture development issues. The major purpose that underscored the formation of

the ACF was the enhancement of co-ordination and consultation among government and private sector stakeholders in the agricultural sector. This is one of the issues the Mid-Term Review identified as grossly inadequate. For instance, many key private sector players, NGOs and non-MACO GRZ institutions had little or no information on ASIP and its performance. The formation of the ACF was, therefore, perceived as critical in enhancing broad-based ownership and decision-making.

Nevertheless, at the beginning there was some apprehension within MACO on the formation of the ACF due to its perceived potential duplication in some of its functions vis-à-vis those undertaken by the department of Planning and Cooperatives Directorate (PCD). This in particular arose from the fact that ACF advisory notes were sent directly to the Minister of Agriculture and was thus seen as a parallel body to the PCD. This was rearranged when it was agreed that the ACF instead send its advisory notes to the PCD, which would in turn advise the minister as appropriate. With this sorted out, the ACF and MACO have forged together on a number of issues and there appears a growing appreciation in MACO that the ACF is an important forum for consulting stakeholders.

Membership of ACF is drawn from various stakeholders such as the Ministries of Agriculture & Co-operatives, Finance & National Planning, Local Government and Housing, Lands, Works & Supply; Gender in Development Division (GIDD); Zambia National Farmers Union; Agribusiness Forum; Agro-based NGO Forum, and Donors, etc. The ACF has brought together government and private sector key players to discuss and resolve a number of the country's agricultural development and food security issues. For example, various players have had an input in the current Draft National Agriculture Policy through the meetings arranged by the ACF. The NGOs, the Agri-business sector and donors have been particularly enthusiastic about the ACF and think that it is serving a very useful purpose, particularly in the area of information dissemination. Given the status that the ACF has now assumed among key players, it is in the right position to facilitate continuous consultation among key stakeholders and to facilitate the formulation, updating, designing and operationalisation of food security policies and programmes.

2 The Relationship between Vulnerability and Food Insecurity

2.1 Food security and vulnerability to the HIV/AIDS epidemic

2.1.1 The impact of the HIV/AIDS crisis on the national level

The prevalence and incidence of HIV/AIDS has reached alarming levels in Zambia. The human toll of AIDS is a tragic reality being experienced by families, communities, and the nation at large. There is not aspect of life that has not directly or indirectly been negatively influenced by the AIDS epidemic. AIDS has become the major cause of illness and death among the young and middle aged adults, depriving households and society of a critical human resource base and thereby reversing the social and economic gains made since independence. Since the first diagnosed case in Zambia in 1984, HIV/AIDS has become increasingly widespread with an estimated adult HIV prevalence of 14% in rural areas and 28% in urban areas in the 15-49 year old age group. Although the epidemic is showing signs of stabilisation in urban areas, the rates continue to rise in some rural areas. Currently, about 20% of the adult population aged 15 – 49 are living with HIV. The studies in Ndola on the Copperbelt Province revealed a prevalence rate of 32% among females and 25% among males (GRZ-PRSP, 2002).

AIDS disproportionately affects women. It is estimated that 1.2. times as many women are afflicted with AIDS as are men. Women are though to be 2 to 4 times more susceptible to infection with HIV during unprotected intercourse, and more vulnerable to other STDs as compared to men. Furthermore, women are culturally relatively weaker to protect themselves against a spouse suspected to be infected. It is estimated that 25% of pregnant women are HIV positive.

Since the advent of the HIV/AIDS epidemic, the Tuberculosis infection rate increased nearly five-fold to over 500 per 100,000 population in 1996. There are now in excess of 40,000 new tuberculosis cases reported every year. This figure is expected to rise by 10% annually in the next few years. The tuberculosis co-infection has also resulted in an increased mortality rate of TB patients on treatment by over 15%. The HIV pandemic has also left an estimated 600,000 orphans (2000), projected to reach 974,000 in 2014, most of whom will have no hope of obtaining formal education. This, in turn, will affect the quality of the labour force. Of these orphans, 6% become street children with less than 1% living in orphanages (GRZ-PRSP, 2002).

The impact of HIV/AIDS on the health care system itself has been profound. It is projected that AIDS patients will utilise 45% of all hospital beds by 2014, crowding out other patients. It is estimated that about \$200 per AIDS patient per day is needed for hospitalisation. This is against the current per capita expenditure on health by the government of approximately \$3 per year. With AIDS expenditures rising, HIV/AIDS will inexorably consume more resources at the expense of other diseases. There are, however, some hopeful indications. The prevalence of HIV positive tests in 15-19 year old youth has dropped over most of the country between 1994 and 1998. In Lusaka, for example, while the rate was 28% in 1993, it has dropped to 15% in 1998 (GRZ-PRSP, 2002).

2.1.2 *The impact of HIV/AIDS on household food security*

The HIV/AIDS pandemic has also driven vulnerability of households and has affected their food security. The detrimental impact that HIV/AIDS may have on rural households' productive capacity has been explored in studies in Eastern and Southern Africa (FAO & UNAID, 1999). These studies suggest that the effects of HIV/AIDS are felt on two key farm production factors. First, household labour quality and quantity are reduced, initially in terms of productivity when the HIV-infected person is ill, and later the supply of household labour falls with the death of that person. Moreover, the probability that more than one adult per family is infected is high, given the heterosexual nature of HIV transmission in Africa. A compounding factor is that infection rates are higher among women, who account for 70 percent of the agricultural labour force and 80 percent of food production. In addition, other household members will devote productive time to caring for the sick persons and traditional mourning customs, which can last as long as a month for some family members, can adversely affect labour availability.

The second factor of household agricultural production that HIV/AIDS affects is the availability of disposable cash income. In the absence of functioning medical care systems in African countries, medical costs and caring for sick family members are usually borne entirely by the nuclear family or by the extended family network. During episodes of illness, household financial resources may be diverted to pay for medical treatment and eventually to meet funeral costs. Such resources may otherwise be used to purchase agricultural inputs, such as occasional extra labour or other complementary inputs (e.g. new seeds or plants, fertilizer, pesticides, etc.). Family assets (e.g. livestock) might be sold off. Thus, the economic and social consequences of the disease directly affect the food security of rural families. A recent survey by the Zambia Vulnerability Assessment Committee noted depletions in financial capital and increased expenditures on health and funeral costs among households taking care of HIV/AIDS chronically ill family members (SADC FANR, 2003).

If households become unable to either supply such labour internally or hire temporary workers, they are constrained during periods of peak labour demand, usually in planting and harvesting seasons. Another response to labour shortages may be to reduce the area under cultivation. Furthermore, it is likely that livestock production may also be less intensive and that the farming quality will be affected with weeding and pruning activities curtailed. The shift from high labour-intensive crops to low labour-intensive crops will stop vegetable cultivation resulting in a less varied and less nutritious diet. Labour-intensive farming systems with a low level of mechanization and agricultural input are particularly vulnerable to the impact of the disease. Some of the effects of labour shortage in full impact communities in Zambia, Zimbabwe and Tanzania are: reduction in the acreage of land under cultivation; delay in farming operations such as tillage, planting and weeding; reduction in the ability to control crop pests; decline in crop yields; loss of soil fertility; shift from labour-intensive crops (e.g. banana) to less labour-intensive crops (such as cassava and sweet potatoes); shift from cash-oriented production to subsistence production; reduction in the range of crops per household; decline in livestock production; loss of agricultural knowledge and management skills (FAO & UNAID, 1999;).

2.1.3 *The impact of HIV/AIDS and coping strategies in rural communities*

Some communities and farmers have developed mechanisms to cope with the impacts of HIV/AIDS on their rural livelihood strategies. Traditionally, in emergency situations caused by natural disasters and in hardship situations, the extended family network has developed successful coping mechanisms, which are still operational in pre-impact and early impact communities. Even the contribution of child labour may be increased (with children, particularly girls, withdrawn from school) as the family struggles to maintain the current cropping patterns. But, as families become more impoverished, it may have little choice but to produce for its own consumption needs. However, the rise of HIV/AIDS related morbidity and mortality in full-impact communities (where the impact of the disease has already led to the breakdown of the nuclear families) leaves traditional coping mechanisms strained to the breaking point.

Since HIV/AIDS is predominantly a sexually transmitted disease in Africa, very often more than one family member is affected and dies. As a result, the entire assets and savings of many families, which are generally meagre before the onset of the disease, may be completely spent, leaving the surviving family members without means of support. Research studies in Uganda and elsewhere have shown that the burden of the socio-economic impact of HIV/AIDS is disproportionately affecting rural women. In the districts studied, more households were found to be headed by AIDS widows than by AIDS widowers. Widows with dependent children became entrenched in poverty as a result of the socio-economic pressures related to HIV/AIDS. Widows lost access to land, labour, inputs, and credit and support services. HIV/AIDS stigmatisation compounded their situation further, as assistance from the extended family and the community, their main safety net, was severed. The extent to which malnutrition rates in affected households rise depends on the type of coping mechanisms, household resource constraints, socio-cultural context and emotional stress. As the ability to produce and accumulate food and income decreases, the household falls into a downward spiral of increasing dependency ratios, poorer nutrition and health, increasing expenditure of resources (time and money) on health problems, more food shortages, decreasing household viability, and increasing reliance on support from extended family and the wider community (FAO & UNAID, 1999).

