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**ANALYSIS OF FOOD SECURITY,  
HEALTH AND NUTRITION IN ZAMBIA**

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Joint USAID/W  
DCHA/FFP and AFR Bureau Team**

**Prepared for:  
USAID/Zambia**

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## INTRODUCTION

At the request of the USAID/Zambia Mission, a joint DCHA/FFP and AFR Bureau team prepared the following Analysis of Food Security, Health and Nutrition in Zambia to support the Mission's new Country Strategic Plan for 2004-2010. AFR Bureau team members were Hope Sukin, Nutrition/Health Officer and Fenton Sands, Agricultural Economist. Participating from DCH/FFP, were Food For Peace Officers, Michelle Cachaper and Paul Novick.

The team conducted a series of interviews with USAID/W offices before starting their research in Zambia. From January 8-30, 2003 in Zambia, interviews were held with USAID/Z staff, and officials in more than 40 institutions, including Government of Zambia ministries and departments, international and donor organizations, and cooperating private voluntary organizations. An extensive number of agriculture, food security and nutrition/health documents were reviewed. (Listed in Annex B at the end of this report). Finally, the team traveled to Southern Province to view the humanitarian and economic effects of the drought, as well as visit sites of smallholder diversified agriculture and emergency food aid relief operations.

The following analytical document is a result of this research. It is meant to be a helpful resource for the Mission to assist its planning staff in further integrating the all-important themes of food security, nutrition and health into the new Country Strategic Plan for 2004-2010. The recommendations in this report confirm the development objectives illustrated in the Mission's new Concept Paper, as well as offer suggestions for deepening SO impacts. One important element of the recommendations is the addition of both Title II emergency and development food aid to the Mission's resource base to enhance its short and long-term food security interventions. In an era of static or declining development resources, we feel food aid can provide additional emergency and recovery support to vulnerable groups, as well as contribute to achievement of longer-term development objectives.

The team wishes to thank the USAID/Zambia Mission and its cooperating partners for facilitating its research and for creating an environment of informational exchange that allowed us to tackle this challenging issue of food security in Zambia. The integration of this document into the country strategic plan should result in a more comprehensive and balanced development strategy that addresses the key issues of economic growth, food security and improved health facing Zambia today and into the future.

## LIST OF ACRONYMS

ARI	Acute Respiratory Illness
CARE	Cooperative for Assistance and Relief Everywhere
CBGP	Community Based Growth Promotion
CF	Conservation Farming
CLUSA	Cooperative League of the USA
CRS	Catholic Relief Services
CS	Cooperating Sponsor
CSB	Corn-Soy Blend
C-SAFE	Consortium for Southern Africa Food Emergency
CT	Conservation Tillage
DA	Development Assistance Funds
DAP	Development Activity Proposal
DCHA	Bureau for Democracy, Crisis and Humanitarian Response, USAID
DHS	Demographic and Health Survey
DFID	Department of International Development, UK
DMMU	Disaster Management and Mitigation Unit
EMOP	Emergency Operation Plan
FAO	United Nations Food and Agriculture Organization
FACS	Food-Assisted Child Survival
FANTA	Food and Nutrition Technical Assistance Project
FEWSNET	Famine Early Warning Systems Network
FFE	Food for Education Program
FFP	Food for Peace, USAID/DCHA
FFP/DP	Food for Peace, Development Programs Division
FFP/EP	Food for Peace, Emergency Programs
FFW	Food for Work
FHANIS	Food, Health and Nutrition Monitoring System
FHI	Food for the Hungry, Inc.
FY	Fiscal Year
GMO	Genetically-Modified
GRZ	Government of the Republic of Zambia
GTZ	German Development Cooperation
HBC	Home Based Care
HEPS	High Energy Protein Supplement
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IEC	Information Education and Communications
IMCI	Integrated Management of Childhood Illnesses
IR	Intermediate Result
LIFDC	Low-Income Food Deficit Country
LOL	Land O'Lakes, Inc.
MCH	Maternal Child Health
MCHN	Maternal Child Health Nutrition
MSU	Michigan State University
MOA	Ministry of Agriculture
MOH	Ministry of Health
MT	Metric Ton
NFDM	Non-Fat Dry Milk
NFNC	National Food and Nutrition Council
NGO	Nongovernmental Organization

OCFI	Other Child Feeding Initiatives
OVC	Orphans and Vulnerable Children
PAM	Program Against Malnutrition
PCI	Project Concern International
PL480	Public Law 480, the Agricultural Trade and Assistance Act of 1954
PLWHA	People Living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PROFILES	Nutrition Advocacy Tool
PRSP	Poverty Reduction Strategy Paper
PVO	Private Voluntary Organization
RCSA	Regional Center for Southern Africa
SCF	Save the Children Federation
SFP	School Feeding Program
SHN	School Health and Nutrition
SME	Small-Medium Enterprise
SO	Strategic Objective
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
UTH	University Teaching Hospital
VAC	Vulnerability Assessment Committee
VCT	Voluntary Counseling and Testing
WFP	United Nations World Food Program
WHO	United Nations World Health Program
WV	World Vision
ZIHP	Zambia Integrated Health Program
ZNFU	Zambia National Farmers Union

## EXECUTIVE SUMMARY

USAID's Office of Food for Peace defines *food security* as "when all people, at all times, have both physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a productive and healthy life."

Three distinct variables are essential to the attainment of food security:

1. **Food Availability:** Sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports or donors other than USAID, are consistently available to the individuals or are with reasonable proximity to them or are within their reach.
2. **Food Access:** Individuals have adequate incomes or other resources to purchase or barter to obtain levels of appropriate food needed to maintain consumption of an adequate diet/nutrition level.
3. **Food Utilization:** Food is properly used; proper food processing and storage techniques are employed; adequate knowledge of nutrition and child care techniques exist and is applied; and adequate health and sanitation services exist.

-- *USAID Policy Determination, Definition of Food Security, April 13, 1992*

This Policy Determination provides the parameters within which USAID development programs should be operating to assist their host countries in achieving sustainable food security for its populations. Given that food security is a basic, fundamental right of all populations, USAIDs must give priority to this issue in their development programming in countries where food insecurity continues to exist.

In Zambia, food insecurity is chronic for much of the population and has a major impact on the country's ability to develop economically. Malnutrition is endemic, affecting *almost fifty percent of all children under the age of five!* (*Republic of Zambia, Demographic Health Survey - DHS*). Child stunting rates are some of the highest in Africa. The 2002 Human Poverty Index (*UNDP*) ranked Zambia 153<sup>rd</sup> out of a total 173 countries. In the rural areas, the source of the country's food production base, fully 83 percent of the population is considered impoverished. (*Republic of Zambia, Living Conditions in Zambia*). Clearly, food insecurity in Zambia is a complex and chronic development issue that will require the long-term commitment of the Government and the support of USAID and other major donors to be effectively resolved.

The following analysis of food security, health and nutrition in Zambia was conducted by a combined Bureau team to assist the USAID Mission in its efforts to design its next Country Strategic Plan. The purpose was threefold: 1) to research the extent of the existing food security problem in the country and the types of vulnerable populations; 2) to evaluate the approach of the Mission's new 2004-2010 Country Strategic Plan concept paper for addressing key food security, health and nutrition issues; and 3) to advise the Mission on additional improvements they might include in the new strategic plan to enhance food security, health and nutrition interventions.



## **Current Food Security Situation**

Despite Zambia's good agricultural potential, there are significant, long-standing food insecurity problems in the country. This is particularly true in drought-prone areas in the Western Province and parts of the Southern and Eastern Provinces. However, agricultural output for many years has not kept pace with population growth, creating a major problem of *chronic food insecurity* for 70 percent of the population. (*Republic of Zambia, Living Conditions in Zambia*).

Several factors have contributed to continuous food shortages in Zambia. The long list includes recurrent droughts, pervasive poverty, poor infrastructure and limited investments in agriculture, insufficient attention paid to smallholder agriculture, policies that favor urban businesses over farmers and consumers over producers, policies that distort prices and interfere with markets, etc. But what separates this country from many others is its heavy dependence for the last three decades on maize as the predominant food crop. The production sector is dominated by maize, which accounts for about 65 percent of land cropped annually and for about 90 percent of all cereals. Fully 60 percent of an average person's caloric intake comes from maize, one of the highest levels of dependence on maize in Africa (*United Nations (FAO). July 2002. Food and Agriculture Organization Statistical Database (FAOSTAT) Standardized Food Balance Sheet*). In addition, Zambia has produced only enough grain to meet national food requirements for two out of ten years between 1990 and 2000. (*United Nations FAO*). This has clearly had a profound impact on the poor nutritional status of the population, especially the most vulnerable groups.

Presently, Zambia is faced with a food crisis attributable to unfavorable weather patterns compounded by reduced food production in the last two consecutive agricultural seasons (2000/2001 and 2001/2002). Up to 50 percent of the Zambian population in rural and urban areas is facing some form of food insecurity. Those most affected include smallholder farmers, who rely on the food from their farms for subsistence, and the urban poor who will face higher food prices. The death and sale of livestock and sale of seed stocks to purchase food will also constrain the ability of vulnerable households to recover from the drought. Poverty is likely to deepen and the numbers of vulnerable populations may also continue to grow.

To make matters worse, the HIV/AIDS pandemic is having deleterious effects on productive assets and labor at the national and household level, as well as greatly impacting Zambia's health care systems. In the midst of this crisis, the current food insecurity is deteriorating community capacities at the local level to effectively cope with their growing poverty and to adequately feed and care for the more vulnerable members of their households. HIV/AIDS has emerged as a formidable and long-term constraint that will have a growing negative impact on Zambia's food security picture in the future.

## **Current Health/Nutrition Situation**

Malnutrition in Zambia is a serious development. It contributes to the country's high rates of child mortality and serious morbidity, affects mental development, and impedes school performance and labor productivity later in life. In adults, nutritional status affects the progression of HIV and the survival of those with AIDS. In the past ten years, increasing rural and urban poverty, a high burden of disease, and improper feeding and agricultural practices have led to a serious decline in nutritional status in Zambia. The current food emergency, characterized by very low household food stocks in rural areas and unprecedented high prices for maize in both rural and urban markets, will exacerbate the poor nutritional situation of vulnerable groups, such as young children, pregnant and lactating mothers, people living with HIV/AIDS and orphans.

The DHS provides the most recent national and regional level data on maternal and child malnutrition. Most alarming are the stunting rates for children under-five. **Stunting** is an indicator of chronic malnutrition caused by continuing inadequate food intake and/or frequent episodes of illness over a period of time. 46.8 percent of children under five are moderately stunted (below 2 SDs height for age) and 22.2 percent are severely stunted (below 3 SDs height for age). With these levels, Zambia has one of the highest rates of stunting in all of Africa. Stunting begins early in life with 36.8 percent of children 6-9 months already stunted, and increasing to 55.6 percent of children stunted between 12-23 months of age. Stunting early in life has irreversible consequences. Studies have found that adult stunting is associated with reduced physical capacity and economic productivity.

Overall the DHS presents a very serious national nutrition problem that has gotten progressively worse over the last ten years. If not addressed, malnutrition will continue to contribute to high rates of child mortality and morbidity, low birthweights, and reduced educational and economic performance for Zambians throughout life.

#### **Determinants of Food Insecurity and Malnutrition in Zambia**

- Poverty
- Shocks
- Dietary habits and improper child feeding practices
- Disease
- Agricultural policy and production factors

#### **Poverty**

Zambia is one of the poorest countries in the world, facing numerous macro-economic and social development problems. In the most recently released (2002) Human Poverty Index, the United Nations Development Programme (UNDP) ranked the country 153<sup>rd</sup> out of a total 173 countries. The ability of households in both rural and urban areas to access adequate food has significantly decreased during the last decade. According to the Central Statistics Office's Assessment of Poverty, more people were living in poverty at the end of the 1990s than at the beginning of the decade.

#### **Shocks**

It is important to understand the influence of shocks, such as HIV/AIDS and the recurrent droughts on the food security and nutritional status of Zambians. Given the already severe poverty situation, many households no longer have the cushion to absorb these shocks and are taking longer to recover. These shocks cause already vulnerable households to become even more impoverished, more food insecure and less able to access a nutritious diet.

*Drought* has been a recurrent problem in Zambia over the past decade, especially in Southern Province. Since 1991 there have been three major droughts that have significantly reduced food production (primarily maize) to the point that the country had to declare disasters and seek international assistance. During the most recent 2001/02 cropping season, erratic rains and long dry spells resulted in low agricultural output and exacerbated an already precarious food situation. The result has been that 1-2 million Zambians have required some form of food aid in the 2002-2003 period. (*SADC, Emergency Food Security Assessment Report*).

*HIV/AIDS* has significantly affected food security and purchasing power of households throughout Zambia. HIV/AIDS strikes men and women in their most productive years. Over the

past ten years, approximately 600,000 people have died from AIDS and approximately 1.0-1.2 million people are currently living with the disease. DHS 2001-02 indicates an 11 percent prevalence rate in the rural areas and a 23 percent rate in urban areas. As a result, over 1 million children are orphans, which include children who have lost one or both parents. Thus a substantial number of households have been affected by AIDS, either by the death of one or more of its members, or by caring for a chronically ill person or taking in additional children. This has meant a significant loss of income, increased financial burdens and social trauma for many households.

### **Dietary Habits and Feeding Practices**

Adult dietary habits and feeding practices for young children play a particularly important role in food insecurity and poor nutritional status in Zambia. Because of thirty year-old government policies for subsidized maize production, many areas of the country have turned from traditional crops such as tubers, sorghum, and cassava and concentrated on maize production. Consequently, maize has become the predominant staple and for most people eating a meal means consuming *nshima* (typically made from mealie meal). Traditional foods that once contributed to a diversified diet have been neglected over time as maize has filled an increasing percentage of the family diet, thus contributing to unbalanced diets and malnutrition in many households.

### **Diseases**

Diseases lead to poorer nutritional status which in turn increase susceptibility to additional illness. The disease burden for young children is high. The DHS reported that 20 percent of children under-five had diarrhea in the last two weeks. Over 50 percent were reported to have had a fever and/or a cough in the last two weeks. 15 percent reported acute respiratory illness (ARI) symptoms while 43 percent had a fever. Although care-seeking behavior is improving, many children do not get prompt or effective treatment for illness, leading to greater weight loss per illness episode.

### **Agricultural Factors**

Zambia is a country of abundant land and water resources and has the potential for achieving long-term food security for its relatively small population. However, under-utilization of these resources has slowed the growth of the agricultural sector, leaving it vulnerable to the vagaries of weather and disease. Only 14 percent of arable land is cultivated, while only 13 percent of potential irrigable land is actually irrigated. A variety of climactic zones ensure a favorable environment for growing a wide variety of food and cash crops and possibilities for export expansion in horticulture, cotton and tobacco look promising. However, for the present these are small parts of an agricultural sector still dominated by maize. Government policy since the 1970s has strongly subsidized and supported national maize production. Crop diversification efforts are starting to change this national priority but production of alternative foods, such as cassava, sorghum and sweet potatoes is still insufficient to change the food insecurity picture.

Agricultural policy is an area that presents the biggest challenge to long-term food security. Government policy towards the farm and marketing sector has been erratic and frequently has reflected political imperatives other than improved rural incomes and national food security. Policies on input supply have constrained the private sector and farmer abilities to achieve significant and sustained production increases. The strategic food reserve has been ill managed and has not provided the necessary protection in times of food deficits. The subsidization of maize has subjected smallholders to undue risk in trying to feed their families and maintain their livelihoods. All of these are important areas where reform needs to be applied before serious progress will be made in stabilizing and growing the agriculture and rural enterprise sectors.

### **Vulnerable Groups**

The primary groups in Zambia vulnerable to food insecurity, poor nutrition and ill health are:

- Young children
- Pregnant and lactating women
- People living with HIV/AIDS (PLWHA)
- Orphans and vulnerable children
- Households caring for PLWHA, orphans and vulnerable children (OVC)
- Smallholder farmers

These are the groups that would benefit most from USAID interventions in food security, improved health and better nutrition. They will comprise some part of the many communities that will participate in future USAID development programs. To design that program the Mission has completed a first step Concept Paper, which outlines the strategy to be pursued over the next seven years. This paper envisions a comprehensive development strategy combining five strategic objectives -- Increased Private Sector Competitiveness, Improved Education, Improved Health, More Accountable Government, and Reduced Impact of HIV/AIDS -- all integrated in support of an overriding goal of Prosperity, Hope and Better Health for Zambians. Themes of food security and HIV/AIDS support are woven throughout.

By and large, this team supports the Mission's proposed strategy. To enhance the food security, health and nutrition aspects of the program, the team has developed a series of recommendations per SO for the Mission to consider in the ultimate design of its long-term program. Some of the more important recommendations are as follows:

#### **SO5: Increased Private Sector Competitiveness**

**Recommendation:** Food security should be an explicit theme of projects developed under SO5. SO5 clearly emphasizes an economic growth development approach. A well implemented core of programs under this objective targeting the private sector can contribute to food security as well. However, the choice of projects is important and food security must be more than just an after thought. It must be *explicit* in the design of the program. In this regard, we would recommend that **food diversification** – the cultivation of a variety of crops for consumption and/or sale, be integrated into any new project designed under IR5.1 as an extension, training or technical assistance activity.

**Recommendation:** Link production and nutrition/health activities to improve food security, health and nutrition of vulnerable groups. We recommend that any agricultural production and livelihood activities be firmly linked to **household nutrition and health** training through extension and technical assistance.

**Recommendation:** To ensure that the linked program activities above are having a positive impact on household food security and nutrition, the performance indicator – *dietary diversity* – should be added to the IR5.1 list for monitoring and measurement.

Dietary diversity – the number of individual foods or food groups consumed by a household over a given period -- has been shown to be a good indicator of the food access dimension of household food security.

**Recommendation:** To achieve better impact in programs, pool resources with other donors and jointly implement contract farming and improved agriculture activities. Several donors

are pursuing similar economic growth and food security objectives. Since these programs are costly, donors pooling their resources and targeting the same beneficiaries might have greater program impact than by operating individually.

**Recommendation:** The Mission should continue its association with FEWSNET and the Regional Center for Southern Africa (RCSA) to stay abreast of early warning on drought developments. Zambia will continue to be impacted by recurrent drought in the future, especially during El Nino events. It will need the services of FEWSNET and RCSA to mitigate losses to its agricultural and livelihood programs as a result of weather related disasters.

#### **SO 6: Improved Quality of Basic Education**

**Recommendation:** This program should address mitigating the impact of HIV/AIDS on the education system, as well as use the education system to prevent and control spread of the disease to youth. The education SO in collaboration with SO 9 should be using the education system to extend information to school age children and training to teachers about prevention of HIV/AIDS. The Ministry of education should also be actively taking actions to mitigate the impact of AIDS on its workforce.