In brief, there are complex inter-linkages between the increase of HIV/AIDS-related mortality and morbidity, the lack of farm inputs and labour force, the deterioration of household economy and the impact on education, health and the social system, which eventually lead to a breakdown of the traditional coping mechanisms. Therefore, the complexity of the impact of the disease on agricultural production and household food security requires a multi-sectoral response that should include agricultural extension, primary health care, education and appropriate non-governmental organizations (NGOs).

2.2 Food security and vulnerability to macro-economic problems

2.2.1 *Effects of macroeconomic problems on the livelihoods of the vulnerable*

Since liberalisation of the economy in 1991, the performance of the agricultural sector has been poor and this has had a negative impact on the overall growth of the economy. The share of agriculture, forestry and fishing in between 1994 to 1998 ranged only between 15.5% and 20.9%. The share of agriculture alone was even more insignificant and ranged

between 5.6% and 10.6% in the same period. The poor performance of the economy and in particular the agricultural sector has had a negative impact on the livelihood of the vulnerable households. Formal job opportunities were reduced and opportunities for employment in urban areas declined due to the privatisation of the state run enterprises. Opportunities for small businesses in rural areas declined and the cost of basic goods and public services increased due to inflation and introduction of users' fees respectively. Remittances to the rural areas from urban areas declined due to high levels of unemployment in urban areas.

2.2.2 Employment opportunities

During the 1990s, there has been a drastic reduction in formal employment in Zambia. But this has been offset by a growth in informal jobs to such an extent that the percentage of unemployment, as defined by the CSO, has come down over the years. Formal sector employment (which has not exceeded 20% for Zambia in a long time) went down from 12% to 11% between 1996 and 1999. But unemployment also came down from 18.2% to 9.5% of the labour force. This shows that there has been a large increase in employment in the informal sector. This growth in employment, however, has not contributed to a reduction in poverty. For instance, between 1996 and 1998 while unemployment came down, poverty increased, according to the Living Conditions Monitoring Surveys of 1996 and 1998 from 69.2% to 72.8%.

The agricultural sector plays a dominant role in terms of employment. The structure of employment indicates that agriculture accounts for less than 15% of formal sector employment. However, the formal sector only accounts for only about 15% of the total labour force of 4.3 million people and the vast majority of those in informal employment are engaged in agriculture. Due to limited job opportunities in the formal sector and also to supplement incomes, the informal sector has become highly significant. Indeed, agriculture offers what may be considered as employment of the last resort. Estimates show that formal and informal sector agriculture taken together account for 75% employment in Zambia. As expected, 94% of rural people are engaged in agriculture and only 12 % of people in urban areas are engaged in agriculture. Estimates for 1993 indicated that 96 % of the female and 97% of the male labour force in the rural areas was working in agriculture (CSO, 1993; CSO, 1996). These figures serve to indicate the significance of the agricultural sector in the economy. Two major factors have led to this relative rise in employment in agriculture. The first is the youthfulness of the rural population, which is dominated by those less than 25 years of age. The second has to do with the slow-down in the rural to urban migration as economic conditions have deteriorated and some prospects for better livelihood opened up in agriculture. However, this trend has been reversed droughts during the past few years.

2.2.3 Livelihood and coping strategies

Informal jobs are not only a substitute for formal jobs, though this is frequently the case especially with those who have been retrenched from the formal sector. They also act as supplements to formal employment, owing to the incapacity of the formal jobs to ensure adequate means of livelihoods to employees and their households. The growth in poverty between 1996 and 1998 is best illustrated by the increasing proportion of households in both rural and urban areas that were adopting a variety of coping strategies, several of which are not socially or environmentally sustainable. Examples of livelihood activities that are not environmentally sustainable are the *chitemene* or "slash-and burn" system of

farming, charcoal burning, extension of farming activities that encroach into wildlife conservation areas, and all other such activities that have tended to accelerate the depletion of forests and game.

The poor and vulnerable households have devised means of sustaining themselves. According to the Living Conditions Monitoring Survey 1996, of the 477,000 workers in formal employment, 300,000 had secondary jobs in the informal sector. Engagement in an informal job becomes, in a sense, a coping strategy of formal sector employees. A research study report provided several examples of such secondary informal jobs; school teachers giving private tuition at home, college and university lecturers and civil servants doing consultancy and businesses, secretaries engaging in various sales in their offices, doctors in government hospitals doing private practice; and so on. In each of the above examples, the individuals are making use their assets be it financial, knowledge or whatever (Seshamani *et al.*, 1997). In the case of the rural population, it is not only poor in terms of incomes and assets but has no capacity to borrow to invest in small businesses. In Zambia, there are few rural households that are engaged in small business enterprises. Few have small retail shops, hammer mills, *Yenga* presses for edible oil extraction, etc. which have been promoted by NGOs. Hammer Mills and *Yenga* presses have been adopted because farmers under the liberalised marketing system have realised the benefits of adding value to their products as well as earning an income. Petty trading in second hand clothes (*salaula*), beer brewing and sale, prostitution are some of the livelihood activities, which some rural and urban households have been engaged in. Other coping strategies among rural households such as selling livestock to raise income, doing away with “unessential” items such as sugar and soap, borrowing, etc. only constitute ways of minimising the inevitable reductions in current livelihood levels necessitated by the changes in the macroeconomic environment.

3 The Role of Market-based Economic Development in Strengthening Household Food Security

The objective of this section of the paper is to trace the impact of market-based economic development from 1996, which is a turning point in Zambia's liberalisation process of the agricultural sector. This is the period when government adopted the Agricultural Sector Investment programme (ASIP). The paper examines the extent to which farmers have been able to increase production of staple foods and high value cash crops and problems encountered in a liberalised market environment given government withdrawal from supplying services such as purchase of crops, provision of agricultural credit, and extension. This section of the paper also looks at issues of the provision of veterinary services, market information, on farm storage, adoption of new technologies and labour. It also examines developments in agricultural trade, grain reserves and the impact of food aid on food security among the smallholder farmers.

3.1 Agricultural production

3.1.1 Basic data

During the period (1996-2001) trends for various variables indicate that there were some positive outcomes. Key performance indicators in Table 1 help to confirm this observation. In 2000 Agricultural GDP was 7.4% higher than in 1996 when ASIP implementation began (Kane Consult, 2002). However, the value of agricultural exports grew at a much lower rate after 1997 and actually declined between 1999 and 2000. As a result, agriculture's share in non-traditional exports rose from 21.9% in 1990 to 46.4% in 1999 before declining to 38.4% in 2000.

During this period a rising trend in total area cultivated is observed relative to the period before 1996. The average area cultivated for each farm household, which had drastically fallen between 1991 and 1996 was higher in 2000 than in 1991. Some diversification away from maize also took place. The share of maize in the total area cultivated dropped from 59.0% in 1994 to 44.2% in 1999 before rising again to 48.4% in 2000. Although this is obviously as a result of the poor performance of maize it is also owed to the increase in the production of small grains and tubers whose area cultivated has been on the rise and have been increasingly entered the markets. The drastic drop in the percentage of households participating in the markets started to revert by 2000. The other impact of liberalisation was the significant drop in the use of modern farm inputs (fertilizer and hybrid seeds)

Many of these improvements are very small but still provide positive outcomes of the liberalisation process. The figures also show that the main constraints facing smallholder farmers are still significant especially given the adverse weather conditions over the years, which had the impact of eroding the farmers' cash reserves.

Table 1: Crop production (1991 – 2001)

Crop	Unit	Area Planted in Hectares				Expected Production				Yield/Ha				
		1997/98	1998/99	1999/2000	2000/2001	1997/98	1998/99	1999/2000	2000/2001	%change 2001/2000	1997/98	1998/99	99/00	2000/01
Maize	90KG	510,374	598,181	618,162	583,856	7,217,076	9,509,653	11,697,842	8,909,874	-24	14	16	19	15
Sorghum	90KG	35,864	36,405	37,387	43,353	282,214	283,262	298,870	336,052	12	8	8	8	8
Paddy rice	80KG	9,065	16,120	10,531	14,321	79,990	183,737	110,433	154,842	40	9	11	10	11
Finger Millet	90KG	90,047	95,520	61,279	70,129	691,509	773,528	476,251	520,833	9	8	8	8	7
Sunflower	50KG	15,692	13,356	12,983	37,388	140,164	134,967	140,982	380,042	170	9	10	11	10
Groundnuts	80KG	154,682	141,320	141,319	1371,108	711,671	637,066	637,065	649,646	2	5	5	5	5
Soya Beans	90KG	11,681	11,716	11,721	16,754	136,909	296,620	296,701	314,567	6	12	25	25	19
Mixed Beans	90KG	35,444	39,854	39,853	51,025	154,501	193,243	193,245	237,216	23	4	5	5	5
Cassava	Mt	116,709	138,360	Na	116,464	816,963	966,520	Na	815,248	-	7	7	7	7
Cotton	Mt	Na	105,539	36,680**	56,933	110,00	140,024	27,474**	56,939	80	N/a	1	N/a	1
Tobacco	Mt	Na	7,851	5,280	4,247	9,675	8,600	3,195	4,568	43	N/a	1.1	N/a	1

Source: Ministry of Agriculture & Co-operatives

N/a - Not Available

**Refers to seed cotton

Total area cultivated in the smallholder sub-sector fluctuated between 1,160,869 and 1,327,221 hectares between 1996/95 and 1999/2000. Compared to the period before 1990/91 to 1995/96, this represents a rising trend as the fluctuations then ranged between 777,392 and 1,131,896 hectares. The average area cultivated that fell from 1.42 hectares per household in 1990/91 to 1.17 hectares in 1995/96 rose to 1.47 hectares in 1998/99 before declining slightly to 1.45 hectares in 1999/00. It is thus clear that during the market liberalisation period, there has been nevertheless, the recovery in the average area cultivated has not been complimented by recovery in yields. Table 2 shows huge fluctuations in average yields from one year to another similar to those that went on before. However, there are some differences between agro-ecological zones. Yields appear much more stable in zone II compared to the other two zones. Apart from seed cotton, yields are highest in zone III, followed by zone II.