#### **SO7: Improved Health Status of Zambians**

**Recommendation:** There is a need for a strategy across sectors to promote the importance of a more diversified diet. The Ministry of Agriculture should be assisting farmers with crop diversification and providing education to households about the nutritional value of certain crops. The Ministry of Education should be teaching about the need for diversification of crops and diet and the Ministry of Health should be reinforcing this effort with training materials and promotion through their own health services. The National Food and Nutrition Commission could play a coordination role in promoting this strategy.

#### **SO9: Reduced Impact of HIV/AIDS through Multi-Sectoral Response**

**Recommendation:** Nutrition for Positive Living should become an important component of PLWHA. Given the importance of good nutrition for achieving a longer and healthier life, nutritional education and dietary advice should be part of all support services and education materials.

#### **All SOs: Synergies Among SOs to Enhance Food Security and Nutrition.**

**Recommendation:** There is a need for a strategy across all sectors – private sector, education, governance, health, and HIV/AIDS – to promote a more diversified diet in Zambian households. The Mission should take the lead in bringing key Ministries together to discuss integration of roles in getting a combined message out to rural households about crop diversification, diversified diets, improved nutrition and health, and efficient education, training and extension.

#### **PL480 Program: Integration with the Mission Development Program.**

**Recommendation:** USAID should actively integrate available PL 480 resources into its relief and development programs in order to meet the extensive food security needs of vulnerable groups throughout Zambia. There is a critical need in Zambia for a stronger and wider safety net to capture the most vulnerable groups living in food insecure households. Food aid resources can

be used both for safety net activities involving direct food distribution as well as to support longer-term agricultural and other livelihood activities that develop sustainable income flows.

### **Opportunities and On-Going Activities Related to Mission Strategy**

There are a number of activities presently being planned or implemented that could be of use to the Mission in its strategic planning. These activities should be monitored for information and data over the next several months. Mission staff in various offices are aware of these activities, but we thought it would be helpful to review them for everyone. Some of these include:

- The new GRZ Agricultural Policy before the Parliament for review and approval.
- The FAO/Ministry of Agriculture study on the impact of HIV/AIDS on farming productivity
- FAO/DFID monthly crop assessments
- 2002/03 Crop assessment
- VAC after-harvest assessment
- WFP exit strategy
- Donor collaboration on new food security projects
- NFNC/MOH's National Nutrition Policy/Guidelines

### **Mission Management Implications**

Team recommendations on enhancing the SO5 program should not require additional project officer management beyond what has already been proposed by the Mission. However, the Mission has discussed its desire to have a long-term food security expert at post to guide planning and implementation of food security activities. DCHA/FFP will review such a request for funding from the Mission when its final strategy document comes to USAID/W for review and approval.

For the health side of the portfolio, the Team recommends that the Mission hire an experienced HIV/AIDS Team Leader who can coordinate well with the other sectors and SO teams. Since HIV/AIDS is an interwoven theme in all SOs, this individual must have the technical experience and flexibility to coordinate an integration of SO programs to face the growing challenge of HIV/AIDS in Zambia today.

For the Title II PL480 C-SAFE and other programs that might be developed, DCHA/FFP will assign a project officer to backstop these programs and provide technical assistance on a semi-annual basis.

### **Conflict Vulnerability Assessment**

Zambia is a country facing many political, social and economic issues, but none of these appear to be presenting such a challenge to the country as to cause serious conflict and upheaval. Zambians by and large are a peaceful people and the country has never been involved in war or violence during its history as an independent country. Democratic processes are active and despite the food security issues of the drought, the population is using coping mechanisms to get through a period of deprivation. The WFP and PVOs are providing a supportive pipeline of food aid to the most vulnerable. The Regional Conflict Mitigation Officer conducted a review of the situation in Zambia and found no justification for requiring a CVA with the Mission's country strategy. Consequently, the Mission, through AFR/SA requested a waiver of this requirement. This Team supports the Mission's position.

## SECTION I. BACKGROUND AND INTRODUCTION

USAID's Office of Food for Peace defines *food security* as "when all people, at all times, have both physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for a productive and healthy life."

Three distinct variables are essential to the attainment of food security:

1. **Food Availability:** Sufficient quantities of appropriate, necessary types of food from domestic production, commercial imports or donors other than USAID, are consistently available to the individuals or are with reasonable proximity to them or are within their reach.
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This Policy Determination provides the parameters within which USAID development programs should be operating to assist their host countries in achieving sustainable food security for its populations. Given that food security is a basic, fundamental right of all populations, USAIDs must give priority to this issue in their development programming in countries where food insecurity continues to exist.

In Zambia, food insecurity is chronic for much of the population and has a major impact on the country's ability to develop economically. Malnutrition is endemic, affecting *almost fifty percent of all children under the age of five!* (DHS). Child stunting rates are some of the highest in Africa. The 2002 Human Poverty Index (UNDP) ranked Zambia 153<sup>rd</sup> out of a total 173 countries. In the rural areas, the source of the country's food production base, fully 83percent of the population is considered impoverished. (*Republic of Zambia, Living Conditions in Zambia*). Clearly, food insecurity in Zambia is a complex and chronic development issue that will require the long-term commitment of the Government and the support of USAID and other major donors to be effectively resolved.

The following analysis of food security, health and nutrition in Zambia was conducted by a combined Bureau team to assist the USAID Mission in its efforts to design its next Country Strategic Plan. The purpose was threefold: 1) to research the extent of the existing food security problem in the country and the types of vulnerable populations; 2) to evaluate the approach of the Mission's new 2004-2010 Country Strategic Plan concept paper for addressing key food security, health and nutrition issues; and 3) to advise the Mission on additional improvements they might include in the new strategic plan to enhance food security, health and nutrition interventions.

## 1.1 Current Food Security Situation

Despite Zambia's good agricultural potential, there are significant, long-standing food insecurity problems in the country. This is particularly true in drought-prone areas in the Western Province and parts of the Southern and Eastern Provinces. Like many developing countries, food is the most important element in the life of every Zambian. More than 70 percent of rural household incomes are spent on food. However, agricultural output for many years has not kept pace with population growth, creating a major problem of *chronic food insecurity* for 70 percent of the population. (*Republic of Zambia, Living Conditions in Zambia*). According to FAOSTAT data, Zambia produced only enough grain to meet food requirements for only two years between the 1990 and 2000 period.

Several factors have contributed to continuous food shortages in Zambia. The long list includes recurrent droughts, pervasive poverty, poor infrastructure and limited investments in agriculture, insufficient attention paid to smallholder agriculture, policies that favor urban businesses over farmers and consumers over producers, policies that distort prices and interfere with markets, etc. But what separates this country from many others is its heavy dependence for the last three decades on maize as the predominant food crop. The production sector is dominated by maize, which accounts for about 65 percent of land cropped annually and for about 90 percent of all cereals. Thus, fully 60 percent of an average person's caloric intake comes from maize (one of the highest levels of dependence on maize in Africa according to FAO data). This has clearly had a profound impact on the poor nutritional status of the population, especially the most vulnerable groups (as will be shown in the next section).

While weather and other exogenous factors have limited the food sector's ability to grow, erratic agricultural policies influenced by politics have also imposed added limitations. Some of these include the ban on bio-tech foods; delayed delivery to farmers at planting time of seeds, fertilizers and other inputs; over-emphasis on maize production; interventions in the maize market which have discouraged the commercial sector from participating effectively in production and trade; and a failure to advocate to small-scale and subsistence farmers the use of improved farming techniques and diversified cropping strategies. The government's ban on genetically modified organisms (GMO) is a new, particularly important factor affecting the current food security situation. Following the August 2002 Government consultative meeting on GMOs, public officials announced that further importation of GMO foods would not be allowed, because the Government did not have the technical expertise to evaluate the safety of such products. They then called for donor assistance to procure non-GMO cereals and requested the WFP to withdraw all stockpiled GMO maize (basically US food donations). These decisions had a significant disruptive effect on the emergency food pipeline during a time of severe food deficits in the country.

Presently, Zambia is faced with a food crisis attributable to unfavorable weather patterns that have reduced food production in the last two consecutive agricultural seasons (2000/2001 and 2001/2002). A recent joint assessment put the present shortfall in cereals production (largely maize) at 635,000 metric tons, which is 51 percent of Zambia's annual cereal needs. (*World Bank, Emergency Drought Recovery Project*). There is some dispute as to whether this figure is too high, but most organizations have been using this figure to plan their responses to the crisis. If this figure is true, the value of this deficit (measured at replacement cost) would be approximately \$160 million. Of the 10 million population in Zambia, from 1-2 million persons will have received emergency food assistance in the 2002-03 agricultural year. According to the December 2002 Food Security Assessment (*SADC FANR*), of Zambia's 72 districts, 24 were categorized as seriously affected by the current food security crisis, meaning



that up to 50 percent of the Zambian population in rural and urban areas (based on population density of the affected districts) is facing some form of food insecurity. Some of the most affected groups include smallholder farmers, who rely on the food from their farms for subsistence, and the urban poor who will face higher food prices. The death and sale of livestock and sale of seed stocks to purchase food will also constrain the ability of vulnerable households to recover from the drought. The full impact of this second year of drought is yet to be felt, but given the fragile nature of the Zambian economy, poverty is likely to deepen as vulnerable populations further deplete their remaining assets and coping mechanisms.

To make matters worse, the HIV/AIDS pandemic is having deleterious effects on productive assets and labor at the national and household level, as well as greatly impacting Zambia's health care systems. In the midst of this crisis, the current food insecurity is deteriorating community capacities at the local level to effectively cope with their growing poverty and to adequately feed and care for the more vulnerable household members. HIV/AIDS has emerged as a formidable and long-term constraint that will have a growing negative impact on Zambia's food security picture in the future.

Unfortunately, the Government does not have a definite policy on household food security, and did not address the issue in the 1998 National Poverty Reduction Action Plan. The 2002-2004 Poverty Reduction Strategy Paper (PRSP) was the latest opportunity for government to establish a food security policy. Some elements of such a policy (such as a reliance on agriculture as the economic engine of national growth) can be found in the PRSP but there is no coherent, workable strategy to eliminate food insecurity. The food security situation today is the manifestation of many factors over the years, and is currently worsened by drought, cereal production deficits and livestock losses. Unless food insecurity is addressed directly as a cross-cutting theme in Government policies and operations, it will not be successfully reversed.

## 1.2 Current Health/Nutrition Situation

Malnutrition in Zambia is a serious development problem *affecting almost fifty percent of the all children under five years of age. (DHS)*. It contributes to the country's high rates of child mortality and serious morbidity, affects mental development, and impedes school performance and labor productivity later in life. In adults, nutritional status affects the progression of HIV and the survival of those with AIDS. Malnutrition includes both protein energy malnutrition as well as micronutrient deficiencies. In the past ten years, increasing rural and urban poverty, a high burden of disease, and improper feeding and agricultural practices have led to a serious decline in nutritional status in Zambia. The current food emergency - characterized by very low household food stocks in rural areas and unprecedented high prices for maize in both rural and urban markets - will exacerbate the poor nutritional situation of vulnerable groups, such as young children, pregnant and lactating mothers, people living with HIV/AIDS and orphans.

## 1.21 Anthropometry: Children and Mothers

The DHS provides the most recent national and regional level data on maternal and child malnutrition. Most alarming are the stunting rates for children under-five (Table 1). **Stunting** is an indicator of chronic malnutrition caused by continuing inadequate food intake and/or frequent episodes of illness over a period of time. 46.8 percent of children under-five are moderately stunted (below 2 SDs height-for-age) and 22.2 percent are severely stunted (below 3 SDs height for age).

With these levels, Zambia has one of the highest rates of stunting in all of Africa (Table 2). Stunting begins early in life with 36.8 percent of children 6-9 months already stunted, and increasing to 55.6 percent of children stunted between 12-23 months of age. Nutrition experts in Zambia believe that these very high rates are due to extremely inadequate diets for young children and frequent bouts of illness—particularly

Table 1: Childhood Malnutrition

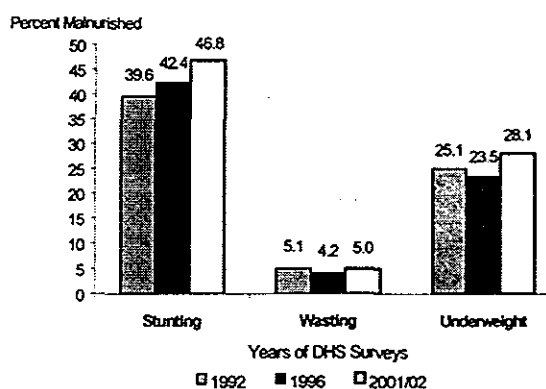
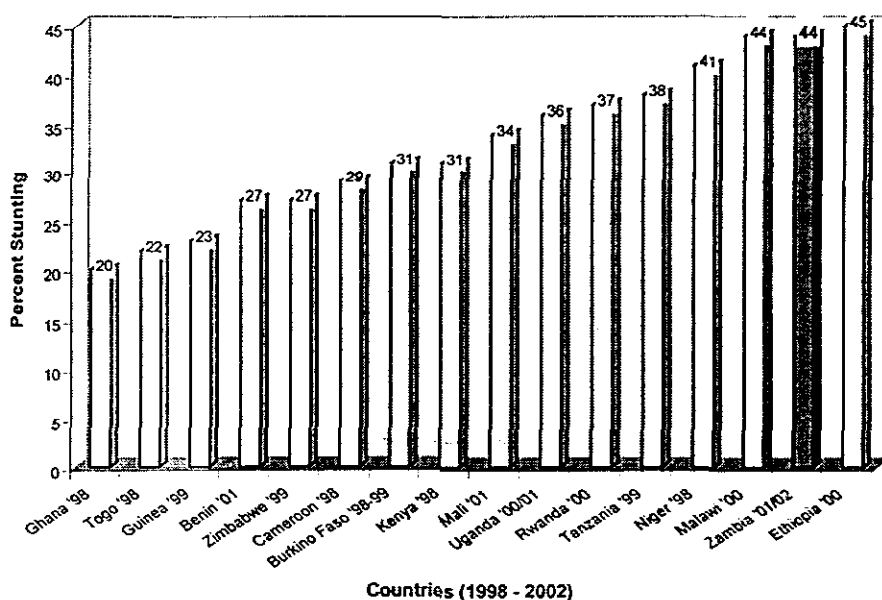


Table 2: Stunting Among Children Under 3 Years in Sub-Saharan Africa



malaria. Stunting early in life has irreversible consequences. Stunted children grow up to be stunted adults. Studies have found that adult stunting is associated with reduced physical capacity and economic productivity.

**Acute malnutrition** or *wasting* represents failure to gain weight in relationship to height usually due to a recent bout of illness or a current food shortage situation. Children who are wasted have a significant increased risk of death. Five percent of children under-five are moderately wasted and 1.1 percent are severely wasted. Wasting begins to increase at age 6-9 months and is particularly high in the 10-11 months age group at 10.9 percent. This trend is found in many developing countries and typically reflects the inadequacy of the weaning diet -- the lack of nutrient dense foods to accompany breastmilk that a child needs beginning at the age of 6 months. It also reflects the increased risks of diarrhea associated with the introduction of new foods at this very important growth period.

The results of both chronic and acute malnutrition are seen in the weight-for-age measurements, described as under-weight. 28.1 percent of children under-five are moderately underweight (below 2 SD weight-for-age) and 7.1 percent are severely underweight (below 3 SD weight for age). Both stunting and under-weight rates have continued to rise in each successive DHS survey since 1992. 40 percent of the under-five population was stunted in 1992 compared to 46.8 percent in 2001/2. 25 percent of the under-five population was underweight in 1992 compared to 28.1 percent in 2001/02.

There are important geographical differences in malnutrition (Table 3). Rural areas have higher levels of stunting at 51.3 percent compared to 36.8 percent in urban areas as well as under-weight rates at 30.3 percent in rural areas compared to 23.4 percent in urban areas. *Wasting* is similar. Eastern, Luapula and Northern provinces are above the national averages for stunting and underweight (Table 4). The Northern and Copperbelt provinces have higher rates of wasting.

Table 3: Childhood Stunting by Area of Residence

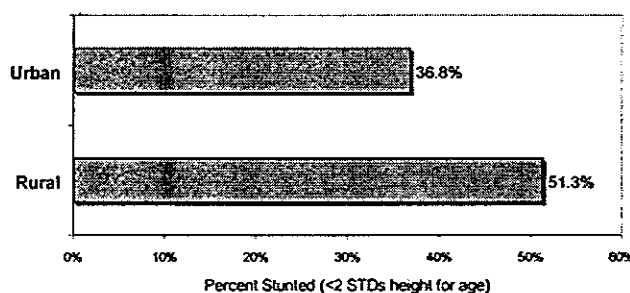
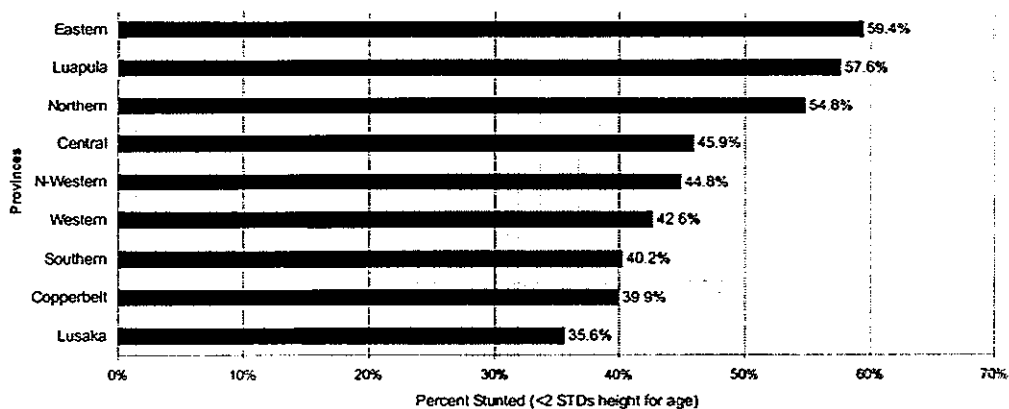


Table 4: Regional Childhood Stunting 2001-02



The DHS survey also provides anthropometric measurements for women. 15 percent of women are chronically malnourished with a Body Mass Index (BMI) less than 18.5. (The average is 12.9 percent among DHS surveys in Sub-Saharan Africa.) The average height for women is 158 cm, which is above the cut-off point of 145 cm. for being short. (This is very close to the average among DHS surveys in Sub-Saharan Africa) This is a marked difference from the high rates of stunting found in children. There were also geographical differences with 17.5 percent of women in rural areas considered thin compared to 11.4 percent in urban areas.

For the first time in Zambia, the 2001/02 DHS included anthropometric data for school age children 7 through 11 years. Because of limitations on the growth reference curves, analysis could only be carried out on children between the ages of 7 and 9 years. 31 percent of this school age population were found to be stunted (Below 2SDs). Nine percent were severely stunted (Below 3SDs). Rates of stunting for this age group are nearly double in rural areas at 38 percent compared to 20 percent in rural areas. Northern and Luapula provinces have very high rates at 50.4 percent and 50.9 percent respectively compared to Lusaka with 17.7 percent and Southern Province with 19.3 percent. Wasting was seen at about 2 percent, which "seems to be in normal population range of variability in weights for height" (DHS). 17 percent of school aged children were underweight with the highest levels in Northern Province at 31 percent and in Luapula at 24 percent. There was a significant difference between the stunting rates and under-weight rates for boys compared to girls with 35 percent of boys stunting and 20 percent underweight compared to 26 percent of girls who are stunting and 13 percent of girls under-weight.

Overall the DHS presents a very serious national nutrition problem that has gotten progressively worse over the last ten years. If not addressed, malnutrition will continue to contribute to high rates of child mortality and morbidity, low birthweights, and reduced educational and economic performance for Zambians throughout life.

## 1.22 Micronutrient Deficiencies

Surveys in the 1990s revealed micronutrient deficiencies of Vitamin A, iron and iodine among young children and mothers. Programs to address these problems are being implemented with support from USAID, GRZ, NGOs and other donors. The recent DHS survey indicates significant progress with a number of programs and distances to go for others.

The 1993 National Baseline Study in Iodine Deficiency Disorders (*National Food and Nutrition Commission*) identified the national prevalence rate of iodine deficiency at 32 percent. Iodine deficiency can lead to permanent mental impairment. Zambia passed laws in 1974 and 1994 for mandatory iodization of salt. According to the 2001-02 DHS survey, only 10.8 percent of urban households and 20.1 percent of rural households had no salt. Of those households with salt, 74.5 percent of urban households consumed salt with adequate iodine content and 79.1 percent of households in rural areas consumed salt with adequate iodine content.

In the 1998 National Survey on Vitamin A Deficiency in Zambia (*National Food and Nutrition Commission*), 66 percent of children age 0-4 years and 22 percent of women age 15-49 were found to be Vitamin A deficient. Vitamin A capsule distribution and sugar fortification programs have been aggressively implemented in the past three years. The 2001-02 DHS survey found that 67.4 percent of children under five years of age had received Vitamin A supplements. Overall 58.6 percent of children under-five are consuming

vegetables and fruits rich in Vitamin A. Fruits are available in most all rural areas; however, only 58.9 percent of children living in rural areas are consuming these. There are significant regional differences where only 42.3 percent of children in Southern Province are consuming fruits and vegetables compared to 71.2 percent in Northern Province. Mothers are also the target of Vitamin A capsule distribution programs; however, only 28 percent of mothers received Vitamin A within the first two months after delivery.

The 1999 National Baseline Survey on Anemia (*National Food and Nutrition Commission*) found that 39 percent of women, 23 percent of men and 65 percent of children were anemic. The DHS found that only 20 percent of mothers receive iron supplementation for 90 days or more.

## **SECTION 2. DETERMINANTS OF FOOD INSECURITY AND MALNUTRITION**

Important determinants of food insecurity, malnutrition and micronutrient deficiencies in Zambia are:

- Poverty
- Shocks
- Dietary habits and improper child feeding practices
- Disease
- Agricultural Policy and Production Factors

### **2.1 Poverty**

*Zambia is one of the poorest countries in the world, facing numerous macro-economic and social development problems. In the most recently released (2002) Human Poverty Index, the United Nations Development Programme (UNDP) ranked the country 153<sup>rd</sup> out of a total 173 countries.*

The ability of households in both rural and urban areas to access adequate food has significantly decreased during the last decade. According to the Central Statistics Office's Assessment of Poverty, more people were living in poverty at the end of the 1990s than at the beginning of the decade. Throughout the 1990s, prices of foods have risen, unemployment has increased and wages in the informal sector have remained stagnant. This has meant that urban consumers cannot purchase the quantity or quality of food required for an adequate diet. Small farm households that make up 70 percent of rural households have not been able to grow enough food. Given the high costs of agricultural inputs, small land size, low land productivity, these same households are not able to consume all their nutritional requirements from their own farm produce nor can sell enough to access an adequate diet. There is a hungry season in Zambia, which particularly affects small farming households. They find themselves with limited stocks of farm produce in the months between November and March and few off-farm income generating options. These realities, coupled with three periods of drought over the last 12 years, have deepened and extended the hungry season and levels of poverty for many households.

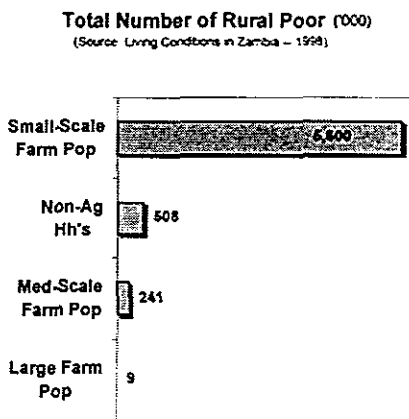
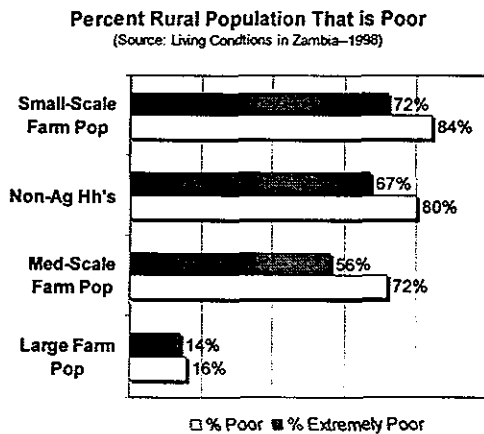
#### **2.11 Urban Poverty**

According to the World Bank Country Assessment, nearly 40 percent of Zambia's total population live in urban areas and 80 percent of this urban population live in poverty. This represents more than 3 million poor urban inhabitants. Given the continuing rural to urban migration and the limited industrial development, this number of poor is expected to rise for

the foreseeable future. The national Poverty Reduction Strategy Paper (PRSP) notes that of the many factors that have contributed to poverty in urban areas, lack of sufficient employment opportunities, both formal and informal, is a predominant cause of poverty. Urban dwellers are closely tied to the market economy and have tended to bear the brunt of the recent structural changes, such as growing unemployment and rising prices. With most urban poor living in unplanned squatter settlements on the periphery of urban centers, there is limited access to clean water and sanitation with a resulting vulnerability to disease. Petty trading is the predominant occupation of the informal sector. Women are in the majority and children have tended to be kept out of school to assist with increasing family incomes. This is more evident by the increased number of child traders and the phenomenon of street kids in most urban areas.

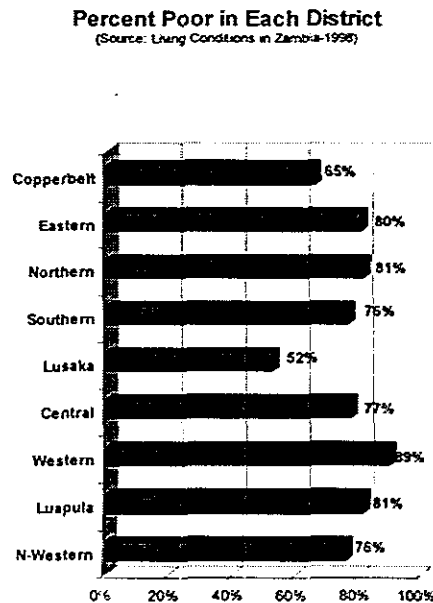
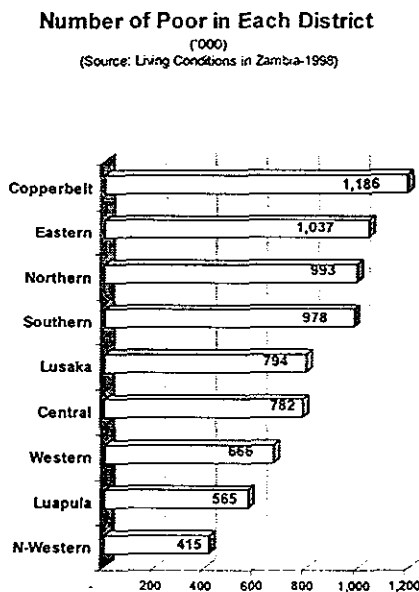
## 2.12 Rural Poverty

The persistence and severity of poverty is high throughout the country but is much more widespread in the rural areas (83 percent). In this sector, poverty levels range among different groups but are severe for most groups. In small farm households, for example, 84 percent are considered poor and 72 percent extremely poor. Overall, approximately 5.6



million persons in the rural population are considered poor and at the lower end of the economic scale.

We do not have information from the latest 2000 Living Conditions in Zambia survey report



Nutrition in

which would give us more current information, but according to the *Living Conditions in Zambia* (1998) survey, all districts in the country show extremely high rates and numbers of people living in poverty. The Copperbelt, Eastern, Northern and Southern Provinces have the largest absolute numbers of poor in the population. However, in all districts, more than 50percent of each district's populations are considered poor. Hence, no area of the country is free of major poverty or the resulting food insecurity that inevitably affects all of those living in poverty.

## **2.2 Shocks**

It is important to understand the influence of shocks, such as HIV/AIDS and the recurrent droughts on the food security and nutritional status of Zambians. Given the already severe poverty situation, many households no longer have sufficient assets to absorb shocks and thereby recover to previous levels of subsistence. These shocks cause already vulnerable households to become even more impoverished, more food insecure and less able to access a nutritious diet. There will continue to be a demand for assistance programs to mitigate the effects of these shocks so that vulnerable households do not continue their downward slide towards economic insolvency by selling valued livestock and other assets, taking children out of school, providing sexual favors in exchange for food, etc.

### **2.21 Drought**

As articulated in the World Bank Emergency Drought Recovery Project of October 2002, Zambia is currently experiencing its second consecutive year of poor harvests, which has led to severe food shortages. During the 2000/2001 cropping season production of maize, the staple crop, fell by an estimated 24 percent from the year earlier. During the most recent 2001/02 cropping season, erratic rains and long dry spells during the growing season lowered agricultural output and exacerbated an already precarious food situation. About 38 of the 72 districts are estimated to be directly affected by drought, but the negative impacts are being felt in several other districts and urban centers. The result has been that 1-2 million Zambians have required some form of food aid during 2002-2003.

Drought has been a recurrent problem in Zambia over the past decade, especially in Southern Province. Since 1991 there have been three major droughts that have significantly reduced food production (primarily maize) to the point that the country had to declare disasters and seek international assistance. The 1991/92 drought, which affected the whole of southern Africa was especially severe. Marketed production from many of the country's best maize-producing areas was the lowest in recorded memory. The surplus normally carried from one season to the next did not exist, nor was it possible to import significant quantities of maize from other neighboring countries, as they were all suffering from the same drought. A partial drought in 1995 and the el niño weather phenomenon in 1998, led to significant shortfalls in production. Widespread regional food shortages occurred again during 2001/2002. The effects of these droughts have progressively eroded the assets of the more vulnerable groups in both rural and urban areas, thus adding to chronic malnutrition and further depleting household abilities to recover livelihoods. **Annex D** provides additional information on the impacts of weather on the Zambian economy and **Annex F** discusses the differences of the 2001-02 drought vis-à-vis previous drought experiences.

### **2.22 HIV/AIDS**

HIV/AIDS has significantly affected food security and purchasing power of households throughout Zambia. The disease strikes men and women in their most productive years.

Over the past ten years, approximately 600,000 people have died from AIDS and approximately 1.0-1.2 million people are currently living with the disease. The DHS indicated an 11 percent prevalence rate in the rural areas and a 23 percent rate in urban areas. This strongly contributed to the shocking statistics on orphaned children. Today, over one million children are orphans (children who have lost one or both parents) (DHS). Thus, a substantial number of households have been adversely affected either by the death of one or more of its members, by caring for a chronically ill person, or by taking in additional children.. This has meant a significant loss of income, increased financial burdens and social trauma for many households.

There are few quantitative studies in Zambia on the impact of HIV/AIDS on agriculture and food security of rural households, but the literature identifies some generic impacts across countries. These include: 1) impacts on the availability of labor for farming; 2) increased expenses associated with caring for a chronically ill person; 3) increased expenses in caring for an orphan; 4) time used for care giving that takes away from income generating activities; 5) asset grabbing after the death of a male; 6) lost knowledge of farming practices from generation to generation, and 7) decreased access to agricultural inputs by widows. One Zambian study determined that the number of labor days available to an average small-scale farmer had fallen from 900 to 500 per year. (*Zambian HIV/AIDS Multi-sectoral Response, Shelly*). A recent study in Kenya by Michigan State University (*Yamano and Jayne*) found that the death of a male household head between 16 and 59 years of age was associated with a 68 percent reduction in the net value of the household's annual crop production. There are reports that family members who get sick in urban areas go back to their villages as do orphans, which places a heavy financial burden on their rural extended families. The Farming Systems Association of Zambia has compiled the *Bibliography of Study Reports and Past Activities on the Impact of HIV/AIDS on Poverty, Agricultural Production and Food Security in Zambia*, which provides a good review of studies in this area. Of most recent importance is the FAO-supported Ministry of Agriculture research on the impact of HIV/AIDS on 800 rural households in Zambia, which should provide very important data and information for agriculture and health professionals in March 2003. (See section 7.2).

Urban areas have a higher percentage of PLWHA and thus households may have a higher risk of losing both parents. The loss of the father will mean a significant income loss to the family. The loss of the mother will compromise child-caring. Because the extended family is not as stable in urban areas as in rural areas, there may be less of a traditional safety net for most urban dwellers. HIV/AIDS puts a household at greater risk of poverty and thrusts an already poor household into a downward trajectory of income loss and food insecurity. The large number of orphans and persons who are chronically ill make up about 15 percent of the total population. (*Republic of Zambia, Living Conditions in Zambia*). This places an extraordinary burden on families and the Zambian society as a whole to care for and support this growing dependent population with their own special needs.

## 2.3 Dietary Habits and Feeding Practices

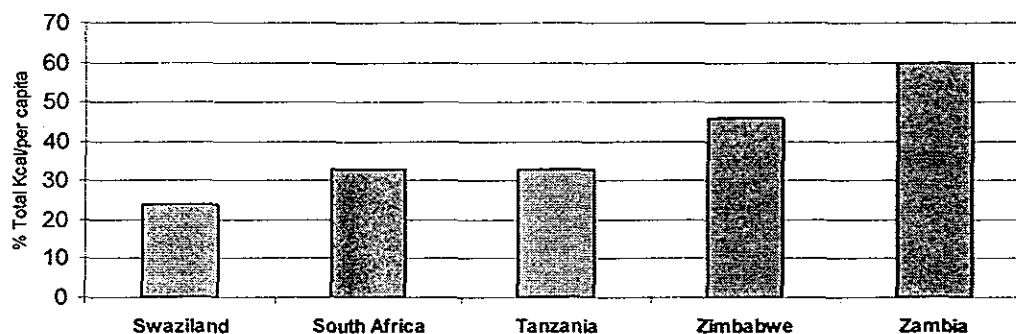
### 2.3.1 Adult Preferences

Adult dietary habits and feeding practices for young children play a particularly important role in food security and nutritional well being in Zambia. Maize is the predominant staple and for most people eating a meal means consuming *nshima* (typically made from mealie meal). Over the past twenty-thirty years, diets in Zambia have become less diversified and traditional foods have been increasingly replaced by maize. Maize now contributes approximately 60 percent of total kcal/per capita per day as seen in the following table.



### The Contribution of Maize to the Diet in Southern African Countries

(Source: FAO National Food Balance Sheets, 2000)



This table reveals the extent to which the average Zambian diet over-depends on one food. This imbalance in nutrition and food diversity is even more significant when compared to the maize diets in other African countries. Zambia has a significant dietary problem. Nshima is desired because it creates a feeling of fullness after eating. However, it lacks the range of proteins, vitamins and minerals required for a balanced diet. Because of thirty years of government policies subsidizing maize production, many areas of the country have turned from traditional crops such as tubers, sorghum, and cassava and concentrated on maize production. The Northern Province is an exception, where cassava continues as the main staple. This has meant that small farm families have less variety of food from their own production and may not have enough income from the sale of maize or cassava to buy adequate varieties of other foods. Subsistence maize and cassava farmers were found to be the most food insecure, according to a 1999 household food security and child nutrition study (*Kanyangwa*). Given the recurrent droughts in the Southern Province and more recent attention to food security, government, donors and NGOs are now promoting more diversified cropping, particularly for the small farmers, which may help diversify household diets over time.

Urban dwellers for the most part eat nshima and would prefer this for each meal with a relish of vegetables and for the wealthier, some meat or chicken. A recent survey in Matero and Chelston communities in Lusaka showed that 33 percent of households could not afford to eat three meals a day, while 9 percent ate only one meal a day. As mealie meal has become more expensive, poorer households are reporting that they eat only one meal a day with nshima and may only have tea and a bun for breakfast. This emphasis on a one-staple diet has negatively impacted the nutritional and food insecurity problems in Zambia and will need a national effort to educate the population about the benefits of a broader-based diet.

#### 2.32 Child Feeding Practices

**Breastfeeding:** The DHS indicates that almost all babies are being breastfed; however, only 15.2 percent are exclusively breastfed up to 6 months. 44.8 percent are breastfed exclusively to four months. These rates show an increase from the 1992 and 1996 DHS surveys. Exclusive breastfeeding is a critical intervention to provide complete nutrition to children under six months of age, as well as reduce exposure to diarrhea diseases. Exclusive breastfeeding also reduces the risk of maternal to child transmission of HIV/AIDS when compared to mixed feeding. There are still traditional beliefs to address in order to increase the rate of exclusive breastfeeding throughout Zambia. The Ndola Project (*Population Council*) revealed that mothers introduced porridge early to supplement breastfeeding "because breastmilk alone is

not enough for the baby.” The project did increase the rate of exclusively breastfeeding from 50 percent to 80 percent.

**Complementary Feeding:** The DHS indicates that by 6 months of age, about 84 percent of children are receiving complementary foods. Children most often are fed foods made from grain with some fruits and vegetables. Feeding practices surveys and field work reveal that quantity and frequency of feeding are critical problems. Young children may only be fed once or twice a day and therefore the quantity of food is terribly inadequate. The Ndola Project (*Population Council*) showed that quantities of porridge prepared were almost 30 percent less than what the child needed and could consume. Several nutritionists interviewed say that even poor households have adequate food to prepare a quality weaning food, but infrequent feeding and too watery preparations mean that young children do not receive an adequate quantity of nutritious food. Ongoing USAID-supported growth promotion and infant feeding programs have carried out extensive formative research on child feeding practices and provide excellent opportunities to change feeding practices.