This development has affected maize more than any other crop. Total production declined from 1,409,485 metric tonnes in 1995/96 to 801,877 metric tonnes in 2000/01. Other crops have shown some improvement (see table 3). Nevertheless, the importance of maize to Zambia's agriculture has meant that agriculture's contribution to GDP remained at the same level as in 1996 and 2000 (17.2%). Indeed, the sluggish performance of the national economy can be more attributed to poor performance in the agriculture sector, more singularly to that of maize.

Table 2: Yield rates (Kg/ha) in the smallholder sub-sector by ecological zone, selected years

	ZONE I					ZONE II					ZONE III				
	90/91	93/94	94/95	98/99	99/00	90/91	93/94	94/95	98/99	99/00	90/91	93/94	94/95	98/99	99/00
Cassava	1153	1540	1000	661	534	1020	884	958	441	904	2009	1746	1464	994	677
Groundnuts	448	233	514	366	434	643	392	238	332	366	585	523	512	428	536
Maize	1198	869	689	1025	1202	1788	1418	1332	1422	1613	2134	1898	1990	1450	1266
Millet	540	885	438	577	808	792	696	651	620	612	891	872	1266	930	721
Mixed Beans	111	155	100	448	416	543	202	537	391	443	634	363	582	465	500
Seed Cotton	1041	197	N/a	976	502	1403	899	1162	820	820	609	1051	549	750	N/a
Sorghum	636	748	39.5	491	757	899	705	682	575	711	1044	742	1050	825	718
Soya Beans	n/a	540	55.3	N/a	N/a	607	427	451	618	820	762	509	529	565	661
Sunflower	415	268	N/a	N/a	200	469	312	531	375	599	716	259	738	457	378

Source: CSO PHS data

Table 3: Total agricultural production for selected crops, 1989/90 to 1999/00

Crops	Metric Tonnes											
	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
White maize	1,128,670	1,095,980	483,492	1,579,767	1,020,749	737,835	1,409,485	921,968	649,537	852,475	971,614	801,877
Tobacco Virginia	1,550	865	1,258	4,138	5,015	2,240	1,950	3,504	9,675	2,169	3,416	5,640
Tobacco Burley	1.55	-	1,050	2,514	1,083	1,560	1,892	939	25,941	3,762	3,196	4,196
Groundnuts	25,086	28,188	20,504	42,141	34,732	36,119	34,755	45,589	56,934	45,302	53,950	53,251
Sunflower	31,945	17,032	2,388	33,881	15,737	21,999	42,857	12,773	7,008	6,748	8,074	19,176
Wheat	47,646	52,206	48,436	61,588	54,173	33,795	51,196	32,456	70,000	69,226	74,700	1,102,086
Paddy rice	9,293	14,602	8,289	13,993	6,358	12,110	13,296	14,033	6,399	14,700	8,871	6,547
Soya Beans	23,814	22,824	7,822	24,872	21,893	18,782	34,800	29,283	12,322	26,703	22,769	4,249
Seed Cotton	63,536	48,721	25,899	47,851	33,093	16,578	40,824	74,647	110,000	58,515	56,758	49,498
Mixed beans	14,312	14,123	20,401	23,534	23,180	23,751	23,838	13,728	13,905	16,492	14,708	21,349
Sorghum	19,591	20,939	13,007	35,448	35,068	26,523	35,640	28,056	25,399	25,494	26,801	30,245
Millet	107	66	181	179	135	182	143	130	1,446	69,618	43,161	49,606
Sugar Cane	1,128,670	1,126,539	1,136,075	1,255,209	1,222,037	N/a	N/a	N/a	N/a		145,890	N/a

Source: Government of the Republic of Zambia. Macroeconomic Indicators, June 2001. Ministry of Finance and Economic Development

Developments in maize yields are worth noting given the importance of the commodity to the agriculture sector. Although zone II is known to have the best potential for maize cultivation, maize yields were higher in zone III than in zone II. This situation appears to have been reversed in the 1996 – 2001 period as maize yields fell in zone III while they made some recovery in zones I and II. The northern regions cannot sustain a very high production of maize given the unsuitability of the soils due to high levels of acidity. The better yields in zone III were a mere outcome of the fact that there was more rainfall.

These developments are reflected in the shifts of crop production in the smallholder sub-sector (see Table 4). The area cultivated to maize dropped from 59.7% in 1993/94 to 44.1% in 1998/99. It nevertheless rose again to 48.4% in 1999/00. The biggest relative gain in the area cultivated has been with the small grain and tubers (millet, sorghum, cassava and sweet potatoes). The combined share increased from 20.8% in 1990/91 to 36.9% in 1999/00. Both the share of cultivated area for other crops, mostly legumes and oilseeds, and cash crops dropped as well. Therefore, the gain in the share of small grains and tubers was at the expense of the rest of crops, but mostly maize.

Table 4: Percentage share of crops in total hectares for various farm categories

Crop	Year	All Smallholders	Male Headed	Female Headed	Small-scale	Medium Scale	Zone I	Zone II	Zone III
Maize	1993/94	59.03	59.76	54.75	57.05	68.98	49.87	71.14	33.94
	1994/95	57.81	57.5	59.22	56.16	69.02	53.35	69.75	40.99
	1998/99	44.16	44.65	41.99	43.32	56.58	35.5	61.38	21.15
	1999/00	48.37	48.69	46.86	46.87	59.55	37.06	66.35	24.19
Small Grains and Tubers	1993/94	22.98	21.95	29.03	26.15	7.07	40.62	8	47.77
	1994/95	23.53	23.51	23.62	25.91	7.27	45.53	7.62	50.75
	1998/99	35.58	35.34	36.68	37.25	10.97	54.83	12.5	64.02
	1999/00	36.93	36.56	38.65	39.21	20.1	57.12	14.62	65.15
Cash Crops	1993/94	6.51	7.16	2.53	5.09	13.68	7.07	9.71	0.86
	1994/95	6.81	7.16	4.57	5.99	12.4	0.73	13.11	0.62
	1998/99	6.68	7.29	4.52	6.03	16.14	2.8	11.58	0.57
	1999/00	4.79	7.15	3.45	4.43	7.49	1.34	8.33	0.4
Legumes/Oil Seeds	1993/94	10.28	5.08	11.94	10.39	9.72	2.43	11.93	8.04
	1994/95	11.04	10	11.64	11.1	10.64	0.39	10.15	13.46
	1998/99	12.17	10.91	15.3	12.26	10.97	5.06	13.16	12.91
	1999/00	8.51	11.49	9.56	8.32	9.92	3.34	8.97	9.34
Other Crops	1993/94	1.2	1.1	1.75	1.33	0.54	0	0.61	2.33
	1994/95	0.82	0.79	0.98	0.84	0.67	0	0.63	1.23
	1998/99	1.41	1.38	1.51	1.14	5.33	1.81	1.37	1.35
	1999/00	1.4	1.38	1.47	1.18	2.94	1.24	1.74	0.93

Source: ASIP Performance Analysis, Ruralnet & Kane Consult, 2002

According to Table 4, the main increase in the share of cultivated area for small grains and tubers is in Zones I and II. In Zone I it increased from 40.6% in 1993/94 to 57.1% in 1999/00 while in zone III the share of small grains and tubers increased from 47.8% to 65.2% respectively. In zone II, maize is still overwhelmingly dominant as in the 1999/00 season it accounted for 66.4% of the area cultivated, slightly down from 71.1% in 1993/94. Both zones I and III are unsuitable for maize cultivation. As the climatic conditions appear to have been stabilising, the advantages of zone III over zone II in respect with rainfall availability has started to disappear.

In Zone I, the Drought Rehabilitation Programme (DRP) has encouraged the adoption of crops more tolerant to drought than most maize varieties. There has also been relative price increases for crops other than maize which have seen their increasingly entry in the markets and are fast replacing maize as cash crops. This is certainly true for tubers in both Luapula and North-western Provinces. New and short maturing varieties for both cassava and sweet potatoes have helped to boost the production of these crops in zone III. Adoption of improved varieties has been helped by the fact that these are tradition crops to which farmers are already familiar. With increasing entry in the markets, farmers can afford to buy improved varieties. Farmers may also have been induced to the cultivation to small grains and tubers because they are low external input crops, thus adjusting to the rising difficulties in accessing inputs that has followed the removal of maize subsidies.

Surprisingly, the growing of small grains and tubers has also increased significantly among medium small-scale farmers, rising from 7.1% to 20.1%. This again attests to the rising marketability of these crops. The trends also indicate what is generally known that as food crops become increasingly marketable, men tend to participate in their production more. The relative area cultivated to small grain and tubers was 29.0% and 22.0% for female and male-headed households respectively in 1993/94. This presented a 7% percent gap. By 1990/00, the gap had reduced to only 0.6% as the share of small grains in area cultivated increased for sexes.