## 2.4 Diseases

Diseases lead to poorer nutritional status which in turn increase susceptibility to illness. The disease burden for young children is high. The DHS reported that 20 percent of children under five had diarrhea in the last two weeks. Over 50 percent were reported to have had a fever and/or a cough in the last two weeks. 15 percent reported acute respiratory illness (ARI) symptoms while 43 percent had a fever. Although care-seeking behavior is improving, many children do not get prompt or effective treatment for illness, leading to greater weight loss per illness episode.

The 1999 Anemia study (*National Food and Nutrition Commission*) showed that very young children have high rates of malaria parasitaemia -- 35.7 percent under 6 months of age and 31.8 percent of children 6-18 months. This level of malaria parasitaemia suggests that malaria could play a major role in the deterioration of nutritional status of young children and that infant growth is affected by interuterine parasitaemia--leading to anemia and stunting early in life.

## 2.5 Agricultural Factors

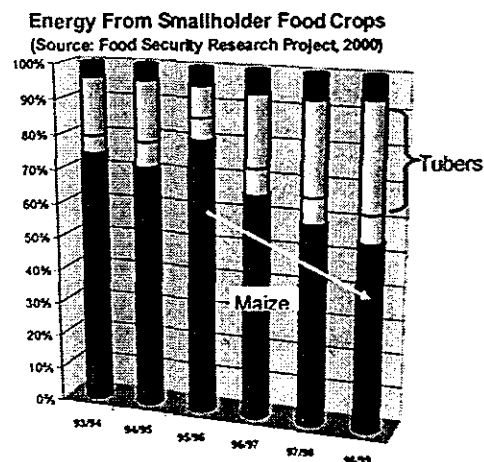
Zambia has abundant land and water resources that can be used for agricultural production. Out of about 750,000 square kilometers of land surface, 42 million hectares are classified as arable. However, currently only about 14 percent of the arable land is cultivated. There is also an abundance of underground and surface water, including rivers, lakes and dams that can be used to irrigate about 500,000 hectares. However, the bulk of these water resources remain largely untapped. Out of the total potential irrigable land, only 65,000 hectares are actually irrigated, according to interviews with the Ministry of Agriculture and Cooperatives.

With the further projected decline in demand for minerals (especially copper), agriculture is seen by many as a potential cornerstone of the economy. The cotton industry alone employs 180,000 smallholders. The prospects for increased agricultural exports (cotton, tobacco and horticulture) are generally good. There are also substantive opportunities for internal expansion of such industries as livestock and milk products, and for the improved management of natural resources related to tourism.

Nevertheless, maize has continued to dominate Zambian agriculture, both as a staple food crop and commercial crop. Maize production was promoted beginning in the 1970s by

Government policy in all the three ecological zones without regard to comparative suitability.<sup>1</sup> The declining yields of maize in the main production areas due to drought, floods and declining soil fertility have led to serious food shortages and a drop in rural incomes. To mitigate these adverse effects the Government has started promoting crop diversification. Emphasis has been placed on growing crops, which can give reasonable yields to ensure household food security, in spite of adverse weather conditions. Some of these alternatives to traditional maize include sorghum, cassava, sweet potatoes, cowpeas and varieties of drought-tolerant or early maturing varieties of maize. After the severe drought of the 1990/91 season, diversification away from maize accelerated, although much slower in traditional maize areas. The need to diversify crop production in response to the changing weather patterns and new economic environment (market liberalization) has led to some growth in alternative crops. Over the last decade, four crops have shown serious production increases: groundnuts (76 percent), cassava (65 percent), sweet potatoes (54 percent) and cotton (65 percent). (*Is the Glass Half Full or Half Empty?*, Zulu B, Nijhoff J. J., Jayne T. S., 2000).

Thus, at a national aggregate level, according to this same recent study of an analysis of agricultural production trends (*Food Security Research Project*), rural per capita energy from food crops produced by small farmers appears to be stable, and may even exhibit a moderately increasing trend. This would suggest that overall smallholder food production has increasingly contributed towards household food security among rural households. In addition to food, cash crop production has added to many rural households' purchasing power. The chart to the right illustrates the gradual process of crop diversification that is taking place, showing a changing mix over time with increased importance of tubers (mainly cassava) as a source of energy. However, the reliance on maize as the primary food source still dominates production decisions, maintaining a risky food security situation. The country still has a long way to go to ensure an adequate, nutritious diet for everyone.



Zambia has a long history of policy vacillation in respect of agriculture. The overwhelming influences on agriculture are through macro-economic policy, which has not prioritized the sector in the past. Agriculture is also unfavorably impacted by a lack of public sector budgetary discipline. Annual budgets typically total around double the revenue that can be assured from known sources, and actual disbursements are usually well below budget.

<sup>1</sup> Zambia has the potential to significantly increase its agriculture production. The country is divided into three agro-ecological zones, based mainly on rainfall. Zone I is a low rainfall area -- a 350-800mm/annum area that covers Southern Province, parts of Western, Lusaka and Central Provinces. Zone II is a medium rainfall area with annual rainfall varying between 800mm and 1000mm. This Zone covers Central and Eastern Provinces and part of Western province. Zone III is the high rainfall area with annual rainfall of more than 1000mm. It covers Copperbelt, Northern, Luapula and North-Western Provinces. The differences in rainfall, mean temperatures, vegetation, soils and duration of the rainy season in the three zones make it possible for Zambia to grow a wide range of crops. This also broadens the comparative advantages for various crops.

Policy implementation is widely seen as the prerogative of the highest political authorities. All aspects of the maize economy (input availability and pricing, the price of *mealie* meal to urban consumers, the need for any import, etc.) are clearly seen by government authorities as one of their main responsibilities. Unfortunately, government policy in the maize sub-sector has been subject to frequent vacillation and sometimes contravenes previous commitments. The result has been frequent market disruption and untrusting relations with the private sector. Much remains to be done in reforming public policy towards agriculture before some measure of sustainable food security is attained. Some of the more important policy areas hindering progress towards national food security include:

- *Input supply policies.* Due to budgetary constraints the government has had increasing difficulty in delivering fertilizers to farmers. At times, inputs are distributed to farmers either late or not at all. The private sector has not filled the gap due to inconsistent input supply policies, which have discouraged private sector investment in this area. The reliance on government for the provision of fertilizer has created a legacy of dependence, which has proved difficult to remove.
- *Strategic food reserve.* Chronic underfunding and inappropriate specification of the scope of activities of the Food Reserve Agency has prevented the agency from maintaining an adequate strategic food reserve. The grain reserve stock in warehouses of the Food Reserve Agency is depleted and needs to be augmented immediately.<sup>2</sup>
- *Excessive dependence on maize.* State support for maize has led to excessive smallholder dependence on maize as a staple food. This has increased their vulnerability to crop failure. Mentalities and practices are gradually changing, but more needs to be done to reduce this national dependency on one food crop.

Livestock that form an integral part of the farming system in the small-scale sub-sector are cattle, goats, pigs and chickens. Cattle are very important in household food security. Firstly, they are a "reserve bank" from which cash can be obtained in times of dire need for food. Secondly, they are a source of important draft power used to improve labor productivity. Households owning oxen are able to cultivate larger areas than hand hoe cultivators. Thirdly, they are a source of manure, which can be used in place of chemical fertilizers. Unfortunately, the majority of farm households have lost a substantial number of their cattle through diseases (CRI Consult, Inc. *Assessment of Zambia's Private Sector, Agriculture & Natural Resources Sectors, 2002*). In 1993, before diseases in Southern, Central and Eastern Provinces decimated the cattle population, slightly over 50 percent of the land under crops was cultivated using oxen. In 2000, the area cultivated with a hoe had increased by 90 percent. The loss of livestock has led to a regression in agricultural productivity and represents yet another factor to be considered in the overall food security equation.<sup>3</sup>

The fishing industry is another area of the food sector that has the potential for growth. The industry has two sub-sectors: capture fisheries and aquaculture (fish farming). However, the sectors are not well-developed and their impacts on the economy and food security are still very limited.

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<sup>2</sup> The Food Reserve Agency was established in 1996 by an act of parliament to maintain a national strategic food reserve. It has subsequently become a major instrument for public intervention in input and output markets.

<sup>3</sup> The dairy industry is small but growing as demand for fluid milk and yogurt increases. There are both large and small-scale producers. The large producers dominate the formal market, while small producers operate in the informal market. Large milk producers sell their milk to Parmalat Zambia Limited in Lusaka and Copperbelt, and Finta Danish Dairies in Livingstone. There are a number of small on-farm processors, which provide outlets to small producers.

### 3.1 Young Children

Young children are most at risk of malnutrition because they are susceptible to poor environmental sanitation leading to diarrhea, inadequate treatment of common diseases and improper feeding practices. This comes at a time when the child needs increasingly more calories and protein for growth and development. Malnutrition contributes to high rates of mortality and severe morbidity in young children. The deadly synergistic effects of malnutrition and diseases, like measles, are well known. Childhood malnutrition leads to irreversible problems including stunting, poor school performance and lower work productivity later in life. A new study by David Pelletier suggests that for every percentage point of malnutrition reduced, there would be substantial reductions in under-five mortality.

### 3.2 Pregnant and Lactating Women

Pregnant and lactating women have increased calorie and protein requirements. Without proper nutrition each pregnancy depletes a woman's nutritional stores--leading to depletion of fat stores, iron and other micronutrient deficiencies and low birthweight of children. Multiple pregnancies and lactation, coupled with the hard rural labor, means that a mother's nutritional status is constantly stressed. Therefore, attention must be paid to this large vulnerable group.

### 3.3 People Living with HIV/AIDS

There are approximately one million people living with HIV/AIDS in Zambia today. Approximately 300,000 have AIDS. The literature to date suggests that nutritional status plays an important role in the progression of HIV disease in adults and the survival of those with AIDS. <sup>4</sup>Malnutrition associated with HIV infection has serious and direct implications for the quality of life of PLWHA. Weight loss often begins a vicious cycle of increased fatigue and decreased physical activity, including the inability to prepare and consume food. Even relatively small losses in weight have been associated with decreased survival in people with AIDS. Micronutrient deficiencies have also been associated with acceleration of the disease.

Both malnutrition and HIV/AIDS directly affect the immune system, impairing people's ability to resist and fight infections. Nutritional interventions to prevent or reverse weight loss and wasting may substantially improve energy and combat fatigue. Micronutrient interventions may help to strengthen the immune system and reduce the severity and impact of opportunistic infections in PLWHA. Some nutritional imbalances may directly affect HIV replication. Correcting these imbalances may also help to slow HIV disease progressions and prolong life.

A PLWHA needs approximately 10-15 percent more calories per day than a healthy person of similar stature or about 300-400 additional calories and 50-100 percent increase in protein per day (25-30 additional grams of protein). These increased nutritional requirements place an even larger burden on the household's ability to provide an adequate diet to its members. At a national level the large number of people living with HIV/AIDS in Zambia increase the

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<sup>4</sup> Two important documents, *HIV/AIDS: A Guide for Nutrition Care and Support* and *HIV/AIDS and Nutrition: A Review of the Literature and Recommendations for Nutrition Care and Support in Sub-Saharan Africa* provide the most up-to-date information available on the interactions between nutrition and HIV/AIDS, nutritional problems associated with HIV/AIDS and nutritional requirements, and recommendations for nutritional care and support.

country's overall requirements for food availability and expanded sources of calories and protein. Given the current food production and access problems, supplementary feeding targeted to this very vulnerable group should be explored as an additional component to home-based care and positive living programs.

#### **3.4 Orphans and Vulnerable Children**

Orphans are particularly at risk of malnutrition and food insecurity. If their father has died, that would typically mean less income or farm production. If their mother has died, child caring and feeding practices are compromised. Orphans may join other families who do not have adequate resources to look after all their needs or actually become heads of households looking after other siblings. Family economic problems have been cited as one reason orphans become street children. In any of these circumstances orphans are less likely to have access to an adequate diet than if they were being taken care of by both parents. The DHS survey found that about 15 percent of children under 15 years of age had lost one or both parents. This means that almost 10 percent of Zambia's entire population falls into this group and thus will require a rollout of ongoing OVC programs that are currently reaching only a small percentage of this vulnerable group.

#### **3.5 Households Caring for PLWHA and Orphans and Vulnerable Children**

Households caring for PLWHA and/or orphans are considered especially vulnerable to food insecurity and malnutrition. Households caring for a chronically ill member expend more resources for medical services as well as their own time caring for PLWHA--taking away from income earning opportunities. Households with orphans may be headed by a widow, elderly grandmother or a child where earning potential has been decreased.

#### **3.6 Smallholder Farmers**

Fully 70 percent of the rural population is engaged in agriculture. Government estimates range from 600,000 to 800,000 smallholder farmers. Roughly 80percent are considered poor. Cultivated land sizes range between 0.5 – 2.5 hectares, although access to larger holdings is common. Characteristically, most farmers monocrop maize with small amounts of vegetables. Some livestock, cash crops and off-farm income characterize this sector in varying amounts. Most smallholders lack irrigation and are subject to the vagaries of erratic rainfall and drought. Repeated droughts over the past decade and the decimation of the livestock sector due to disease have severely reduced the assets and coping mechanisms of a large number of smallholder households, particularly in Southern Province. An added burden for the smallholder farmer is the prevalence of HIV/AIDS affecting 11 percent of the rural sector. Farmers and laborers affected by the disease have decreased productivity, thus adding to the sizeable constraints to smallholder agriculture.

The Zambian National Farmers Union (ZNFU) has taken a different approach than the GRZ in estimating the smallholder population, using financial profiles and the extent to which farmers are involved in the market place. ZNFU believes there are approximately 400,000 subsistence farmers whose production is dominated by traditional subsistence crops mainly for household consumption. The limited value of their commercial production is up to approximately 5 million Kwacha, but most produce well below this level. The lowest strata of this grouping, maybe 100-200,000 farmers, are chronically poor and the most vulnerable to food insecurity.

There is a more progressive class of smallholder, labeled *emergent farmers*, whose numbers are estimated at approximately 150,000 – 200,000. They are linked to the market by their use of credit and the value of their production is between 5 – 20 million Kwacha. They are considered less vulnerable than the purely subsistence population and better able to cope with food security issues.

## **SECTION 4: ANALYSIS OF STRATEGIC OBJECTIVES (SO) FOR FOOD SECURITY AND NUTRITIONAL RESULTS**

In this section we review each strategic objective and its associated activities from the perspective of increased food security, better health and improved nutrition. If we feel there are potential gaps in the program, as presented in the Concept Paper, we'll present those comments and then follow up with specific recommendations on what additional interventions the Mission might consider in its larger strategy to more fully emphasize the food security, health and nutrition themes.

### **4.1 Review of SO5: Increased Competitiveness of the Private Sector**

#### **4.1.1 Potential Gaps in Mission SO5 Program based on lessons-learned in food security, nutrition and health**

SO5 presents a comprehensive approach to agricultural and private sector development, which can significantly improve incomes, livelihoods and the economic well-being of rural households. Additionally, with integrated training and education of beneficiary households, food security and better health should result. This multidimensional strategy of 1) increasing smallholder access to markets through contract farming (outgrower schemes) and improved agricultural methods, 2) expanding small-medium enterprise (SME) processing and trade, 3) promoting community management of natural resources, and 4) improving the enabling environment, is very ambitious, challenging and costly. It will require substantial resources to implement effectively and a long-term commitment to achieve measurable results in economic growth and food security.

What has become clear in evaluating the agriculture sector in Zambia is that poverty is widespread; investment, productivity and growth is presently limited; potential is substantial; and constraints faced by the majority of smallholders are many. There is no silver bullet to transform the sector into an engine of growth. In IR5.1 contract farming looks promising as a growth approach to agriculture. The cotton sector presents a very successful model with 2,500 private distributors and over 100,000 smallholder cooperators. To a lesser extent, coffee, tobacco, horticulture, flowers, paprika/spices, potatoes and soybeans are emerging as smaller scale successes of the outgrower model. However, development of these sub-sectors and the integration of smallholders into the process is presently limited. USAID's involvement in this business model is "experimental" and there will be a long process of learning the business and developing meaningful interventions that can realistically contribute to economic growth. USAID's investments might support market information and research, policy and market analysis, smallholder technical assistance and training, or the facilitation of bank lending. It will be a complicated process of determining where USAID's comparative advantage lies in making a meaningful contribution to this long-term business process. The success of CLUSA's previous marketing work with smallholders provides a good start to build on.

The same caveat holds true for promoting improved agriculture among smallholders. Conservation farming, agroforestry, livestock development, diversified food and cash

cropping, small-scale irrigation, dairy, etc. are some of the many potential interventions to improve incomes and food sources for smallholder households. While these activities hold great potential for moving smallholders away from subsistence maize cropping, the process of introducing new and improved farming interventions is a labor-intensive and long-term training process that must be linked to local markets to be sustainable.

All of these comments relate to economic growth but don't necessarily address the second part of the development equation, which is *food security*. As previously mentioned throughout this report, a situation of chronic food insecurity exists among the majority of rural and urban households in Zambia. This is a national problem and the USAID/Zambia Concept Paper acknowledges this fact by weaving the theme of food security into its SOs. The challenge is how to successfully implement this theme within an economic growth strategic objective. Contract farming-outgrower schemes and improved agricultural methods linked to local markets will lead to better farm incomes and business growth, but improved food security will not necessarily be an outcome of these interventions. Food security must be explicitly built into any agricultural technical assistance or business intervention on the farm, if vulnerable households are to increase and diversify food crops and diets, and ultimately improve nutrition and family health.

IR5.2 Expanded participation of SMEs is the second part of the equation to raise rural incomes and promote economic growth. In many developing economies, SMEs are leading entities of economic growth and employment. However, just like in the previous examples, facilitating SME development is a labor-intensive and costly exercise that is not always successful. Training and capacity-building, viable business markets, sufficient access to credit, an enabling environment conducive to business growth, supportive associations etc. are a number of factors that must be in place for SME growth to succeed. Business development is difficult and USAID has achieved mixed results world-wide in its efforts to target this sector for change. However, if input and processing industries can be successfully developed in the agricultural sector, the potential will exist to spur income and economic growth and improve food security for both rural and urban communities.

IR5.3 Management of natural resources is another possibility for improving incomes and livelihoods of smallholder farm households, while preserving and enhancing the natural resource base. Zambia is particularly appropriate for this type of focus, given its wildlife, game parks and water resources that offer strong potential for tourism. However, transforming subsistence communities, which generally exploit natural resources to survive, into supportive protectors of the environment, is quite challenging and will require a difficult identification and promotion of sustainable livelihoods for beneficiary communities. Tourism, development of natural food and industrial crops, and wildlife preservation all have potential for local community employment and income growth that can provide alternatives to subsistence farming and rural poverty.

IR5.4 Improved enabling environment rounds out the economic growth strategy of SO5. Primary activities being contemplated include policy analysis and dialogue with the public and private sectors to reduce constraints to business and trade growth. Ultimately, *policy reform is critical to successful development of the private sector and transformation of the agricultural sector*. USAID already has a good program operating in policy analysis and the opportunity exists to build on this base of research to empower more stakeholders and policy reformers. In many ways, this IR might provide the most impact in achieving both economic growth and improved food security objectives. The lack of serious policy reform in Zambia is a major constraint to rejuvenation of the agricultural sector. The new government has placed a priority on *making agriculture the engine of growth, but until innovative policy*



reforms can be put in place and implemented to provide incentives to the private sector; open up the market environment; lay out a vision for long-term development; and place food security as a national priority; serious progress in growing the economy and reducing chronic poverty will not be realized.

Overall, the interventions proposed in IRs 5.1-4 offer a comprehensive range of activities that can contribute to both economic growth and food security. It is a serious and ambitious program that we support. However, to be successfully implemented, SO5 must be implemented in a comprehensive manner. Piecemeal implementation of the IR components will not make any measurable progress in either the economic growth or food security areas. The AFR Bureau will have to make a serious and long-term investment in this program to allow the Mission to move ahead in design and implementation in an aggressive and effective manner. Refer to Annex F for a continuing discussion of SO5 agricultural considerations.

#### **4.12 Recommendations for SO5 program taking into account GRZ and other donor activities**

##### **IR5.1 Increased Smallholder Access to Markets**

**Recommendation: Food security should be an explicit theme of projects developed under SO5.**

SO5 clearly emphasizes an economic growth development approach. A well-implemented core of programs under this objective, targeting the private sector, can contribute to food security as well. However, the choice of projects is important and food security must be more than just an after thought. It must be *explicit* in the design of the program. As a determinant of food availability, we recommend that **food diversification** – production of a variety of crops for consumption and/or sale -- be integrated into any new project designed under IR5.1 Whether outgrower schemes, conservation farming, or agricultural marketing, the promotion of technology and knowledge related to improved food diversification can complement the primary economic growth activities, while directly contributing to improved household diets, increased incomes and ultimately, food security. This recommendation is not meant to be onerous. It can be a basic extension activity in the community or farmer technical assistance that blends cash crop technology with varied food crop/animal production. It should be a small part of any project that ultimately increases farmer and household awareness of food security. In a country where chronic nutrition and health deficiencies exist, a concerted effort must be made to heighten the awareness in the rural farm population that food security is a desirable goal that will improve health, well-being and the productivity of the household. Income generation and expansion of cash crop production are proper goals for economically growing the rural sector, but by themselves will not necessarily improve food security. However, diversified farm production linked to markets can expose vulnerable households to a greater variety of foods, provide some hedging against the risks of poor weather, disease and pests, and expand the food choices of consumers in the marketplace. We think the beneficial returns to such an approach are important enough that they should be more fully emphasized in the Mission's strategy.

**Recommendation: Link production and nutrition/health activities to improve food security, health and nutrition of vulnerable groups.**

If implemented successfully, economic growth activities will improve smallholder incomes and generate secondary income effects in rural communities. At the same time, improvements in food security can take place as farm production diversifies and incomes grow. However, as pointed out in *Food Aid and Food Insecurity* (Webb and Gunther), economic and income growth does not necessarily equate with improved food security and

nutrition. These other objectives often must be specifically promoted if they are to be realized. In fact, a 1995 food security survey in Zambia (*Hambayi et al*) found increased food insecurity and child malnutrition among medium-scale farm households as compared to their smaller-scale counterparts! Given the uncertainty of “trickle down” impacts from economic growth activities, we recommend that any agricultural production and livelihood activities be firmly linked to household nutrition and health training through extension and technical assistance. These might take the form of Ministries of Agriculture and Health jointly promoting diversified farm production and improved nutrition with project households. PVO partners, such as CARE, CRS or WV can promote these same dual messages through USAID projects, C-SAFE or other PL480 programs.

**Recommendation:** To ensure that the linked program activities above are having a positive impact on household food security and nutrition, the performance indicator – *dietary diversity* – should be added to the IR5.1 list for monitoring and measurement. Dietary diversity – the number of individual foods or food groups consumed over a given period -- has been shown to be a good indicator of the food access dimension of household food security (*FANTA*). Research conducted among poor rural and urban households in ten countries throughout the world, including Kenya and Mozambique, found that changes in dietary diversity were positively associated with changes in household per capita consumption and caloric availability. Thus, dietary diversity can be used to identify the food insecure, monitor changes over time, as well as assess the impact of interventions on household food access. For Zambia with its chronic child malnutrition problem, this indicator would be particularly appropriate, because a varied diet is associated with improved birthweight and anthropometric status. Field experience has shown that dietary diversity data is relatively easy to collect, can be done at the household level, and takes only about ten minutes per respondent to obtain the necessary data.

**Recommendation:** To achieve better impact in programs, pool resources with other donors and jointly implement contract farming and improved agriculture activities. These economic growth interventions are labor-intensive, costly, long-term, and even experimental in some cases. USAID has a limited budget that constrains the number of interventions that it can undertake and the number of smallholder households that it can reach. Our discussions with other major donors (*EC, Netherlands, DFID, GTZ*) indicate that they too are pursuing similar economic growth and food security objectives, primarily through contract farming and improved agriculture (conservation farming etc.). No one donor has all of the necessary resources and ideas to adequately tackle the widespread income and food security issues facing vulnerable rural smallholders. However, working in tandem we think greater impact and results could be achieved. We recommend USAID explore opportunities for pooling resources with other donors in joint development programs or by targeting similar projects on the same farm communities.

**Recommendation:** Map out agricultural and environmental zones in the country to delineate comparative advantage in cropping, livestock and agribusiness. Rainfall patterns, temperatures, soil types, water resources and various other environmental and economic factors determine the best type of agricultural enterprises for a particular area of the country. It seems that better decision-making by USAID and other donors on where to make their development investments could be facilitated by mapping out the agricultural, economic and environmental zones of the country. For example, Southern Province receives minimal annual rainfall and is particularly vulnerable to drought every few years. Soil types are exhausted and require heavy fertilizer to produce adequate yields of food crops. In general, alternative to maize cropping, such as livestock and cotton would be more appropriate for this region. Milimo et al. have divided the country into four agroecosystem

zones representing different rainfall patterns and soil types, as well as levels of infrastructure development. There should be more detailed maps available in government ministries. USAID should access these. As the Mission expands its agriculture and private sector programs, mapping would provide for better decision-making on the types of projects that are appropriate for each region of the country.

**Recommendation:** The Mission should continue its association with FEWSNET and the Regional Center for Southern Africa (RCSA) to stay abreast of early warning on drought developments.

Zambia will continue to be impacted by recurrent drought in the future, especially during El Nino events. It's important for the Mission to continue its strong association with FEWSNET and the RCSA to keep abreast of weather developments that will impact Mission projects and vulnerable populations at large. We don't know what the production capacity of Zambia will be in the future nor the coping abilities of vulnerable urban and rural households to withstand the next shock to their food systems. However, early warning is very important for the Government and donors to minimize negative impacts on the fragile Zambian economy. The U.S., as a leading international food aid donor, will undoubtedly respond to any future disaster declarations by the Zambian government, so it's important that USAID/Zambia play a leading role in the early warning system.

#### **IR5.4 Improved Enabling Environment**

**Recommendation:** Continue MSU Policy Work and Build Analytical Capacity of Key Public and Private Policy Implementors.

The Concept Paper talks only briefly about the possible policy activities under this IR. Discussions with Mission staff indicate that policy reform is an important part of the future strategy. We would support those views and ask that they be more clearly articulated in the final strategic plan. Presently, there are a range of public and private sector stakeholders who are benefitting from the MSU work. We would recommend expanding that list to include new leaders and advocates for policy reform. As a long-term exit strategy, capacity-building among these stakeholders should be expanded. Training in research methodologies and techniques should be accompanied by actual participation in the new research. In the private sector, the Zambian National Farmers Union and its various associations should be encouraged to contract out for policy work to support their advocacy efforts, as well as develop the capacity to eventually conduct their own research. In the University there is an economic think tank that might have potential to undertake important research for both the public and private sectors as similar institutions in other African countries do today. USAID's future policy activities should continue to target these entities and jump start this capacity-building process. Finally, USAID should use its policy work to strongly encourage the government to adopt a national food security strategy that will reverse the upward movement in poverty and provide for all Zambians -- sustained access, availability and utilization of food.

### **4.2 Review of SO6: Improved Quality of Basic Education for More School-aged Children**

#### **4.2.1 Potential Gaps in Mission SO6 Program based on lessons-learned in food security, nutrition and health**

This SO has the opportunity of reaching a large number of vulnerable children. It also will be working with communities that are food insecure. The current Mission program includes a school health and nutrition activity, implemented in several districts in Eastern Province.

This intervention includes a nutritional component in the curriculum, water and sanitation provisions at schools as well as micronutrient supplements and deworming tablets. The project also is supporting training for those who will be implementing similar activities in Central Province. It is the intention of the Ministry of Education to scale up this activity nationwide with continued SO 6 support.

There is ongoing discussion with the Ministry of Education, the National Food and Nutrition Commission, as well as other partners about launching a school feeding program in response to the current food emergency. Reports indicate that 90 percent of pupils in the most affected 18 food emergency districts are attending school irregularly. Results of one study in the Southern Province where ten of the most affected districts are located indicated that older children were dropping out of school to assist families to look for food and that younger children were too tired and weak to walk to school. Some girls were dropping out of school to engage in prostitution to earn money for food or entering into early marriages. Studies from other countries also indicate that children who come to school hungry are lethargic, inattentive and perform less well on exams.

One proposal entitled, Sustaining School Attendance and Learning, identifies key issues that need to be resolved before going forward with a school feeding program. These include ration composition and type, beneficiary selection, procurement, costs and logistics. Given both the food emergency and the chronic food insecurity problems in a number of districts, a school feeding program, if managed well with strong involvement and assistance by the communities, may indeed be an important intervention to reach truly vulnerable children. (Please see the section on PL 480 for additional discussion and recommendations)

#### **4.22 Recommendations for SO6 program taking into account GRZ and other donor activities**

##### **IR 6.1 Improved Quality of Basic Education Delivery Systems**

**Recommendation:** Curriculum should include information about nutritious local foods and healthy dietary practices relevant to Zambia.

##### **IR 6.4 Mitigate the impact of HIV/AIDS on the Education System**

**Recommendation:** It is unclear if this IR is solely focused on mitigating the impact of HIV/AIDS on the education system, i.e. workforce, or will be supporting the use of the education system to target youth in the prevention and control of HIV/AIDS. The team recommends both. The education SO in collaboration with SO 9 should be using the education system to extend information to school age children and training to teachers about prevention of HIV/AIDS. The Ministry of education should also be taken actions to mitigate the impact of AIDS on its workforce.

The curriculum should be reviewed and revised to add livelihood and homemaking know-how for those children who may have lost important information about farming, marketing, house keeping, etc. due to the death of a parent. In order to increase food security, schools can use school gardens to both promote good farming practices, improve understanding of good dietary practices and supplement student diets.

#### **4.31 Potential Gaps in Mission SO7 Program based on lessons-learned in food security, nutrition and health**

This SO includes a very comprehensive package of approaches to improve child mortality and morbidity. However, there are a number of areas that could be expanded and given higher priority if nutritional status is to be improved.

#### **4.32 Recommendations for SO7 program taking into account GRZ and other donor activities**

##### **IR 7.1 Zambians empowered to take action for health**

**Recommendation: Community Based Growth Promotion (CBGP):** There are a number of ongoing CBGP programs that ZHIP, CARE and other groups are supporting in collaboration with the Ministry of Health. There are about 100 communities carrying out Community-Based Growth Promotion. Training materials and counseling cards developed with USAID support are being shared across programs. Given the very poor feeding habits of young children, growth promotion with personal counseling may be one approach to change caregiver behavior--both to support exclusive breastfeeding and proper complementary feeding, as well as to increase feeding for catch-up growth after illness.

**Recommendation:** The current programs should be evaluated to learn lessons and determine impact. If positive, USAID should work with other partners--CARE, UNICEF, the CBOH-- to roll out the program. In addition, a new element should be added to these activities -- the education and training of households in improved nutrition and health through diet diversity. This should be targeted on all rural households participating in USAID-funded smallholder agricultural improvement programs to ensure that farmer production decisions and income growth contribute to improving food security and nutritional status of the household. To monitor and measure results from these linked production:nutrition activities, the performance indicator, dietary diversity, was recommended for inclusion in IR 5.1.

##### **IR 7.2 Expanded Delivery of Key Health Interventions**

**Recommendation:** To ensure adequate nutrition in the first six months of life, decrease the risk of diarrhea, and strengthen immunity of young children, **promotion of exclusive breastfeeding** should be given increased attention and priority and move beyond its current connection to PMTCT. A multi-prong approach should be supported that would combine mass media along with community support groups and one-to-one counseling to promote exclusive breastfeeding across Zambia. Project results in Zambia with LINKAGES, as well as in Madagascar, Benin, Senegal and Ghana, indicate that exclusive breastfeeding can be increased with well-designed interventions.

**Recommendation:** Malaria is having a significant detrimental impact on child health, leading to increased anemia and malnutrition, particularly in very young children below 24 months of age. Continued support and expanded malaria prevention and control activities (bednets, rapid treatment and presumptive treatment of pregnant women) are critical to prevent and decrease the number and severity of malarial episodes in young children.

**Recommendation:** Integrated Management of Childhood Illness (IMCI) is already linked to CBGP in CARE programs and appears to be working very well. It is important to support

the community component of IMCI. This linkage is critical in order to mobilize and educate the community on the importance of growth with good nutrition and also with the need to seek rapid medical treatment. Community IMCI and CBGP provide the clinic opportunities to bring outreach services, such as immunization and Vitamin A, to the communities on the weighing days. A facility-based IMCI program with a community component reinforces an integrated approach which addresses both prevention and effective treatment of the most common illnesses. This should result in less malnutrition.

**Recommendation: Micronutrient Programs: Vitamin A supplementation** should continue. Capsule distribution has become an integral part of the Ministry of Health's MCH program, as indicated by the substantial increases in coverage. More attention needs to be placed on Vitamin A supplementation for women as part of post partum services. Given the vulnerability of both mothers and young children and current eating practices, this intervention is critical. The planned evaluation with CDC should be very important in decisions about continued support to fortification. The GAIN proposal for **maize fortification with Vitamin A** offers a fantastic opportunity to fortify the staple--which may have more impact than the current sugar fortification program. If this proposal is funded, USAID should play an active role in getting the program underway. USAID's program across all sectors should be emphasizing dietary diversity and appreciation of foods rich in Vitamin A.

**Recommendation: Postpartem Vitamin A and Iron supplementation for Pregnant Women.** The Mission should look for approaches to expand coverage of these activities. A small evaluation should be carried out to understand better why these programs have such limited coverage. Based on the results, USAID with its partners should address constraints and continue to promote higher coverage. USAID should also closely follow research that is reviewing the association between high iron stores and PLWHA mortality.

#### **IR 7.3 Health Services Strengthened**

This is the time to increase the awareness of policy makers across sectors that malnutrition is a very serious problem in Zambia--that fifty percent of children are stunted and this will have irreversible consequences throughout their lives. This national problem will only get worse without immediate attention.

**Recommendation:** There is a need for a strategy across sectors to promote the importance of a more diversified diet. The Ministry of Agriculture should be assisting farmers with crop diversification and providing education to households about the nutritional value of certain crops. The Ministry of Education should be teaching about the need for diversification of crops and diet and the Ministry of Health should be reinforcing this effort with training materials and promotion through their own health services. A major mass media component should be launched. Tubers, fruits and ground nuts are foods that most Zambians can afford to grow or buy. Appreciation of these excellent sources of nutrients must be increased. The National Food and Nutrition Commission could play a coordination role in promoting this strategy.

#### **4.4 Review of SO8: Government Held More Accountable**

The Mission has a combined three-pronged effort to make government more accountable and effective: 1) building better laws, policy and regulations that enable reforms to take place; 2) ensuring that civil society has linkages to government policy reform; and 3) strengthening public sector watchdog institutions to play a larger role in holding government accountable.

Lack of transparency, responsiveness and inclusiveness in governance inhibits economic growth and agricultural productivity and contributes to food insecurity. In the Mission strategy governance interventions will provide integral support to the other SO teams in such areas as strengthening sector-specific civil society organizations, increasing the flow of sector-specific information (health and nutrition), and increasing government responsiveness across-the-board. All of these interventions can contribute to improving the effectiveness and accountability of both public and private sector organizations that address food security, nutrition and health issues.

Recommendations on SO8 governance issues are proposed under SOs 5, 6, 7, and 9 where we discuss the reformed roles of the Government's Ministries of Health, Education and Agriculture in promoting and implementing improved food security, education, nutrition and health interventions.

#### **4.5 Review of SO 9: Reduced Impact of HIV/AIDS Through Multi-sectoral Response**

##### **4.51 Potential Gaps in Mission SO9 Program based on lessons-learned in food security, nutrition and health**

This SO states clearly that it will "integrate activities to address short-term food insecurity of affected vulnerable groups." Below are several recommendations that can be used to explicitly illustrate strategic directions of the Mission to improve the nutritional and food availability for PLWHA, orphans and vulnerable children.

##### **4.52 Recommendations for SO9 program taking into account GRZ and other donor activities**

One recommended change is in the notion of short-term versus long-term food security. Most NGO groups working with PLWHA and/or orphans and vulnerable children stress the importance of empowering communities and households to help themselves--meaning that promotion of livelihood strategies has to be an integral part of these programs. If these strategies are successful then households and individuals should have sustainable means to access an adequate diet and this is a "long-term" process.

#### **IR 9.2 Improved Care and Support for People Living with HIV/AIDS**

**Nutrition for Positive Living** should be added to this IR. Given the importance of good nutrition for achieving a longer and healthier life, nutritional education and dietary advice should be part of all support services and education materials--included in VCT, PMTCT, youth and post test clubs, etc. Programs should include advice concerning what foods should be eaten in the face of diarrhea, weight loss, digestive problems, mouth sores, etc. Food should be made available if the PLWHA is not able to participate in income generating activities and has no other income support.

**Nutritional Care for AIDS patients:** Guidance for nutritional care and provision of food rations directly to PLWHA and their households should be an important component of any home-based care program. HEPS<sup>5</sup> is an excellent food commodity for AIDS patients.