The slight drop in the share of cash crops in the area cultivated masks the differences between districts. It is much higher for districts near Lusaka such as Mumbwa where it accounts for over 30%. These are evidence that farmers have increasingly adopted the growing of new crops under out-grower schemes. Access to the key market and the nearness to processing facilities for domestic sale or export to foreign markets has been an important factor in this regard.

3.1.2 Role of private sector in product markets

Government has completely disengaged from participating in output markets. This has brought about some fundamental shifts, particularly in maize markets that had previously been tightly controlled by the state. Maize marketing has since undergone a dramatic change. During the 1994/95 maize marketing season, for the first time, the government did not interfere in price setting or procurement. The result was an upsurge of small maize traders who were quite successful in marketing the surplus products of maize of that season. Both small and large traders participated in maize marketing.

Nevertheless, farmers in remote areas voice concern that they had been forced to sell at sub-economical prices thereby having low returns from their marketed products. This situation of remote areas broadly being disadvantaged persisted throughout the 1996/2000 period. There have been two underlying elements. First, are the high transactions costs faced by traders going into remote areas. High transactions in turn are caused by poor

rural infrastructure (roads, electricity, telecommunication facilities, and storage facilities), little price and market information, and the long distance to key markets on the Copperbelt and Lusaka and undeveloped farmer groups. Long distance to markets has in turn been attributed to the absence of agro-processing industries near production areas due to a bad macroeconomic environment that discourages investments in depressed areas.

The second underlying element to low returns on marketed output is the inability by farmers in remote areas to negotiate for favourable prices. Again inadequately developed farmer groups feature very highly as a cause. In addition is the pressure to sell quickly after harvest when prices are lowest which is caused by inadequate on-farm storage and few alternative sources of cash income such that by harvest, farmers would have serious accumulated cash needs. Unfortunately, this situation is itself fed by farmers, low participation in markets in general and agriculture markets in particular.

Organisations or projects that are focusing on market facilitation such as EEOA and CLUSA, and now joined by SHEMP, have placed emphasis on group mobilisation which is used as a vehicle for imparting skills to farmers to manage farming as a business. Group access to storage, loans and markets have been emphasised in these schemes with reasonable success. These strategies have also demonstrated innovative schemes for linking farmers to specialised extension based on commodities that farmers choose to produce.

These strategies, however, need to be complimented by macro-economic measures that would attract agro-processing industries and other investments into depressed areas. It is necessary that the long distance to key markets is cut as much as possible so that value is added to commodities produced in remote areas before they are exported from their area of production. A package of incentives that admits the high transaction costs firms investing in depressed areas face may be necessary.

High transaction costs have obviously undermined the viability of the private sector in the markets. It has nevertheless been noted that given the harsh conditions, the private sector has responded well and has demonstrated reasonable capacity to market agricultural output. The market, however, remains very fragmented, lacking transparency as a result of inadequate price information at the farm level. Farmers on the other hand are yet to adjust to the new realities of a market-driven agricultural sector. Closing this gap should remain a core function of the Ministry of Agricultural and Cooperative. As a result of the market failure, government is in the process of establishing a Crop Marketing Authority to service the smallholder farmers.

3.1.3 Input market

The most disappointing aspect of agricultural marketing with respect to its impact on the development of the private sector has been in the area of input markets, mainly the supply of fertilizer. Government continued to interfere in the operations on the market through direct intervention, thus crowding out the expected development of the private sector.

Despite the full liberalisation in the sense that prices are determined by supply and demand, the Government still exerts influence over input prices through the activities of the FRA. The FRA although established to ensure food security, its importation and sale of maize and fertilizer necessarily influence the domestic prices of these commodities. The current arrangement is that the FRA estimates the fertilizer requirements for year and

private firms are made to tender to import fertilizer to supply the farmers in their designated areas.

The main reason for Government involvement in fertilizer imports was the belief that the private sector could not adequately serve the market especially in remote areas. However, the private sector was of the view that if the road infrastructure could be improved, they had the capacity to cater for small-scale farmers even in remote areas.

Government involvement in the supply of improved seed, on the other hand, is restricted to facilitating research and regulating seed production. The seed industry is completely liberalised to the extent that briefcase businessmen have joined in the trade selling certified seeds. The ASIP Mid –Term Review noted that in 1998 there were a total of 401 seeds seller’s licenses issued. This has been one of the most successful areas of private sector involvement. The monopoly that the Zambia Seed Company (ZAMSEED) used to enjoy has been reduced significantly.

Participation in fertilizer and hybrid seeds markets declined in the 1990s. Tables 5 and 6 present the share of farm households participating in input markets for all provinces. The share of households using fertilizer fell from 31.4% in the 1990/91 marketing season to 19.9% in 1995/96 just before the implementation of ASIP and from 43.6% to 23.0% for hybrid seeds respectively. The percentage of households using fertilizer had increased to 22.6% by 1999/00, still much lower than the figure for 1990/91. For hybrid seeds, this dropped to 17.4% in 1997/98.

Table 5: Share of farmers using fertilizer by province

	1990/91	1993/94	1995/96	1998/99	1999/00
Central	51.03	49.69	33.31	36.96	33.76
Copperbelt	23.47	12.83	33.34	39.09	32.9
Eastern	37.56	24.38	17.67	20.63	28.55
Luapula	8.94	15.51	13.43	6.6	7.76
Lusaka	53.03	58.73	26.39	23.64	37.13
Northern	39.4	29.04	22.64	15.82	16.91
North-western	15.14	18.2	13.01	6.45	4.93
Southern	42.96	33.22	26.66	25.95	38.95
Western	12.3	5.79	4.16	2.55	1.27
Zambia	31.36	26.87	19.92	17.8	22.6

Source: CSO, Post harvest Surveys, Various, Kane Consult, 2002

Table 6: Share of farmers using hybrid seed by province

Province	1990/91	1995/96	1996/97	1997/98	1997/98 RANK
Central	71.64	35.8	26.36	28.6	2
Copperbelt	27.93	29.26	12.59	13.37	5
Eastern	17.93	26.2	3.16	3.78	9
Luapula	40.76	9.06	12.09	13.06	6
Lusaka	85.9	39.34	29.04	22.04	3
Northern	65.16	13.49	21.02	15.94	4
North-western	24.44	6.44	3.91	4.77	8
Southern	62.6	50.65	49.01	44.73	1
Western	28.24	10.68	5.54	12.15	7
Zambia	43.6	22.95	17.04	17.44	

Source: CSO, Post Harvest Surveys, various, Kane Consult, 2002

3.1.4 Extension and veterinary services

The Agricultural extension service is still under the control of the government. Inadequate government funding has undermined the effectiveness of the extension service. Government has plans to privatise the agricultural extension service in the near future. The veterinary services were privatised in the early 1990s. So far it has not been successful as is evidenced by high livestock mortality rate, especially among the smallholder farmers who are not willing to have animals treated.

Availability of extension service is, strictly speaking, a privilege rather than a right for many smallholder farmers in Zambia. The extension service coverage is currently limited to about 25 % of the smallholder and emergent farming households. Most of the relatively disadvantaged farmers (e.g. resource poor and female farmers) are not in touch with extension workers. In the past fifteen years budgetary cutbacks have not only hampered any expansion in the agricultural extension program, but have also left the service with too many personnel and too few resources. The program has virtually become demobilized or desk-bound and its present coverage of about 25% is purely theoretical.

3.1.5 Conservation farming

In 1996, the area under conservation farming was adopted as the environmental indicator to track changes in which farmers were beginning to pay particular attention to the conservation of the natural resources base. However, no realistic data has emerged on this and it is not clear what changes have emerged. Nevertheless, field investigation have revealed that very few farmers practice conservation farming although a number resort to minimum tillage such as pot-holing as a coping strategy to draught power constraints.

This is mainly because, for a long time, there was no real effort to promote conservation farming. Only the Soil Conservation and Agro-Forestry programme appeared to have made some effort in Eastern and Southern provinces. However, in the 1999/00 season, MACO adopted conservation farming as the major technology it would promote among small-scale farmers. Therefore, 17,000 farmers were exposed to these technologies in this season of which 30% are said to have adopted it for the very first time. This decision came after carefully studying the results from the work carried out by the Conservation farming Unit (CFU) of the Zambia National farmers Unit.

The evaluation of CFU had indicated that conservation farming was having a very good impact among the adopters in terms of improved yields and the area cultivated. Many NGOs including Africare, Care, World Vision and Programme Against Malnutrition (PAM) had also adopted the promotion of conservation farming after observing the necessary impact. The multiplier effect in areas where the technologies have been promoted on a pilot basis appears very good.

This is to be expected because where the technologies are properly applied, management of farming activities improves, as farmers no longer have to wait for the first rains. Land preparation can begin in June. With land preparation already done by the time of the first rains, planting can be done on time, thus preventing losses arising from late planting. Early land preparation also utilises labour in the slack period of the year and helps farmers avoid doing everything at once.

Although there is an increase in weed infestation in the first three years before this begins to decline, farmers who would have cultivated and planted early will be on top of the problem as they can weed early enough and several times within the season. Soil conservation practices such as mulching and crop rotation help to reduce on the requirement for external inputs. Fertilizer can be applied more efficiently where pot-holing is used as it is only placed at the spot of seeding. For the same reason, it becomes viable to use organic manure, opening up possibilities for farmers to drastically cut down on their spending on fertilisers. For drier areas, pot-holing helps to conserve water, such that where there is rainfall failure at critical times of the season, plant germination and growth may not be affected too much.

With so many advantages targeted at the numerous constraint points lying in the way of raising agriculture production in the smallholder sub sector, the introduction of conservation farming should be encouraged. This is inline with the recommendation made in the first SPA report when a comprehensive analysis of factors affecting agriculture was made (see Kane Consult, 2002). However, there is need for more research particularly on finding the appropriate technologies for the high rainfall areas and matching the right technologies with different crops. For farmers wanting to use oxen together with CF technologies, adoption is hindered due to the absence of the appropriate implements such as rippers. CF does not exclude the use of modern farm inputs, although the dependency may be reduced. Thus all the factors that hinder farmers' access to inputs, including farm power and irrigation, must be resolved to obtain maximum impact.

3.1.6 Irrigation

The most recent assessment of the irrigation status in Zambia is the Water Right Survey (1994), which estimated the national total irrigated area at 53,020 ha. Out of this national total, the commercial sector accounted for 30,820 ha (58%) of irrigation, smallholder irrigation 210 ha (<1%) medium scale irrigation 1,690 ha (3.2%) and large-scale irrigation 20,300 ha (38.35).

The leading irrigated crops are wheat, sugarcane and vegetables. The irrigated area is concentrated in Southern Province (36%) followed by Copperbelt and Northern provinces with 17.5% and 17.2% respectively. Western, Eastern, North-Western and Luapula provinces are lagging behind in irrigation development.

The 53,023 ha under irrigation are only 11.8% of the existing irrigation potential in Zambia estimated at 450,000 ha (Mbumwae, et al. 1991). This is in spite of the fact that Zambia is the most endowed country with surface and groundwater resources in Southern Africa. According to GRZ (1991), Zambia has nearly 45% of the water resources of Southern Africa. This water is derived from annual rainfall averaging 700 mm in the south to over 1000 mm in the north of the country. Evaporation losses are high but a water surplus remains throughout most of the country, giving rise to a network of rivers and streams whose total length is around 232,000 km. The mean annual runoff is around 100 billion cubic metres while 60 billion cubic metres is stored in lakes and swamps.

Because of the failure to exploit the abundant irrigation potential, Zambian agriculture has continues to be vulnerable to the dictates of the weather and hence the persistent hunger problems in recent years. Expansion of land area under cultivation will enhance the opportunity for increasing and sustaining food production.

3.1.7 Rural finance and credit

Given the failure of previous rural finance delivery systems, the Agricultural Sector Investment Programme sought to re-organise the entire agricultural lending, system and make it responsive to the liberalized market environment. Some of the policy objectives that were to accompany this goal included: (i) encouraging the development of a viable and sustainable system for servicing agriculture and the rural sector, (ii) improving smallholders' access to credit and other financial services; (iii) phasing out recurrent public cost of farm credit programmes; and, (iv) converting rural financial institutions into autonomous, viable and self-sustaining bodies.

By seeking to make credit responsive to the liberalised market environment, two aspects were implied. The first was that crop profitability and the farmers' ability to pay back loans would determine access to credit. In line with this, Government sought to remove subsidies on credit through the provision of cheap inputs, which, apart from encouraging farm practices and the adoption of crops that were inappropriate, had serious adverse budgetary and macroeconomic implications. The second, and consequently arising from the first, was that credit would not longer be focused on maize alone as was the case before 1992, but would also be extended to other deserving commodities. Credit policy therefore would be used as an effective tool for the achievement of a number of goals stipulated for the sector at the beginning of reforms; most relevantly food security, increasing agriculture's contribution to balance of payments through exports, promotion of crop diversification and the generation of employment and sustainable livelihoods.

In practice, however, rural credit has been linked much more to the attainment of food security, excluding other sector goals. At the same time, the attainment of both national and household food security has been narrowly equated to the production of maize. Hence, rural credit as before 1992, continued to be only a tool for increased maize production. At least for rural areas, this definition has failed to appreciate that food security is much more complex, and that food crops such cassava, mixed beans, sweet potatoes, sorghum and millet that are never addressed in current service delivery system, are much more important in averting the hunger situation than is often acknowledged.

Previous reviews have unanimously concluded that rural finance and credit has failed to match the goals and expectation of ASIP. The dwindling access to credit by smallholder farmers in the light of high demand for it right across the country has been the most visible failure. The smallholder farmers that received credit dropped from 13.2% in 1993/94 season to 7.5% in 1997/98 season. The most hit have been medium scale farmers with those receiving credit declining from 40.7% in 1993/94 season to 22.8% in 1997/98 season. As much of credit is linked to farm inputs, particularly maize hybrid seeds and agriculture, there has been a significant drop in the number of farmers accessing these inputs. This is partly the reason for the decline in land area under maize production in favour of less fertilizer requiring crops. It is therefore clear that rural credit is now playing only an insignificant role in stimulating agricultural production.

Equally, there has been little progress in finding a viable rural finance and credit system. By 1994, it has become clear that the system in place then had become unviable, with the three lending institutions; Zambia Cooperative Federation Financial Services (ZCF-FS), Credit Union o Saving Association (CUSA) and Lima Bank, owing the Government a total of K57 billion or US\$85.2 million. Their recovery rates of 10%, 23% and 35% in 1993/94 seasons respectively, gave little hope that these loans could ever be paid, and Government had to abandon them as a vehicle for providing rural credit. From 1994/95 to

1996/97 season, Government sought to provide credit through private institutions such as SGS Limited and Cavemont Merchant Bank who contracted credit co-ordinators throughout the country as contracts with farmers. Their recovery rates were equally disappointing, with none exceeding 40%.

Given these disappointing results, Government opted not to be further involved in the provision of fertilizer credit in the 1997/98 season but accused the private sector of having failed to significantly fill the void arising from its withdrawal. Therefore, in 1998/99 season, Government delivered fertilizer credit through the FRA, which in turn sub-contracted Omnia to distribute it to 150 depots across the country. There have been mixed results from its initiative. On the positive side, the engagement of Omnia, a fertilizer supply company, might have helped to strengthen its operations such that ever after government's withdrawal, it is likely to continue to operate. On the negative side, the involvement of FRA in fertilizer distribution has been widely seen as an agency going beyond its core business of managing the nation's grain stocks. It is gradually assuming the role of the defunct National Agricultural Marketing Board. Repayment rates have also been as disappointing as under previous arrangement and is clear that the involvement of FRA is still not viable and soon or later it is bound to fail like its predecessor institutions. With this kind of track record current Government efforts to restructure CUSA and the Cooperative bank are not expected to yield better results.

3.1.8 Land

Almost without exception, rural farmers use customary land under the control of traditional authorities. Among the villages talked to in Eastern and Southern provinces, none had title to land but they did not view this as a constraint. Although the current land Act (1995) grants people the right to have title even for customary land, this information is not very widely disseminated and people are not aware of it, therefore they continue their farming activities in customary land. Although some were included to the idea of obtaining title to land, they were also apprehensive about using land as collateral as this may result in their creditors taking their land away in case of default. The farmers seemed to be comfortable with their rights to land.

3.1.9 Labour

The sufficiency of labour at the household level depends on the type of crop under cultivation. Crops requiring high labour inputs, such as cotton, take up a lot of labour. Coping mechanisms in cases where household labour is insufficient include hiring school children to help especially with weeding. Within the village setting, a household requiring additional labour would mobilize the needed inputs by brewing beer, offering essential household commodities or killing an animal for sharing and inviting other people to partake in return for the help. Households with the financial means may pay for hired labour.

The coping mechanisms have served rural communities well. However, the underlying prerequisite is that households requiring such assistance ought to have additional resources that can be tapped on in return for hired labour. Resource-poor households are obviously disadvantaged and their welfare is likely to be poor to the extent that they provide labour for other households and therefore reduce on effective labour at their disposal. In instances where farmers use oxen for their farming purposes, labour productivity is high. But this has over the years been neglected by outbreaks of disease, which have wiped out

large cattle populations. The low capacity of the veterinary services has further compounded the problem.

Most of the rural farmers are subsistent and therefore have very little capital if any. They basically use labour-intensive production techniques and hardly ever use capital inputs. The few farmers, who are able, tend to concentrate on the use of animals draft power for their agricultural activities. The limited capital for these farmers means that they are unable to achieve high production targets because of the rudimentary technologies used.

3.2 Agricultural trade

3.2.1 Basic data

The value of Zambian agricultural exports and proportion of these agricultural exports that is attributable to SADC member countries for a period of four years (1997-2000). On average, Zambia exports about USD 140 million worth of agricultural commodities per year, of which the bulk is due to sugar (24 %), cotton lint (19 %), fresh flowers (15 %), fresh vegetables (10 %) and tobacco (10%). Other notable agricultural export commodities include coffee (6 %), soybeans (4 percent), maize (4%), marigold (3%), fuzzy cotton (3%) and paprika (3%) (MAFF, 2001).

However, maize exports are often influenced by the prevailing supply conditions and food security concerns. For example, the government has just imposed a ban on exports of maize and its by-products, which has put the firms with earlier contracts to export maize to SADC-member countries in an awkward position. This points to the limits within which the trade protocol is respected by member states.