<sup>5</sup> HEPS – High Energy Protein Supplement is a powder mixture of soy flour, corn meal, sugar and non-fat dry milk that is produced locally and used by the GRZ and PVOs in direct feeding programs for malnourished children and HIV/AIDS patients. It is a nutritious, high caloric food that can be easily made into porridge by adding water. It has become very popular because it boosts weight and energy levels and recipients like the taste.

### IR9.3 Increased Support to Selected Vulnerable Groups

Every SO in the Mission could contribute to the results of this SO--including SO5, 6 and 7. It will be important to assess the lessons learned from ongoing programs and the new C-Safe emergency program. Of particular importance will be the identification of effective and efficient targeting strategies and mechanisms in order to allocate resources to the most vulnerable children and households without stigmatizing orphans or households affected by HIV/AIDS. Programs also should combine livelihood activities for sustainable income generation along with targeted food assistance where needed. (Please see the discussion under PL 480 resources).

#### 4.6 Synergies among SOs to enhance food security and nutrition

##### *Advocacy for Nutrition and Diversification of Diet*

This is the time to increase the awareness of policy makers across sectors that malnutrition is a very serious problem in Zambia--that fifty percent of children are stunted, which will have irreversible consequences throughout their life. This national problem will only get worse without immediate attention.

There is a need for a strategy across sectors to promote the importance of a more diversified diet. The Ministry of Agriculture should be assisting farmers with crop diversification and providing education to households about the nutritional value of certain crops. The Ministry of Education should be teaching about the need for diversification of crops and diet and the Ministry of Health should be reinforcing this effort with training materials and promotion through their own health services. A major mass media component should be launched. The National Food and Nutrition Commission could play a coordination role in promoting this strategy.

These same synergies can be achieved through USAID project implementors. CARE, CRS and WV for example, have extensive experience in improved agriculture production and income strategies, as well as direct feeding, improved nutrition and health interventions. Through C-SAFE or other projects these implementors can play a dual role of linking food security with better health and nutrition.

In the area of HIV/AIDS, the Mission's strategy clearly has this theme woven through each of its Strategic Objectives. The mitigation/prevention strategies and feeding programs embedded in every project will maximize the beneficial returns of our investments across all sectors.

## **SECTION 5. ROLE OF FOOD AID IN MISSION STRATEGIC PLAN**

**Recommendation:** USAID should integrate available PL 480 resources into its relief and development programs in order to meet the extensive food security needs of vulnerable groups throughout Zambia. A combination of food and monetized resources would enable USAID to considerably expand the capacity of its DA portfolio to address both nutrition and food security issues. **There is a critical need in Zambia for a stronger and wider safety net to capture the most vulnerable groups living in food insecure households.** Food aid resources can be used both for safety net activities involving direct distribution of food and also to support longer-term agricultural and other livelihood activities that develop sustainable income flows.



## 5.1 Emergency Program (C-SAFE)

Presently, the C-SAFE PL 480 emergency program is operational in Zambia and offers USAID with its partners a critical opportunity to design, monitor and evaluate a variety of approaches to improving food security, nutrition and health of vulnerable groups. Illustrative activities that can be pursued under C-SAFE include targeted feeding to vulnerable groups-- young children, pregnant and lactating women, PLWHA and orphans and vulnerable children. Beyond direct feeding, more longer-term development activities can be supported. For example, improved agricultural practices under SO5 might include: conservation farming, agroforestry, small irrigation improvements (water catchments, boreholes, treddle pumps, ditch/canal construction), livestock and dairy. These are all areas of development in which C-SAFE implementors -- CARE, CRS and WV -- have extensive experience. Using emergency funding over the next two years, development assistance proposals can be prepared under the project to undertake a variety of agricultural development, food security and nutrition/health activities. Food commodities can be monetized to provide the necessary resources to implement these programs. In addition, food commodities can be used directly in Food for Work activities to do land reclamation, cultivation and planting on smallholder farms. The linkage of nutrition with food production activities can offer a comprehensive approach to supporting food security in vulnerable communities.

## 5.2 Development Program (DP)

This second Title II program provides commodities in support of *longer-term development* activities. Projects funded under this program typically range up to 5 years in duration. Monetization<sup>6</sup> and direct distribution of commodities characterize these programs. As an example of this program, Land O' Lakes, working through the Mission, has submitted a smallholder dairy and production storage proposal to DCHA/FFP for funding.

Since Zambia is a LIFDC country, LOL's proposal has appeal because it has a strong food security component which increases food availability and contributes to food utilization. It also targets food insecure households in drought-affected regions, such as Southern Province. However, given the high prevalence of HIV/AIDS in the rural sector, we would recommend that this proposal be revised to include direct feeding and livelihood components for HIV/AIDS-affected households. This would provide more comprehensive support to the beneficiary communities. Also, the addition of direct feeding would help to lower the unacceptably high 100 percent monetization rate. One redesign approach would be to submit the proposal for 2004 funding with the year 1 program consisting of wheat monetization and the start of the smallholder dairy and warehouse storage activities. Years 2-5 would then continue with further expansion of these activities, and then start the direct feeding and livelihood activities for HIV/AIDS-affected households. This part of the program could be implemented by a sub-contracted PVO with experience in these programs, such as CARE or CRS. However, to be considered for approval this year, the proposal would have to be revised to include an addendum, where a sub-grantee would present an acceptable direct feeding and HIV/AIDS support program.

Because Zambia is a LIFDC country and has a chronic food security problem with the majority of its urban and rural populations living under the poverty line, it makes sense for the Mission to include the FFP/DP program in its country strategic plan. In the future, the

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<sup>6</sup> Food commodities sold for cash in recipient or neighboring third countries. The cash generated is then used for implementing projects.

Mission is encouraged to work with its PVOs to produce other Development Assistance Proposals that could be linked to its SOs in the areas of food security, health, nutrition and HIV/AIDS support.

### 5.3 Food Aid Issues for Consideration

- **Genetically Modified Food (GMO):** This is the most serious issue obstructing any large Title II emergency or development program. The GRZ has categorically precluded the importation of any food commodities that are not certified GMO-free. This affects US corn, corn meal, corn-soya blend (CSB), soymeal, and corn/soy oils. As a result, it is difficult to supply attractive and inexpensive food commodities for Zambia's vulnerable populations. It is our opinion that the GRZ decision will not be changed. The Government has stated it lacks the technical expertise to evaluate the safety of GMO food and it is not taking any steps to develop that expertise. Despite this handicap, FFP has shipped alternative food commodities to Zambia under the C-SAFE Program. These are bulgar wheat, beans and pulses. Other acceptable commodities are sorghum, rice, wheat, non-fat dry milk (NFDN), and sesame/sunflower oil. We believe that a strong food aid program can be developed with these non-GMO commodities.
- **Commodity Import:** DCHA/FFP is aware of the potential impacts of food aid on the prices and supplies of local food markets. Bellmon Determinations are done in all cases to ensure that no significant pricing or market impacts will result from any food aid programs. In addition, agreement would be required from the ZNFU for the import and monetization of any commodities.
- **Monetization:** Commodities are sold in the local markets (urban or rural) or in third countries in order to generate foreign exchange or local currency to fund development activities. Due consideration is taken not to cause distortions in local prices and market supplies. Before monetization is approved, a Bellmon Determination is done to rule out potential price/market distortions. In Zambia, commodity selection for monetization must be closely studied. In the LOL plan, wheat (30,000 mt) has been proposed as an appropriate commodity for monetization. This has appeal for several reasons. First, the domestic price of wheat this year makes it one of the least expensive commodities on a MT basis. Wheat is certified GMO-free. There is strong demand in urban markets for bread, especially among the more vulnerable households. Zambia imports more than 50,000 MT of wheat annually to feed its urban sectors. This year, the local wheat crop was half of normal production levels and the private sector has been unable to source enough wheat regionally for import. This has produced a favorable situation for monetizing wheat in the Lusaka market. LOL proposes to sell the product in several tranches to minimize impacts, while storing the residual supply in bonded warehouses. The ZNFU has approved this monetization. Given the large annual deficit in wheat production and the appeal of this commodity in urban markets, it appears that there will be residual beyond the LOL monetization in the foreseeable future that would allow the C-SAFE cooperators (CARE, CRS, WV), to use wheat monetization to support additional DAPs. USAID should study this possibility further.

A second commodity discussed for potential monetization in the future was NFDN. The ZNFU opposes this commodity because of potential impacts on the local whole milk market. However, ZNFU has accepted in principle an alternative proposal for PVOs to trade NFDN to HEPS manufacturers in return for complete HEPS packages to feed HIV/AIDS households and other vulnerable groups. C-SAFE cooperators should study this alternative with DCHA/FFP/EP because it would enhance the value of the targeted HIV/AIDS feeding that they are now doing. Any other commodities that are proposed for monetization in the future should be submitted to the ZNFU for comments and approval.

#### **5.4 SO 5 Increased Competitiveness of the Private Sector**

**Recommendation: Improved Agriculture Programs:** CARE, CRS and WV should be encouraged to build on the experiences of the Food Security and Agroforestry Projects and develop new proposals under C-SAFE to extend these proven activities to vulnerable rural smallholders. The lessons developed over the past several years in these programs should be utilized to refocus activities on diversified production of both food and cash crops linked to local markets. These programs should also contain nutrition components to ensure that better food security and nutrition result from these activities.

#### **5.5 SO 6 Improved Quality of Basic Education**

**Recommendation: Community Sponsored School Feeding Programs:** NGOs in consultation with the Ministry of Education and the Ministry of Welfare and proper local administrative units could mobilize communities to determine if they want a school feeding program—particularly in poorer more food insecure geographic areas. If they do then communities would commit to managing and preparing food provided by USAID through NGOs. This approach would address the concerns of a number of people that the Ministry of Education is not the right organization to administer school feeding programs.

#### **5.6 SO 7 Improved Health Status of Zambians**

Currently the Ministry of Health has a policy to provide supplemental food to children under five who are malnourished. The IMCI and CBGP programs are used to refer malnourished or growth faltering children for supplementation. Some clinics do have HEPS for this purpose; many do not. Lessons learned in Zambia and most other countries show that a take home package of a product like HEPS is usually eaten by all members of a family—particularly in poorer households. To ensure that nutrient dense commodities like HEPS or CSB are eaten by the targeted child, additional rations for the family should be included. For emergency programs, ration packages should include HEPS and CSB or at least include good protein sources to ensure that young children are receiving a nutritionally balanced diet.

#### **Recommendation: Targeted MCH Programs:**

- 1) SO 7 representative should monitor nutritional status of children—particularly in food insecure regions, eg. Southern region and urban areas;
- 2) SO 7 should continue to play an active role in developing and implementing a nutritional surveillance system.
- 3) SO 7 representatives should be involved in government, NGO and Mission discussions about ration composition for all food programs.
- 4) In emergency food areas, SO 7 should ensure that HEPS and/or a similar product is part of the food aid package. This will be critically important if the drought continues in regions like the Southern province where consecutive years of drought have depleted household income and food stocks. It is particularly important for young children to have a high nutrient dense food and/or a diversity of foods include good protein sources.

## 5.7 SO 8 Government Held More Accountable

**Recommendation: Food for Vulnerable Urban Households through Gardens:** C-SAFE implementors should be encouraged to develop activities with the Ministries of Agriculture and Health to promote home gardening in peri-urban areas. Policy and health regulations will first have to be reviewed and revised to allow for such activities. However, if some headway can be made on this front then home gardens can provide a fast income and nutrition payback for a range of vulnerable households and might contribute to a reduction in emergency direct feeding programs through time.

## 5.8 SO 9 Reduced Impact of HIV/AIDS Through Multi-Sectoral Response

Focus groups with PLWHA and their care-takers indicate that “hunger” is a priority problem and food their greatest need. Many groups, including CRS and CARE are currently providing some food as part of their home-based care package for PLWHA. Program managers indicate that food is not available in the quantities that are needed to support PLWHA and their families.

### **Recommendations: Food for Home-Based Care Programs:**

- 1) SO 9 should proactively work with the C-Safe NGO group to design, monitor and evaluate home-based care activities using food rations. These will provide valuable lessons for a PL 480 Development Assistance Program.
- 2) SO 9 should contact Food for Peace in Washington about the parameters of submitting a development assistance program, timing and possible funding levels. Based on this information and lessons learned from the C-Safe program, USAID should work with their NGOs to develop a PL 480 development assistance home-based care program.
- 3) Targeting should be both geographic— food insecure/poor rural and urban areas—and within communities, criteria developed to target the most vulnerable households. Communities and districts with the Ministry of Social Welfare need to be included in developing targeting criteria. Lessons learned indicate that food cannot be targeted only to the PLWHA but must be accompanied by a ration for the family.
- 4) Food aid programs should be linked as much as possible to income generating activities for both households caring for a PLWHA as well as food insecure communities. Monetized PL 480 resources can be used to support income generating activities.
- 5) HEPS is an excellent commodity for feeding PLWHA. Community processing of HEPS as an income generating activity and exchanging NFDm with the local manufacturer in exchange for the final product should be explored.

### **Indicators:**

- Number of vulnerable households with PLWHA receiving a full home-based care package that includes food aid.
- Number of PLWHA who receive a full home-based care package that includes food aid.

**Recommendation: Food for Infected Children:** As part of PMTCT and IMCI programs, USAID should consider adding food for growth and therapeutic feeding components when

needed for children with HIV/AIDS. HEPS appears to be an excellent food and the Lusaka University Teaching Hospital has an ongoing program that shows the recuperable results of HEPS and good nutrition. This program should be expanded out of the hospital and into the community.

**Recommendation: Food for Orphans and Vulnerable Children:** Many orphans and vulnerable children (OVC) are living in households that have few livelihood options. Because of this problem, some orphans and vulnerable children go out on the streets to fend for themselves. Food aid can be used to meet several important objectives including: 1) Keeping orphans and vulnerable children at home by providing vulnerable households with additional food so that children do not have to go out on the streets; 2) Improve the nutritional status of OVC; 3) Use food aid for food for work activities aimed at older OVC and heads of vulnerable households—activities can include livelihood training, developing assets for the community, better roads, or support volunteer work for caring for PLWHA etc; 4) support feeding at recreation centers, training centers aimed at OVC.

**Recommendations:**

- 1) USAID should learn lessons from ongoing OVC programs that include a food ration;
- 2) Based on lessons learned USAID with NGOs should develop this component of the C-Safe development assistance program. The needs are great; however USAID should assess the management capacity of its implementing partners to determine the size of the program and geographic scope of the project.
- 3) Targeting Strategies: USAID should host a forum for those partners providing support to OVC to discuss targeting strategies and mechanisms for implementation. Targeting strategies should first 1) identify food insecure and poor areas, e.g. peri-urban, and 2) identify households that are most vulnerable using criteria such as child-headed, grand-mother caring for many children, grand-father caring for many children, widow with children with no livelihood activities.
- 4) Household food rations should be combined with livelihood, training and educational opportunities. Household heads and OVC should be supported to take advantage of these activities. Monetized PL 480 resources can support this component.

## **SECTION 6. OTHER IMPORTANT NUTRITION TOPICS**

### **6.1 Nutrition Surveillance**

Nutrition Surveillance should be part of an overall food security surveillance system—where changes in nutritional status can be linked with other data on coping mechanisms, crop production, food prices, etc. Typically nutrition is considered a lagging indicator for early warning systems; however, nutrition status data is critical for programming decisions, targeting communities and deciding on the need for supplementary feeding as part of an emergency response. The Central Statistics Office has recently developed a proposal to revive the Food, Health and Nutrition Monitoring System (FHANIS) which began in 1993 and was discontinued in 1998 because of lack of funds. UNICEF, some NGOs and donors also have a proposal for a nutrition surveillance system to be housed in the Disaster Management and Mitigation Unit (DMMU). It is critical that these groups work together and identify a system and institutional home that they all can support.

The objectives of the FHANIS proposal are: “1) to monitor food security objectives; 2) to monitor levels of malnutrition; 3) to monitor morbidity and mortality levels; 4) to monitor the impact of policies on food security, health and nutrition conditions of the population; 5) to

improve the links between changes in indicators of the welfare of the population and policies, and 6) to enhance links between agencies concerned with collection, analysis and use of food security, health and nutrition statistics.” Given the issues with the Vulnerability Assessment (VAC) sampling methodology, the review of the FHANIS proposal should be a good opportunity to bring the key organizations together working on nutrition and food security surveillance.

**Recommendation:**

- 1) USAID should play an active role in ensuring that all interested parties come together and review current proposals. The VAC methodology should also be assessed. FEWSNET should join the meeting. The meeting should clarify:
  - Objectives of the surveillance system;
  - Who will use the information and for what purposes;
  - Information needed by purpose;
  - Sampling design, data collection, analysis and dissemination strategies;
  - Management needs and capacity of proposed organizations for carrying out the work;
  - Costs of the system—both capital and recurrent and sources of funding;
  - Technical assistance needs
- 2) USAID should play a facilitating role to develop a system(s) to address current needs.
- 3) SO 7 should ensure that one person is monitoring the nutritional situation in the country.

## **6.2 National Food and Nutrition Commission (NFNC)**

The NFNC is a statutory body established by the Government in 1967 under the Ministry of Health. “It is a promotional and advisory organ to the government on matters concerning food and nutrition.” Its aims and objectives include creation of community interest in better nutrition; collection of national food consumption and nutrition status data; incorporation of nutrition improvement programs in sector planning; proposing and implementing food and nutrition policies. The NFNC has been instrumental in carrying out important nutritional studies including the National 1993 Baseline Study in Iodine Deficiency and the 1998 National Survey of Vitamin A Deficiency in Zambia. It has taken the lead in developing legislation barring importation of uniodated salt and began local salt iodization programs. The NFNC is working with the ZIPH on Community based Growth Promotion.

Its expected outcomes in 2003 include the finalization of a new National Nutrition Policy; expansion of community growth promotion programs; increased coverage of Vitamin A capsules; maize meal fortification in 25 hammer mills; initiation of iron deficiency control activities in 10 districts in Luapula and Eastern province; infant and young child feeding activities revitalized in 47 health facilities; publication of IEC materials to support nutrition programs; and the drafting of guidelines on nutrition for PLWHA. The NFNC would like to expand its technical assistance to grassroots organizations, communities and districts. It would also move forward with PROFILES, an important advocacy tool to sensitize policy makers to Zambia’s nutrition problems, development implications and potential solutions.

**Recommendation:**

- 1) USAID should invite NFNC to participate in meetings on nutrition;

- 2) USAID/Zambia with USAID/Washington should support technical assistance for PROFILES;
- 3) NFNC should be involved in planning for the Vitamin A survey.
- 4) USAID should support capacity building of the NFNC.

## **SECTION 7. OPPORTUNITIES AND ON-GOING ACTIVITIES RELATED TO MISSION STRATEGIC PLAN**

While various Mission staff are aware of the following activities, we thought it would be helpful to summarize these for general Mission review and follow up. We think these activities are relevant to the discussion of food security and will be important to the on-going development of the Mission's country strategy.

- 7.1 GRZ Agricultural Policy:** A new policy on development of the agricultural sector is presently before the parliament for review and adoption. If approved, this will provide the long-term roadmap of GRZ priorities around which donors can coordinate their future development programs. While GRZ plans and priorities have been discussed in the press and among donors, an approved long-term agricultural development policy for a sector that is now being touted as the future engine of economic growth, is an important first step in the agricultural planning and budgetary process of the new government.
- 7.2 Study on the Impact of HIV/AIDS on Agricultural Productivity:** This research, being conducted by the Agricultural Research Department of the Ministry of Agriculture with FAO funding, will be completed in March 2003. This should provide a first look at some of the documented impacts of HIV/AIDS on food production, agricultural labor productivity and household incomes in the rural sector. Charlotte Harland, USAID/Z consultant, would be the contact for further information on this research.
- 7.3 FAO/DFID Monthly Crop Assessments:** This series of monthly data (March-June) should provide a more precise picture of what the food situation is likely to be in 2003/04 and will be used by donors and the WFP to make some decisions on any future food aid.
- 7.4 2002/03 Crop Assessment:** Plans are for the Ministry of Agriculture with World Bank funding to conduct this assessment by June 2003. The resulting data should track with the FAO/DFID assessments and will provide the official GRZ figures on the level of this year's grain harvest. This will also provide an additional statistical basis for any future food aid programs.
- 7.5 VAC Assessment:** The January assessment was questioned for its statistical validity, given the limited number of households in the statistical sample and questions about the randomness of the sampling. FEWSNET has been informed of these questions and now has a chance to refine its sampling procedures this next go round. With the new harvest, the national food supply will be sufficient for several months and the number of at-risk populations should be significantly reduced to only a few areas of the country which experienced a poor harvest this year.
- 7.6 WFP Exit Strategy:** Since much of the country did receive good rainfall, there are expectations that food production will be substantially improved from last year. As food comes on to the market after the harvest in April, May and June, it will be very important for the GRZ and donors not to distribute any substantial food aid as this would undoubtedly depress producer prices and distort the market system. WFP should present donors with an exit strategy that fully reflects the

findings of the crop assessments. Only very limited and targeted food aid should be continued in areas of food deficit where vulnerable populations lack any financial means to procure food. USAID and other donors should monitor the crop assessments and advise WFP accordingly.

**7.7 Collaboration on project designs with other donors in contract farming and conservation farming:** Donors, such as DFID, EU and GTZ, are in the process of developing new development strategies. In our interviews with these groups, we found the common theme of food security being expressed. The most favored development interventions discussed were contract farming and conservation farming. Since the Mission is designing its new country strategy, continued collaboration with other donors who are exploring similar development approaches makes sense. We would encourage pooling efforts and resources with other donors to plan and implement joint food security and economic growth projects in the agricultural sector.

**7.8 Development and Implementation of National Nutrition Policy and Guidelines:** The National Food and Nutrition Commission (NFNC), a quasi-governmental organization that operates under the Ministry of Health in Zambia, has a draft National Nutrition Policy/Guidelines document pending approval with the Ministry of Health. Zambia currently does not have an official national policy on nutrition in place. USAID is encouraged to facilitate the approval of this new policy and to provide technical assistance to the NFNC in follow up and implementation.

## **SECTION 8. MISSION MANAGEMENT IMPLICATIONS FOR RECOMMENDED ACTIONS**

### **SO 5 Increased Competitiveness of the Private Sector**

Recommendations for enhancing the Mission strategy deal with the "quality" of the program and should not entail "additional" management other than what has already been envisioned by the Mission. While we do not know how many project managers the SO5 team will be recommending for implementation of the new country strategic plan, it's evident that the proposed range and types of activities will be very labor intensive and require strong technical background and experience on the part of its SO5 managers to effectively manage. The overall manager of the SO5 team should be an experienced agricultural officer with strong private sector and natural resource management background. In reality, this program requires a range of specialties in agriculture, agribusiness, small-medium enterprise development, natural resource management and policy reform. The long-term team leader should be experienced in most of these areas as well as his/her staff.

The second important area of expertise is food security. As strongly discussed in this document, economic growth strategies do not necessarily contribute to food security unless there is targeting and focus on food security and better nutrition as objectives of the program. For this reason, staff should be experienced with the production, income and nutrition factors affecting vulnerable households and have the ability to effectively implement SO5 programs to achieve both economic growth and food security objectives. The Mission has indicated that it would like to have a long-term food security specialist to guide, design and implement the food security programs and activities. The Mission has also discussed its preference to have DCHA/FFP fund this position. Once the country strategic plan is eventually approved in USAID/W, DCHA/FFA and AFR would discuss and evaluate with the Mission such a request for assistance.



### **SOs 6-9 Management Implications:**

It is very important that that the Mission hire an experienced multi-sectoral HIV/AIDS Team Leader who can speak the language of the other sectors. In each SO there should be at least one person who is the liaison with the SO9 Team Leader and who has the flexibility to participate on the multi-sectoral working group. To better assist the SO5 team with the food security and nutrition aspects of the economic growth program, a Health/Nutrition person should be assigned to work with the SO5 staff on development of the PL480 Title II program so that targeted feeding of vulnerable groups is improved and new longer-term C-SAFE and DAP activities contain complementary nutrition/health components. From USAID/W, Hope Sukin is available for e-mail and telephone consultation and can provide field monitoring support for the Mission one time per year.

### **PL480 Title II Management Implications:**

The implementation of the C-SAFE program will require SO5 oversight and management. CARE, CRS and WV are very experienced in design and implementation of targeted feeding programs. However, once design of longer-term DAP programs starts, a Mission project officer will have to be involved in this process to ensure that any proposed programs are complementary to food security, health and nutrition objectives. During implementation, regular monitoring and oversight will be required by the SO5 team with assistance from SOs 6-9 project officers. New DAP activities are projects and require oversight to ensure effective implementation. Ideally, the project officer will have background and experience in food security, nutrition, health, agriculture production, marketing and storage.

Secondly, any PVOs that submit long-term DAP proposals under the FFP/DP assistance program will also require the assistance of an SO5 project officer in the design process. The oversight and support given to LOL in the preparation of its proposal should give an indication to the Mission of the management demands required for such DAP designs. Of course, any proposals approved by FFP for funding will require project officer management and oversight during implementation.

To assist in the design and implementation phases DCHA/FFP will assign a project officer to provide backstopping support to the Mission in managing this Title II portfolio of activities. This FFP manager would be available on TDY to the Mission on a semi-annual basis.

## **SECTION 9. CONFLICT VULNERABILITY ISSUES**

Conflict vulnerability exists in all countries experiencing poverty and deprivation. However, there are all levels of vulnerability and populations have a variety of coping skills that they employ to adjust to their difficulties. In very serious cases, coping measures are exhausted leading to protest against the government and society and sometimes violence.

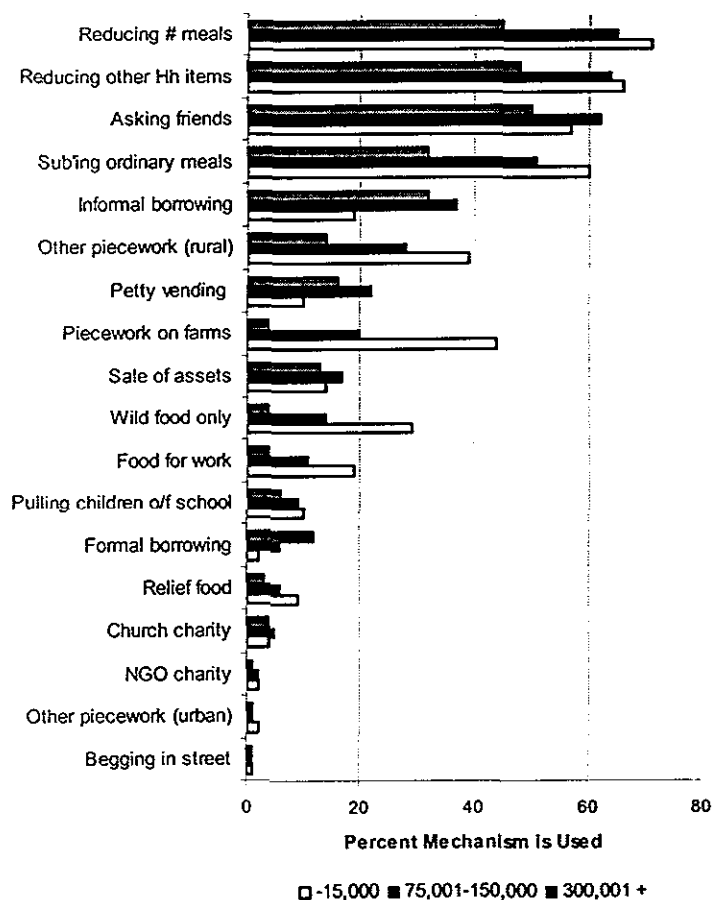
Zambia is a country that where poverty is endemic and the majority of the population is considered poor. However, Zambians are a resilient people who are dealing with difficulties in a manner that is non-violent. In fact, Zambia by and large has had a conflict-free history since independence and its citizens have displayed a non-violent character during that time. Zambians also appear to project a national identity and do not reflect serious differences along ethnic or religious lines. We see no evidence that this national personality is changing, despite the difficulties of drought and economic deterioration that the country has been experiencing.

On the political front, there is a democratic process in elections and serious national issues are being discussed and dealt with by increasingly democratic processes. The new president has put good governance and anti-corruption at the forefront of his government policy, something significantly different than past administrations have practiced. Several trials are on-going in the court system involving very influential citizens, including past presidents. Economic development has been stressed in the 2004 country budget, with major attention being paid to food production and health assistance to the major HIV/AIDS problem. The government has a close relationship with international donors and is actively working with them on economic development. There are regional political problems, but they do not appear to affect Zambia in a negative way. There are about 250,000 Angolan refugees on the western border, but they are housed in well maintained camps with adequate food supplies. Reports indicate that the refugee population is content with the present arrangement and not returning home in large numbers. While Angola is becoming increasingly stabilized its absorptive capacity of returning IDPs is still limited. On the Zimbabwe front there is no evidence of refugees moving into Zambia. It's more likely that any of those potential population movements would be towards South Africa. Nevertheless, Zambia has a tradition of absorbing refugees with hospitality and of working effectively with international refugee organizations. There is no evidence to suggest that refugee populations present any serious conflict vulnerability issues at this time.

Food security is another factor to evaluate in looking at the potential for conflict vulnerability. Zambia has experienced two seasons of drought and deteriorating economic conditions have seriously tested the resilience of many individuals and communities. In the rural areas, the compounding effect of drought, escalation of the HIV/AIDS pandemic, and the widespread loss of cattle to disease have had serious impacts on the majority of the population. In the urban sector, escalating food prices, erratic food shortages, HIV/AIDS and unemployment have added to the increasing poverty and stress on this population. Overall, from 70-80 percent of the population is stressed and falling back on coping mechanisms to deal with food deficits and poverty. According to some PVOs implementing emergency feeding programs, there is growing sense of uncertainty and despair among many households, especially those affected by HIV/AIDS. However, there seems to be a passive acceptance of these situations and there are no indications of resentment against the government. In fact, the government has been active in acknowledging this national issue and publicizing prevention messages through a variety of public institutions.

Rural communities have always had built-in coping mechanisms to draw on in hard times. It appears that the situation this year has continued to deplete the remaining reserves of vulnerable households in some areas of the country affected by drought over the past two years. Below is a profile of these types of mechanisms that were employed by different income groups in 1998. (*Republic of Zambia, Living Conditions in Zambia*). The survey of these mechanisms was conducted to determine what people did in response to the economic stress caused by the Structural Adjustment Program. This can give us an idea of what people

**Coping Mechanisms by Income Category**  
Low, Medium and High Income Groups



have been doing during the drought crisis to cope. Some observers believe these mechanisms are wearing out. As evidence of this, theft and petty crime have escalated in both the rural and urban areas. However, there are no reports of violent conflict or demonstrations. Most Zambians are still falling back on coping mechanisms and emergency feeding programs are caring for the most vulnerable.

A successful agricultural harvest is very important for the economy this year. It appears that rainfall in most parts of the country has been normal to above normal. Timing of water delivery, however, is very important with the development of the primary national crop, maize, so new food assessments won't be accurate until about May-June of this year. However, there is a sense of optimism in the Government and among donors that the agricultural harvest will be much improved. In the meantime, erratic rainfall in Southern

Province indicates that maize production this year will again be below normal. PVOs feel that targeted feeding of vulnerable groups in this region will have to be continued for some time but that we have passed the worse in terms of the drought.

The December VAC Assessment (*SADC*) estimated that up to 2.77 million Zambians were at risk due to the drought. Some groups, including PVOs doing direct feeding in the rural areas, believe these numbers to be over-inflated and not representative of the real situation existing in many regions of the country. Food is available in rural and urban markets. Certainly, "access" to food is a serious issue as many households lack sufficient incomes to purchase the whole of their food needs. Nevertheless, data from hospitals do not indicate any rise in mortality which means that coping mechanisms remain in place for the majority of vulnerable households. Child malnutrition however, remains a chronic issue. Relief food supplies in the WFP pipeline are increasing and fully meet the population needs through March. The agricultural grain harvest will begin in March-April. All indications point to an easing of the food crisis that should allow households to start recovery in the next few months. In fact, some donors are arguing that WFP should start implementing an exit strategy after the harvest and that continued widespread food distribution would have a negative effect on agricultural prices and the market. At any rate, the at-risk population due to drought will be significantly reduced within the next few months to only a few vulnerable areas that did not experience a good grain harvest this year.

Presently, the new President seems actively committed to good governance and has just presented a new annual budget where food security and agriculture are top priorities. It remains to be seen if the government follows through on implementing these development priorities. Present indications are that there certainly is renewed attention being given to agriculture as the next engine of growth. This was not the focus of previous administrations. Most donors are also highlighting food security in their new programs, so the environment seems right for achieving progress in this all-important sector of the economy.

In summary, a surface analysis by this Team of factors affecting conflict vulnerability in Zambia does not point to any significant risks at this time or in the near future. The USAID Regional Advisor on Conflict Mitigation visited Zambia in December and concluded that conditions were not sufficient to justify conducting a Conflict Vulnerability Analysis (CVA). We support that conclusion. Consequently, the Mission, through AFR/SA, has requested a waiver of a CVA being a requirement for Zambia's new country strategy. We support that request.

## ANNEX A

### STATEMENT OF WORK ANALYSIS OF FOOD SECURITY, HEALTH AND NUTRITION IN ZAMBIA

#### BACKGROUND:

USAID/Zambia is currently developing its Country Strategy Plan (CSP) for FY 2004-2010. The CSP will include a number of strategic objectives covering several critical themes: increasing economic growth; building human capacity; improving health and addressing HIV/AIDS; and expanding democracy and governance. The Mission has submitted to USAID/Washington a Concept Paper incorporating input from stakeholders and sector assessments (Annex A). USAID/Zambia seeks assistance from the Africa Bureau, the Bureau for Global Health, OFDA and DCHA to explore the potential for utilizing P.L. 480 Title II food resources to address the immediate and long-term aspects of food security in a manner that would be integrated into the Country Strategic Plan. Two major, interrelated issues may undermine the success of the plan: food insecurity and malnutrition and the HIV/AIDS epidemic.

The suffering among Zambian families we observe today may not simply be a result of the drought conditions of the past two years. Drought occurs periodically in Zambia but the ability to cope with seasonal changes has diminished both at household level due to increased poverty, sickness, and the loss of productive labor; also too at the structural level as health systems collapse, surveillance systems falter, and emergency response mechanisms become overwhelmed. Additionally, the problem may be ascribed to regional political changes affecting governance and policy, food production, distribution, markets and availability. One of the major threats to agricultural production and food security in rural Zambia is the HIV/AIDS epidemic: in Zambia, 16percent of the population in the most productive years of life (ages 15-49) is HIV positive.

Although measures taken to stop the spread of HIV are having an impact in Zambia, the social and economic ramifications of the disease still impact families' and communities' vulnerability and ability to cope in times of food shortages. The proportion of households caring for orphaned children continues to increase. Youth-headed households grow steadily in both urban and rural areas. Increasingly, the burden of care of ill dependents and the production of food for households fall on older women and the young. Thousands of farm families afflicted by the AIDS virus have stopped planting traditional crops such as beans, which are high in protein, replacing them with less nutritious crops that are easier to produce. Many families are selling off their livestock, including draught animals used to prepare land for planting. Conversely, the drought situation in Zambia may contribute to the transmission of HIV/AIDS. The lack of food is forcing people, particularly young women, to take to prostitution as a coping mechanism for survival for themselves and their families.

Additionally, for a variety of factors that are only poorly understood, the nutritional status of Zambia children under 5 appears to be worsening. In the latest DHS, 47percent of children were stunted and nearly half of those were severely stunted indicating failure to receive adequate nutrition over an extended period and/or the effects of recurrent or chronic illness. Surprisingly, only 5percent of children were wasted. The highest percentage of wasting was seen among children aged 6-23 months – the period when children are being weaned and thus are more vulnerable to illness. These data, however, were collected almost a year ago and thus may not be an accurate reflection of current conditions.

## **OPPORTUNITIES FOR A PROGRAMMATIC RESPONSE:**

In the new USAID/Zambia CSP nutrition and/or food security activities are incorporated into all strategic objectives. Under the Economic Growth/Agricultural SO (SO5) USAID will strengthen agricultural production, particularly of smallholder farmers, through conservation farming and use of labor-saving technologies for income generation and access to markets. The Education SO (SO6) addresses nutrition needs of schoolage children through school health programs. The Health SO (SO7) continues to expand micronutrient supplementation, food fortification, growth monitoring and breastfeeding/complementary feeding. An additional strategic objective – SO9 – focuses on HIV/AIDS prevention and mitigation through a multisectoral response. SO9 intends to address the short- and long-term needs (including food and nutrition) of people living with AIDS, their families and other vulnerable groups, especially orphans and vulnerable children.

## **PURPOSE:**

USAID/Zambia seeks assistance from the Africa Bureau, DCHA Office of Food for Peace, EGAT, GH and OFDA to determine the mix of interventions the Mission should consider in the new CSP to address food and nutrition in the short-term in response to the current drought and in the long-term to address the development objectives of the new country strategy. Both need to be understood within the context of increasing poverty and high levels of HIV/AIDS.