The proportion of Zambia's agricultural exports that went to SADC member countries increased from 35% in 1997 to approximately 50% in 1998 and 1999. In 2000, this proportion decreased to approximately 30%. Even though the range and value of products moving in either direction varies from year to year, there is a somewhat sustained level of agricultural exports to SADC-member states.

Zambia's agricultural trade (exports and imports) with the SADC region prior to 1999, the value of agricultural imports from SADC member countries exceeded the value of exports. After 1999, the value of exports to SADC-member countries surpassed the value of imports. After 1999, the value of exports to SADC-member-countries surpassed the value of imports. This development could be attributed to the structural adjustment reforms implemented in the 1990s and the steps taken prior to the ratification of the SADC Trade Protocol in 2001. This development has enabled the country to enjoy a positive balance of agricultural trade with SADC member countries.

In general, the ratio of exports to imports has increased from 0.6 in 1996 to about 2 in 2001. This means that from every one dollar worth of agricultural imports, Zambia exports about two dollars worth of agricultural exports, which offers opportunities for increased agricultural exports, which are imported by SADC member countries. The country's abundant water resources need to be used (by way of irrigation) to reduce these variations in production and exports.

In general, Zambia's agricultural exports vary from year to year. In 1997 and 1998, agricultural exports to SADC countries grew by 21 and 33%, respectively. These gains

were reversed by declines in agriculture exports of 23 and 26% in 199 and 2000, respectively. Even though only provincial data were available, it appears that Zambia's agricultural exports are again increasing.

South Africa and the Democratic Republic of Congo (DRC) provide most of the intra-SADC market for Zambian agricultural exports. The two countries account for 26-49% and 22-42% of Zambia's intra-SADC export market, respectively. Zambia's agricultural exports to the DRC increased substantially between 1998 and 2000, which coincides with the war period for that country. This means that the observed upward trend in intra-SADC exports during that period is largely driven by the DRC. One hopes and concludes that, with the dawning of peace, Zambia's exports to the DRC will continue to grow.

Since Zambia has huge agricultural development potential, the country has bright prospects for expansion of production and trade. The advantage of Zambia is that the major agriculture exports are promoted by out grower schemes. These firms are capable of quickly responding to the market conditions in SADC member countries. It is also important to remember that over the next three years, the major concern of the government is poverty reduction among the rural people. Therefore, rapid expansion of smallholder products (cotton and tobacco) will be targeted.

Zambia imports various agricultural products from SADC member countries. Since 1997, the value of agricultural imports from SADC member countries varied from USD 18 million to USD 117 million. The huge variations in the value of agricultural imports are associated with the level of maize imports, which occur in years with production deficits. Except in 1998, when Zambia imported huge amounts of maize, there has been a general decrease in the value of agricultural imports from SADC member countries. The value of agricultural imports decreased from approximately USD 117 million in 1998 to approximately \$18 million in 2000. The decrease in the value of imports could be attributed, in part, to the favourable exchange rate regime that has increased the competitiveness of Zambian agricultural products, and to the fact that some SADC member countries could have lost part of the Zambian market to COMESA-member countries that were enjoying zero tariffs on most agricultural products.

The bulk of Zambia's agricultural imports come from Zimbabwe (47%) and South Africa (42%). In the last few years, the major imports from Zimbabwe are maize (accounting for 30%), cotton (17%), Sugar (15%). Even though Zambia is generally self-sufficient in maize, the country imports maize in deficit years and Zimbabwe often has been the closest source. South Africa is the second most important source of agricultural imports. The major imports from South Africa include oil seed crops (36%), maize (33%), milk (15%), wheat products (5%) and rice (4%). As in the case of Zimbabwe, maize is imported from South Africa in deficit years. Other SADC countries export small quantities of oil seed crops, maize and rice.

As Zambian products respond to the evolving market conditions, most of the unprocessed imported products will be locally produced and the imports are likely to decrease. However, Zambia does not have a well-developed food processing industry and therefore, imports of processed products will continue to increase, with South Africa and Zimbabwe continuing to dominate the Zambian market.

3.2.2 Cross-border trade

Districts that could access markets in neighbouring countries showed a higher market participation rate despite their long distance to the local key markets. Chadiza, Chipata and Lundazi in eastern Province all had output market participation rates higher than the national average because farmers could access markets in Malawi. Field results show that farmers in Lundazi soil their products at a market held twice a week in Malawi near the Zambian border. Farmers in Mbala, Isoka, Kaputa and Nakonde in Northern Province and Mwinilunga in North-Western province were also helped by this factor to maintain rates that were either equal to or much higher than the national average or much higher even if they are very far from key markets.

In border areas there has been an outflow of grain from Zambia, in particular Congo Democratic Republic, which is a major market for Zambian grain. Since 1990, because of droughts, Zambia has experienced large maize deficits, but this has not resulted in increased flows of grain from these countries because they also are grain deficit countries. There has been no significant impact of imported maize on domestic prices.

3.2.3 National strategic grain reserves

The Government created the Food reserve Agency (FRA) with the aim of guaranteeing that sufficient maize is always available within national borders to assure food security. The agency was seen as an instrument for assuring food security not as a means of market management. It was seen as an instrument for assuring food security not as a means of market management. Its main function was to make good national shortfalls in the availability of maize that were expected to result from an inability on the part of the newly emergent private sector to supply the market fully. Thus, its objective was, in effect, to ensure that supply would be similar to that under a well functioning market and that the level and stability of domestic would be the same as under such a market.

Even if managed without political interference and with the sole aim of ensuring an adequate availability of maize, the activities of the FRA necessarily affect the balance between domestic supply and demand and therefore domestic prices. Indeed, if they were not to affect the supply-demand balance, the Agency would have no obvious role. Thus, the FRA is necessarily an instrument for market management. Once this is recognised, it is clear that its activities must be managed with a high level of technical efficiency if the result of its intervention is to be replication of a well functioning free-market.

In practice, the activities of the agency are necessarily distorted by political interests and in particular, by the fear that the nation will run short of food. This, in turn, tends to lead to the agency over-importing maize thereby depressing domestic prices. This has happened on a major scale in the current marketing year, for which the FRA has contracted to import 410,000 tonnes from Zimbabwe and South Africa at a price landed in Lusaka or approximately US\$205 per ton. This is now considered to be some three times the additional amount needed to meet the likely level of domestic demand at import partly prices.

The existence of the FRA deters the development of the private trade, which, if left to operate in a market, which there was no government intervention, would have the incentive, and probably the capacity, to import whatever maize and other foodstuffs are

necessary to meet domestic demand. Thus, the FRA's activities tend to perpetuate the problem for which it was seen as a temporary solution.

The only justification for the existence of the FRA would be if were a genuine instrument for market stabilisation, withdrawing maize from the market at times of surplus and pumping grain into the market at times of deficit. However, such a role is necessarily loss making and requires a high degree of management skill. Thus, it is not a suitable activity for Zambian Government now.

3.2.4 Food imports

During the 2001/2002 consumption year, the food security position of the country was not favourable especially in the Southern Province and some areas in the region I. The overall domestic supply of grain was estimated at 2,112,081tonnes against a national requirement of 2,504,535 tonnes representing a deficit of 392,517 tonnes. The deficit in the food security position was mainly due to the decrease in the production of maize and cereals. The implication of this was that significant imports of food had to be imported by government and by private sector and donors.

4 The Role of Social Protection Measures in Strengthening Food Security

4.1 Background

As pointed out earlier, Zambia has been experiencing a number chronic and acute socio-economic problems or shocks that have included the economic structural adjustment programme, impact of the HIV/AIDS pandemic, and the droughts. Almost all measures of quality of life in Zambia indicate that most households are highly vulnerable due to these shocks. For instance, the overall poverty levels are very high with more than 70% of the population living below the poverty datum line. Due to the economic restructuring programmes, there have been high levels of retrenchment in the formal sector, particularly in the mining industry. Today, formal employment accounts for less than a 1/5 of the workforce. The impact of HIV/AIDS has also been tragic with approximately 20% of the population aged 15-49 years infected by HIV. It is also estimated that almost 10% of the population has so far died from AIDS, already leaving over 600,000 orphans. Child malnutrition levels and stunting are amongst some of the highest in the world. The drought in the 2001/2002 season has left almost 3 million people to require food assistance until March 2003.

The long-term impacts on Zambia's poor and vulnerable groups are still uncertain. There is little research or reliable information data on long-term vulnerability trends in Zambia. Nevertheless, existing indicators strongly suggest an increase in vulnerability. The Zambian Human Development Index is now lower than in 1975. Over the past three decades, the poor economic performance and concurrent shocks have placed increased pressure on existing formal and informal coping mechanisms among the Zambian households. In the absence of effective formal social protection, households are directly bearing the costs of informal coping strategies through distress sales and asset loss. Evidence from Southern province has shown that farmers have been selling off their cattle in distress sales as a way of meeting their immediate food requirements. Although data on vulnerability trends are unreliable, the successive shocks seem to be depleting the core assets of the poor and other vulnerable groups.

Against such a background, social protection measures can play a critical role in managing both chronic and acute shocks, which are threatening to increase or deepen existing poverty in Zambia. Social protection refers to public, private or informal actions taken in response to levels of vulnerability, risk and deprivation. Social protection is about 'smoothing the life cycle' and reducing the vulnerability of the poor and non-poor. Therefore, social protection aims at reaching 3 very different types of vulnerable people, namely, the *destitute* (who cannot/should not provide for themselves and require some form of assistance); the *chronically poor* (who need opportunities to be lifted out of poverty); the *temporarily or non-poor* who are vulnerable to particular shocks. Social protection can be addressed through improving existing programmes, enabling actions relating to policy and by supporting both formal and informal specific actions through the government, NGOs, private sector, or the community.

The planning and implementation of social protection interventions also requires a careful identification and understanding of existing informal social protection systems, as well as the real needs and constraints, in order to maximize the benefits from existing resources available within households, communities and NGOs. Ultimately, all social protection systems, whether public, private or informal, can help manage social risk in 3 ways:

Prevention (which decreases the likelihood of shocks); Mitigation measures (which reduces the intensity of shocks); Coping strategies (which reduces the impact of shocks).

4.2 Existing social protection interventions in Zambia

Social protection interventions have a short history in Zambia. In the 1980s, government used a targeting system for distribution of subsidies for maize meal as a response to the deteriorating economic conditions. The aim was to provide a safety net for the poor and vulnerable households. However, there have been so many socio-economic shocks in recent years such that government is unable to provide social protection measures adequately. Consequently, some households and extended families are currently bearing most of the burden. For instance, families that have lost relatives to the HIV/AIDS pandemic have been looking after orphans by providing for their food requirements and other expenses for education and health care. Other families have been taking care of the sick. Through the promotion of home-based care, some households have been nursing relatives afflicted with HIV/AIDS. The increased dependency ratio has even made the need for social protection measures to be more critical.

4.2.1 General social protection programmes

There are no comprehensive government social assistance programmes. However, the Poverty Reduction Strategy Paper (PRSP) and Highly Indebted Poor Country (HIPC) debt relief process have provided opportunities for the government to develop a more effective and coherent social protection strategy. Several priority pro-poor programmes have been proposed under the PRSP, which are envisaged to offer relief to the poor. These have included, agricultural development and rural infrastructure development to improve food security, free basic education, funding of home based care and establishment of a revolving fund to introduce treatment of HIV/AIDS patients with Anti-Retroviral drugs (ARVs). Unfortunately, the PRSP places considerable emphasis on macro-economic development, and it ignores the scope for integrated social protection measures for the vulnerable.

In terms of social security, the Ministry of Labour and Social Services provides some social assistance (retrenchment benefits and pensions) but these are reserved for those in formal employment and are these not particularly effective given the small proportion of the population who are in formal employment. Other existing social assistance interventions are chiefly located within the Ministry of Community Development and Social Services (MCDSS). Unfortunately the MCDSS is weak and suffers from severe funding constraints (poor disbursement from central budget in part due to delayed HIPC disbursements) and low capacity. The MCDSS has been implementing the Public Welfare Assistance Scheme (funding from GRZ and the EU) which is aimed at enabling the most vulnerable individuals to fulfill basic needs (health, education, food, shelter) through a voucher system and local community support. The Public Welfare Assistance Scheme (PWAS) has been successful in designing an effective and equitable community based targeting system. The targeting systems are currently being redesigned for urban areas where it still remains difficult to identify beneficiaries. Currently, the PWAS only reaches about 200,000 beneficiaries due to funding constraints. Its targeting structure has been used by NGOs like PAM and other Ministries for food supply programmes.

4.2.2 Food security

The Disaster Management and Mitigation Unit (DMMU) has been implementing the Zambia Emergency Drought Recovery Project (2002/2004), which is US\$ 50 Million initiative funded by the World Bank. Its main goal is to improve food security mitigate in view of the poor weather conditions that have affected the country. It is targeted at vulnerable households with HIV/AIDS or with orphans and vulnerable children (OVCs). The objectives of the project are: (i) quick disbursement of assistance to finance imports (machinery, inputs, livestock etc); (ii) safety net intervention (public works) to increase access to markets and services; (iii) distribution of agricultural inputs and production rehabilitation; (iv) improving early warning and disaster management.

The FAO in collaboration with government and other NGOs has implemented the Emergency Agricultural Intervention in the 2002/2003 agricultural season following the drought situation in the previous farming season. The main goal of this special relief operation is to improve the food security status of vulnerable, agriculturally-based households in Zambia by enabling them to improve their self-reliance through increased production and access to food and thus reducing dependency on food aid. The FAO hopes to achieve this by promoting conservation farming through provision of input packs and training. The programme was developed through collaborative discussions with institutional partners and the Zambian government. Technical backstopping and implementation of activities has been delegated to contracted partners such as CARE, CFU (Conservation farming Unit), CLUSA (Cooperative League of the United States of America), LM&CF (Land Management and Conservation Farming and PAM (Programme Against Malnutrition).

The World Food Programme (WFP) has also been carrying out food relief operations in hunger stricken areas in both rural and urban areas. They have used Food For Work approaches as a way of targeting beneficiaries and have been working in partnership with the MCDSS and NGOs like PAM. Some constraints affecting food for work programmes have included: poor targeting (undeserving beneficiaries receiving food instead of deserving ones); failure to see existing food crisis as a chronic rather than acute issue; and focus on food handouts rather than food/cash for work programmes

4.2.3 Livelihood promotion

The government through donor assistance has also been implementing projects aimed at improving livelihoods in local communities. For instance, the Zambia Social Investment Fund (ZAMSIF), which is funded by the World Bank, supports the government's poverty reduction strategy, which aims at increasing income and living standards for the poor. Through its Community Investment Fund (CIF) component, ZAMSIF empowers the poor and vulnerable through the financing of sub-projects identified, implemented, managed, operated, and maintained by local communities. Projects that improve the poor and vulnerable people's livelihoods in water and sanitation, health, education, community transport infrastructure, environment, gender, HIV/AIDS, OVCs are funded. The Project provides community investment fund (and a separate district investment fund) to support small, locally generated micro projects. This approach is premised on enhancement of community ownership, improved accountability and transparency, gender sensitization.

The European Union funded Micro-projects is similarly aimed at improving the livelihoods of the poor and vulnerable. Working in collaboration the government, the Micro-projects is

aimed at providing funds for small, short-term (12 months maximum) community projects with 25% community contribution. Projects include education and health civil works. Government is committed to staffing new clinics or schools. Identification of the projects is done through the communities and the District Development Committees (in line with District Development Plans).

The civil society in Zambia is a vibrant sector with a huge number of NGOs, churches and other Community Based Organizations (CBOs) that are providing social protection (particularly community based coping strategies). Some donors and NGOs have been providing micro-credit/finance/grant schemes to groups like women as a way of promoting small business entrepreneurship and sustainable livelihoods. There are, however, a number of key constraints, which affect the effectiveness of these interventions. These are: poor coordination, strategic and programmatic focus; interventions tend to be location specific; there is limited local government involvement; the private sector is rarely engaged; and the focus is on very limited groups.

4.2.4 HIV/AIDS

As mentioned earlier, concerns about the impact of the HIV/AIDS pandemic have made the government through the assistance of various donors to start implementing programmes and measures aimed at ameliorating the situation. The activities of the Taskforce on HIV/AIDS (The National AIDS Council) are on the threshold of implementation after budget approval and commitments from the donor community.

From the time that the first AIDS case was diagnosed in Zambia, four national plans have been developed in response to the epidemic by the government. The first and second plans were implemented by the Ministry of Health while the third one involved all ministries since a multi-sectoral response is perceived to be more effective. After an extensive consultative process, a National Strategic Framework has been developed, validated, and costed. The current framework being implemented by the National HIV/AIDS Council follows a multi-sectoral approach in the fight against the epidemic. Several programmes are envisaged including the subsidized availability of ARVs in health centres throughout the country, HIV/AIDS campaigns to create awareness and reduce stigmatisation of the afflicted, expansion of access to voluntary counselling and testing services, promotion of home based care or community home based care for the afflicted GRZ-PRSP, 2002).

4.2.5 Orphans and vulnerable children

Concurrent with the HIV/AIDS programmes are interventions aimed at orphans and vulnerable children. As noted earlier, the HIV pandemic has left an estimated 600,000 orphans (2000), projected to reach 974,000 in 2014, most of whom will have no hope of obtaining formal education. This, in turn, will affect the quality of the labour force. Of these orphans, 6% become street children with less than 1% living in orphanages. Government in partnership with the donors, the church, CBOs and NGOs has committed itself to assisting orphans and other vulnerable children.

A number of programmes and projects in this regard have been implemented. For instance, the churches (especially the Catholic Secretariat), which have extensive national networks and are well integrated into communities have been supporting the OVCs through the provision of basic needs and education. Even if it has limited coverage, the

Department of Social Welfare has been providing basic needs (food, shelter, clothing and assistance with health and school fees) and shelter/training for street children.

International donor agencies like UNICEF and USAID have been involved in large-scale programmatic efforts in the health and education sector through support to the Ministries of Health and Education. They reach OVCs through HIV/AIDS awareness and education campaigns and they have also been in the forefront in promoting better enforcement of the rights of children especially the OVCs.

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Appendix 1 Terms of Reference for Zambia Country Issues Paper

14 February 2003

1. Background

The Forum for Food Security in Southern Africa is a project to support strategic thinking on food security issues in Southern Africa by facilitating a forum of specialists and key policy stakeholders from governments, donors, NGOs, civil society, the private sector, and the international and regional research community, with identified specialist knowledge of the issues and the region. The project will produce Policy Options Papers and host a combination of moderated electronic discussions and workshops on the key policy options.

The purpose of the Forum is to support initiatives by governments and donors to improve food security in the region. The work will focus in five countries — Lesotho, Malawi, Mozambique, Zambia and Zimbabwe — representative of a range of food security contexts across the region.

The project is running initially between December 2002 and August 2003. It is funded by the UK Department for International Development and implemented by a consortium of institutions in the UK and Southern Africa.

The project uses the FIVIMS definition of food security, namely when all people at all times have physical, social and economic access to sufficient safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. The project is focussed on food security at the household level.

The project sees household food insecurity as closely related to vulnerability. It uses the SADC FANR Vulnerability Assessment Committee conceptual approach to understanding the relationship between food security and vulnerability, which highlights the twin components of exposure to risk (shocks and stresses) and ability to cope (assets and entitlements).

2. Purpose of Country Issues Paper

To set out the institutional framework for food security policy decision-making and the current priority food security concerns in the focus country, in this case Zambia, in order to root Forum discussions.

The paper will be authored within country by an individual or group. It will set out objectively:

- a) the current institutional framework for food security policy making
- b) the key food security concerns, and the detailed arguments and questions behind them, that have been identified by stakeholders in the country concerned.

3. Specific tasks and outputs

The country paper will be up to 40,000 words plus annexes.

The paper does not need to provide detailed documentation of the facts and figures of the current food crisis.

Rather, the paper will start with an objective description of the institutional framework in which the key food security concerns are being addressed in Zambia (approx. 10,000 words), following the outline in Annex 1 below. This will be authored by an individual or group expert in the field of institutional analysis.

Next, the paper will provide an objective description of current priority food security questions in Zambia, and the range of opinions on them, relating to the themes of human vulnerability, market-based development, and social protection (up to 30,000 words). A long list of potential food security questions is attached (see Annex 2). The food security questions selected for inclusion in the paper will be those seen as priorities by the key stakeholders in the country concerned.

For each selected question, the paper will set out:

- **The nature and content of the question;**
- **Why is this question a priority in the country concerned? (including historical origin with timeline, relevant background information on the agricultural, social and economic factors that make this question a priority);**
- **Key players (see Box 1): which stakeholder groups are involved in each question and what has been their role in the debate?**
- **Areas of complementarity and conflict between the different stakeholder groups on this question.**

In an Annex, the paper will log the major current government, donor and NGO policies, plans, strategies and processes relevant to food security. This log will include:

- Brief summary (250-500 words) of each initiative, including historical origins and rationale.
- Full citations for relevant documents – both formal policy statements and project documents, and relevant reviews and critiques of the initiatives.

Box 1: food security stakeholders

- **Parliament:** parliamentary sub-committee on agriculture
- **Government departments:** especially VP's office (DMMU), Agriculture, Finance, Health.
- **Monitoring networks:** Famine Early Warning System Network, Vulnerability Assessment Committee
- **Consortia**
- **Private sector,** e.g. through Food Reserve Agency
- **International NGOs,** e.g. Oxfam, SC, Care, Concern, Action Aid and through the Forum for International NGOs
- **Civil society** and local NGOs, e.g. HODI, PAM
- **Research organizations** e.g. UNZA, INESOR
- **Donors** e.g. DFID; EU; USAID; World Bank
- **UN/Humanitarian agencies** e.g. WFP, FAO, UNAIDS
- **Farmers** e.g. through Agricultural Consultative Forum

4. Timeframe

Days	
Institutional framework	5 days, of which: 3 days drafting 1 day stakeholder consultation 1 day final edits
Food security questions	13 days, of which: 9 days drafting 2 days stakeholder consultation 2 days final edits
Timing	Draft completed by 14 March 2003

In Zambia, the country issues papers authors will liaise with the key stakeholders identified to ensure full stakeholder consultation on the draft paper, and will incorporate relevant edits arising from this process.

Annex 1: The institutional framework for food security policy decision-making

(approx. 10,000 words)

Stakeholders and interest groups

- Note the key stakeholders in the food system (see Box 1), and their particular interests. Assess their relative power and points of leverage. In what ways has the configuration of stakeholders, interests and power changed over the last ten or even twenty years?
- The extent to which poor and food vulnerable groups represent their interests to policy-makers. Do they think of food security or social protection as a right?

Institutional environment

- Note organisations empowered to make policy on food matters.
- The extent that parliament, and its committees, can scrutinise policy. Other effective checks on executive action, through, for example the courts, ombudsman, etc.
- The freedom and capacity of the media — press, TV, radio — to comment on food matters. Their role.

Policy process

- List briefly the main policies that affect food security. Above all those affecting food production, food trade and marketing, social protection policy and (emergency) relief. Apparently important areas of food security that are not addressed by policy.
- How food security policy has been made. Mainly by the advice of professional civil servants, by ministers? How much influence have donor agencies had? Or domestic interest groups, lobbies — including farmer unions, academic or research institutes, etc.?
- Organisational capacity to implement policy. Key problems in implementation, such as lack of skills, incentives, corruption, etc.
- Accountability to the public of public agencies implementing food security policy.
- Highlight areas of overlap/conflict/complementarity (e.g. between humanitarian activities and social protection activities).

Policy learning

- Main changes in food security policy over the last decade. To what extent have policy changes reflected learning from previous experience?
- Groups calling for reforms of food security policy, policy-making or implementation. Or groups in government or civil society likely to be champions for making changes to food security policy.
- Opportunities for using research findings to influence food security policy.
- Opportunities for increased participation of the poor and food-vulnerable in making policy for food security.

Inter alia, include reference in the paper, where relevant, to:

- Changing effectiveness of traditional authority to resolve local problems;
- Impact of decentralisation, especially if it has led to more regulations and local taxes making it more difficult to run businesses;
- Impacts of reduced ability of central government to provide services both social and productive; and,
- Worsening personal and civil security.

Annex 2: long list of potential food security questions

This is a list of the kinds of questions being asked throughout the Southern Africa region as a result of the current food crisis. Based on their knowledge of the current food security debate in Zambia, the country issues paper authors will identify the 1-2 key questions for Zambia under each theme and focus the paper on the selected questions.

Length: up to 30,000 words in total.

1. The relationship between vulnerability and food insecurity

Possible issues include:

- 1.1 The impact of HIV/AIDS on the vulnerability of individuals, households, and communities (via asset base and entitlements). The relationship between the HIV/AIDS crisis and the food crisis. How has the HIV/AIDS crisis driven vulnerability and affected ability to cope with shocks.
- 1.2 Problems relating to inadequate early warning systems, such as crop forecasting and vulnerability assessments. These may relate to capacity or methods or both. The effect of these problems on vulnerability and food security.
- 1.3 The effects of slow economic growth and macroeconomic problems on the livelihoods of the vulnerable, as seen in the availability of jobs, opportunities to open small businesses, returns to economic activities, remittances; costs of basic goods and of public services (e.g. user charges).
- 1.4 The effects of environmental change and natural resource management on human vulnerability, including long run decline in soil quality, deforestation, reduced common property in grazing, woodlands, water bodies owing either to increased population or to less access as rules change or become less effective.

2. The role of market-based economic development in strengthening household food security

Possible issues include:

2.1 Agricultural production

- The extents to which farmers, and in particular smallholders, have been able to increase their production of staple foods and higher-value cash crops. Problems encountered in:
- Markets and their functioning, now that the state has withdrawn from supplying many services in favour of the private sector — for inputs, finance, output, labour, land, and water;
- The provision of services in extension, veterinary attention, information, storage, etc.;
- Lack of appropriate technology for, for example, diversification, conservation farming, winter farming.
- Problems within rural communities such as lack of land, loss of labour.

2.2 Agricultural trade, grain reserves and food aid

- Changes in rules and restrictions on trading across national borders. In particular, note effects on farmers living close to borders. Where increasing cross-border trade has been permitted, has this encouraged the entry of large grain traders into the markets? What has been the effect on net flows of food, and on prices in the country?
- The policy for holding of national strategic grain reserves, and how has this changed.
- The pattern of food aid shipments and their impact on local food supplies, and possibly on local food prices.

2.3 Rural non-farm activity

- The development of rural non-farm opportunities, and the extent to which the rural non-farm economy been able to create jobs and incomes. To what extent have the poor taken up very marginal rural non-farm activity to cope and survive?
- Key factors affecting opportunities in the rural non-farm economy?

2.4 Urban-based and industrial activity

- The ability of the urban economy to provide jobs and incomes. Effects on urban poverty, levels of rural-urban migration and on remittances to rural areas.
- The ability of the urban poor to obtain food. Factors affecting this, including jobs, real wages, prices of staples, availability of foods from public sources at concessional prices, etc.

3. The role of social protection measures in strengthening food security

Possible issues include:

- ❑ What is social protection? What specific problems or needs can and should external social protection interventions address (compared to informal social security systems)?
- ❑ What type of external social protection interventions are thought to be appropriate to address these problems or needs?
- ❑ Has their potential impact (positive or negative) on informal social security systems (community networks) been taken into account? What is known about how well community networks are functioning at present?
- ❑ How should resources transferred through social protection programmes be targeted? (Self-targeting through public works, for instance, excludes all those unable to work, while experiences in the region with community-based targeting have been mixed.) Are there some forms of social protection that can be delivered at minimal cost (such as policy changes rather than resource transfers)?
- ❑ How might shorter-term humanitarian responses and longer term development responses be made more complimentary?