## **Specific objectives:**

1. Identify and summarize key lessons learned from Zambia' prior experience with food and nutrition programs including responses to previous emergencies. Identify what is known and what is unknown, and what interventions can/should be undertaken with existing knowledge.
2. Identify the probable determinants of poor nutritional status of children under 5 in Zambia.
3. With these determinants in mind, review the activities proposed within the new CSP results framework to identify any major gaps in nutrition and food security programming that could compromise achieving further progress in child survival, maternal and reproductive health, and economic and agricultural development.
4. Determine if the Government of Zambia and/or another cooperating partner plans to address any gaps identified. Examine existing and potential synergy and coordination issues.
5. Propose options for activities and programming approaches to address these gaps. In particular:
  - Determine the feasibility of using P.L. 480 resources as one element to address food insecurity in Zambia to support vulnerable families with particular consideration to households headed by children and families/communities supporting orphans and vulnerable children.
  - Determine the feasibility of targeting such assistance within the Zambian context where poverty rates are high and a large proportion of families are impacted by HIV/AIDS. Make recommendations on targeting options and estimate numbers of households affected.
  - Determine the feasibility of various alternatives to providing food assistance, (e.g., food for work) in order to craft the most appropriate response to the current crisis, in particular the feasibility of using unemployed youth as a cadre of agricultural labor to support HIV/AIDS affected households and communities.

- Consider the management burden on the Mission of various approaches and implications for staffing.
  - Consider the feasibility of providing P.L. 480 assistance given the cost implications and the Government of Zambia's position on GMO food products.
  - Identify key partners who would carry out activities.
6. Propose options for the design and management of a nutritional monitoring/surveillance system and indicators that could be used to measure the impact of intervention.
  7. Determine the feasibility of cooperating partners (especially USAID, UNICEF, JICA) providing technical support staff to the National Food and Nutrition Commission to coordinate a more comprehensive approach to household food security and nutrition status.

#### **METHODOLOGY:**

A team of 3-4 people with expertise in nutrition in children under 5, management and design of P.L. 480 programs and food security, agricultural and economic development, and nutrition in the context of emergency situations will be identified to represent the points of view of Africa Bureau, GH, EGAT, OFDA and DCHA so that one coherent and integrated approach may be taken to inform the further development of the CSP.

Prior to departure to Zambia, the team will interview key individuals in the aforementioned Washington offices. The Mission, desk officer and country coordinator will develop this list and facilitate setting up these meetings. Upon arrival in Zambia the team will organize a 1-2 day meeting with key individuals in the Mission to review the Zambia Concept Paper and the new results framework. At this time, the objectives of the assessment will be reviewed and discussed and expectations clarified.

The Mission will provide the team with background documents and identify in-country key informants. The Mission will coordinate the team's schedule and in-country logistics this includes setting up meetings and arranging for field visits.

#### **WORK AND REPORTING SCHEDULE:**

The Assessment Team will undertake the study over a period of four weeks, per the following schedule:

<b>Activity</b>	<b>Due Date</b>
Commencement of study	01-08-03
Nutrition Expert meets USAID Mission Director and Task Management Team for clarification of expectations and orientation	01-08-03
Literature review and preliminary interaction with key contacts and informants	09-16 Jan
Arrival of the rest of the Assessment Team	09-16-03
Assessment Team meets USAID Mission Director and holds Planning Team Meeting to include: <input type="checkbox"/> Mission expectations (A. Reed) <input type="checkbox"/> Food emergency update (FEWSNET/WFP) <input type="checkbox"/> Agriculture/poverty update (FSRP) <input checked="" type="checkbox"/> Nutrition review and report on first week (H. Sukin)	01-17-03

□ Mission Concept Paper (L. Mukumbuta)	
□ Review of Contacts List and field trip scheduling	
Assessment team confers on methodology, continues literature review, meetings with USAID project contacts as appropriate, drafting of Table of Contents	17-20 Jan
Assessment Team meets USAID/Zambia Team Leaders and other internal resources	01-21-03
Assessment Team meets Government contacts and other internal resources, on-going activity thereafter	01-22-03
Assessment Team submits draft Table of Contents to Program Office for clearance	01-22-03
Assessment Team undertakes field trips	22-23 Jan
Presentation of progress and findings by H. Suckin (materials due) and field trips continued	01-24-03
Assessment Team submits and presents draft report to the Mission for oral feedback	01-30-03
Assessment Team submits draft report to Program Office	02-03-03
Mission provides written feedback	01-05-03
Assessment Team debriefs USAID Mission Director on findings and recommendations of the assessment	02-07-03
Assessment Team submits final report to USAID/Zambia Program Officer	02-14-03

#### **DELIVERABLES:**

1. Draft Table of Contents for Food Security/Nutrition Assessment Report - 01-22-03
2. 1 hardcopy of the draft - 01-28-03
3. 1 hardcopy of the final report - 02-07-03

Both the draft and final reports will be submitted to the Program Officer, or his designated representative, in electronic format as well.

#### **TEAM COMPOSITION:**

The team shall be composed as follows:

1. Paul Novick DCHA/FFP – Team Leader
2. Michelle Cachaper DCHA/FFP
3. Fenton Sands AFR/DP
4. Hope Sukin, AFR/DP



## ANNEX B

### SELECTED DOCUMENTS REVIEWED

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## ANNEX C

### LIST OF PERSONS CONTACTED

#### **Anglican Church Children's Project**

Felix Mwale, Program Director

#### **Catholic Relief Services (CRS)**

Michele Foust Broemmelsiek, Country Representative

#### **Changes Programme**

Edward P. Graybill, Director

#### **Cooperative for Assistance and Relief Everywhere (CARE)**

Brenda Cupper, Country Director

Kate Greenaway, Assistant Country Director

Margaret McEwan, Health/Nutrition Researcher

Teddy Mulenga, Program Officer

Dorothy Khombe, Program Officer

Nevel Orange, Program Officer, CARE Toronto

Director of the Koloma Office

Robby, Mwiinga, Director of the Livingstone Office

Evans Mwendwe, CATER Program, Livingstone Office

Farmer Cooperator, Kasungula Area, Food Security Project

Miles Murray, Program Officer

Waleed Rauf, Program Officer

Community Relief Coordinators, Kasungula Area

#### **Cooperative League of the USA (CLUSA)**

George Allison, Project Manager

#### **Creative Associates International**

Edward Graybill

#### **Department of International Development (DFID) UK**

Helen Meallins, Country Director

Jane Barham, Humanitarian Specialist

#### **European Union EU**

Joseph H. Green, First Counselor

#### **Famine Early Warning System Network (FEWSNET)**

Chansa Mushinge, Country Representative

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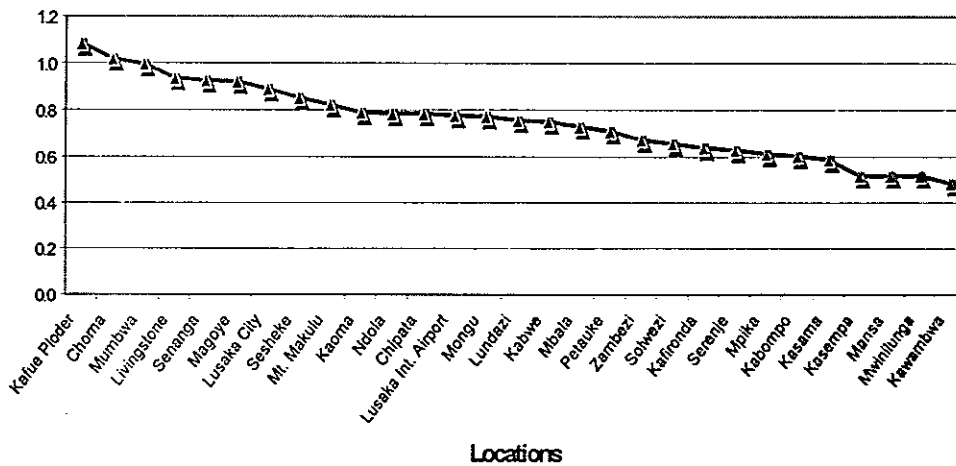
## ANNEX D

### Long-Term Rainfall Patterns and Impacts on the Zambian economy

Rainfall in Zambia is unimodal, commencing with light rains in December, gradually diminishing in February and March, and ending in April. District rainfall data collected over the last thirty years and disaggregated by month shows that rainy seasons have gradually been starting later and finishing earlier in Zambia, particularly in major maize producing districts. The trend of decreasing precipitation is quite apparent for February, March and April. Maize in Zambia is most vulnerable to moisture stress from January to March. Thus, low rainfall during these months can lead to crop failure even when the average annual rainfall is normal. This occurred during the 1991/92 growing season leading to the worst crop failures of the past fifty years. A similar pattern of erratic rainfall is reported in the current year.

The chart below illustrates this variability of rainfall. During the most critical months of January and February of each year when a major crop like maize needs good consistent moisture to mature properly. Three rainfall observation stations in the South (Choma, Livingstone, and Magoye) show some of the highest variability out of 30 stations around the country. Southern Province is particularly vulnerable to drought and considerable effort is required to encourage and support drought-resistant cereals. Livelihoods are particularly

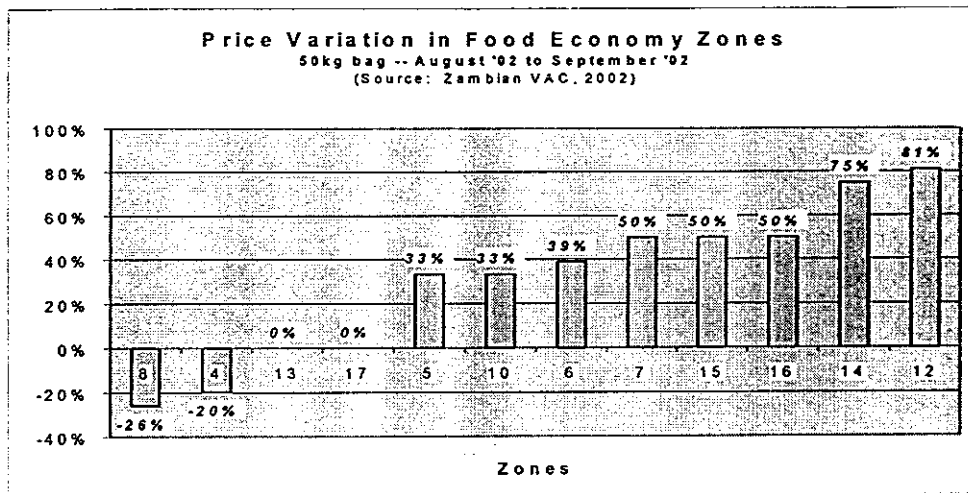
**Coefficient of Rainfall Variability**  
January and February over a 30 Year Period  
(Source: WFP data)



threatened in Southern Province due to drought, and the prospects of protection against this merit investigation. Western province has abundant natural resources but currently registers the highest poverty levels in the country. Donor support could be directed towards these provinces which have comparative advantages in livestock production, fisheries, commercial cashew nut production, and commercial rice production.

Another effect of the drought has been elevated levels and wide swings in food prices beyond what would normally occur. The graph below shows the extent of these price levels reflect the scarcity of food supplies in some areas – for example an 81 percent price increase for a 50 kg. bag of maize in the Western District (Zone 12) and 75 percent increase in the South (Zone

14). High prices in the South demonstrate how some people had money but just could not find maize to buy.



## ANNEX E

### **What is different about this current 2002/03 drought situation compared to previous drought periods?**

- There is a compounding effect of successive droughts on vulnerable households, which hasn't allowed them to recover and rebuild assets.
- Household coping systems are wearing out (but still working in many vulnerable households because malnutrition and wasting statistics are not as severe as originally expected at this late period in the hungry season).
- Decimation of livestock herds from drought and disease has taken away one of the best traditional sources of survival, especially in the South.
- The HIV/AIDS pandemic has significantly increased the number of vulnerable people. Illness and death has reduced productivity in the rural workforce, leaving farms neglected. The elderly, orphans, households headed by women, and households with disabled or ill members that do not receive community support or emergency relief are particularly vulnerable.
- FEWSNET early warning was particularly effective, prompting the shipment US food aid to the Southern African region well in advance of the depletion of local food supplies.
- The Zambian Government's opposition to donated US bio-tech food products severely disrupted the food aid pipeline. WFP was not able to source enough non-GMO grain in the Region to restore the pipeline to required levels. This was the first time that GMO food had become an issue, and serious thought will have to be given to the content of US food aid in the future.
- Zimbabwe was not a source of food exports this year -- a critical role it had played in previous droughts. The disastrous land reform and economic policies of the Mugabe regime has severely destabilized the country's economy, creating a potentially long-term food supply problem in that country.
- There is more analytical capacity available in the public sector, (e.g. in the Disaster Management Unit) but not sufficient to take a lead role in addressing future disasters.
- There is more sharing of information and consensus on the facts among those in government, the private sector, NGOs, etc.
- However, there is still too much dependence on the donor community for assessment of situations and responses.
- There was less cooperation between government and the private sector compared to the last drought – lack of government follow-through on relief food imports impeded traders from making timely commercial imports of needed maize and other foodstuffs.
- More information on cross-border trade is needed to have a more accurate picture of the food supply situation in the country during food deficit crisis periods.

## ANNEX F

### Considerations For SO5 Strategic Plan

The common goals of most donor interventions are to reduce rural poverty and to ensure food security. To reach the goals the main areas of donor interventions are:

- Market linkages or facilitation programs which involve formation of farmer groups using any of the existing models, including out-grower models.
- Capacity building for farmer group members and the leaders.
- Entrepreneurship development so that farming can be treated as a business and improve non-farm incomes.
- Programs aimed at improving labor and land productivity, including Conservation Farming (CF) and conservation tillage (CT).
- Crop diversification programs that are aimed at increasing the chances of household food security and diversifying sources of household incomes. This includes introduction of new products such as essential oils.
- Programs aimed at strengthening private sector participation in the liberalised economy.
- Policy development and implementation either through support to institutions dealing with policy formulation and implementation or by participating in dialogue.

#### Lessons Learned

It is not usually appreciated in the design of projects or programs that a farmer pursues multiple livelihoods. A project, which focuses on one livelihood or commodity, will not meet the objectives of improving rural household incomes and reducing poverty.

There are several on-going activities in agriculture that have excellent prospects for generating significant results in improving household food security with limited resources. Multiple donors are involved in efforts to spread the use of CF and CT, including CARE International, CLUSA, World Vision International, Africare and ZATAC. This is an initiative that should continue until it reaches the "saturation" point, which the director of the Conservation Farming Unit (CFU) has estimated at 250,000 smallholder households.

Conservation Farming. The rationale for promoting the spread of CF is straightforward. It is a proven approach that can help smallholder producers diversify their production and increase income. This approach also has positive food security implications. USAID should work in collaboration with other donors supporting the dissemination of CF to reach the assumed saturation level of 250,000 farm families across the country. One important aspect CF may not be considered particularly HIV/AIDS friendly as the initial labor requirements for CF are substantial. Digging over 15,000 holes per hectare is demanding. However, the labor requirement for field preparation diminishes overtime, and can be carried out over the six-month dry season, when there are fewer demands for their labor. In addition, use of the weed wiper significantly reduces labor required for weeding. USAID, through its partners and the Zambian Network of Persons Living with HIV/AIDS, might hold some focus groups to identify potential interventions to mitigate the difficulties for families affected by HIV/AIDS and/or PLWHA to adopt CF.

Crop Diversification. A major theme running through the agricultural sector is to distance the country from its near monoculture past and use its comparative advantages in land availability and water resources to diversify the product line. Cassava, in particular, has many ardent supporters, although is not without controversy. Cassava served as a food security crop in

colonial times. It therefore has the potential to play an important food security role. Cassava also is an industrial crop. It is a raw material for starch. Nutritionally, the crop is controversial; some nutritionists worry that as a food crop cassava is only "empty" calories. USAID could play an instrumental role helping the GRZ organize a national debate on the advantages and disadvantages of cassava, eventually leading to a national cassava development strategy and plan. The Southern African Regional Research Network (SARRNET), which works with USAID's Regional Center for Southern Africa (RCSA), has an on-going cassava program and could offer valuable input into the debate.

Dairy. Dairy activities provide smallholders a ready opportunity to increase household income as well as contribute to improve food security. In addition, a dairy development program can play an important role in helping rebuild the livestock herd, which has been decimated by disease. Longer term there may be the potential to introduce a school milk program, which also would address positively food security concerns.

### **Food Security**

USAID has several comparative advantages in addressing food security issues. Such attributes as responsiveness, access to different funding mechanisms, the ability to employ a multi-sectoral approach, and the willingness to work with local partners. Disadvantages included the lack of willingness to pool resources and a propensity to set up parallel structures, which can create conflict at the field level. Through FEWSNET and the FSRP, USAID/Zambia is supporting unique activities that make important contributions. Food security is an important cross-cutting issue and one where USAID has the capability to make significant contributions.

The work that USAID and other donors are supporting to introduce and expand the use of CF techniques has the potential to have a significant impact on the maize, soybean and cotton sub-sectors and affect a significant number of smallholder households. Also, identifying ways in which households affected by HIV/AIDS can benefit from CF – through communal land preparation or use of alternative technologies that decrease the labor burden – could have important impacts on poverty. Investment in the dairy industry can play a crucial role in helping to rebuild the livestock herd that has been decimated by disease. Cassava has the potential to fill a dual role as both food security and industrial crop. USAID's efforts in floriculture and horticulture have been impressive and should continue, although the employment and incomes impact of these sectors is considerably less than cotton and maize. The same may be said for coffee.

The geographic focus of USAID's activities in agriculture will, in large part, be a function of the commodity choices and the particular farming systems of each region. Interventions in the South, for example, will require special attention to the on-going cyclical droughts and limited number of livelihood improvement alternatives in that area.

### **Recommendations**

There is scope to include activities that more directly address food availability, as well as the access, which is the main emphasis of the proposed SO-5 strategy. The review of the food security angle to the Economic Growth program concurs with the recommendation of the September 2002 "Assessment Of Zambia's Private Sector, Agriculture & Natural Resources Sectors" that first and foremost the Economic Growth SO Team continue to emphasize activities to expand use of CF and CT approaches, with the recognition that this is a short-term, but quick response initiative. It is reasonable to expect reaching the estimated "saturation" point of 250,000 smallholder households within three years. Given that it

supports several NGOs which incorporate CF and CT as part of their programs, USAID is well positioned to take the lead in making sure that all the donors supporting CF and CT collaborate and cooperate. The sharing of lessons learned can be invaluable.

The dairy sub-sector deserves special attention and USAID is well positioned to build on the Land O'Lakes-led Zambia Dairy Enterprise Initiative. Again, this is a relative short-term activity to respond to forecast pent up demand for fluid milk and to develop dairy's export potential.

The country's farmers will have to produce more crops and livestock if agriculture is to become as the engine of growth. Many observers believe and have seen that the rapid adoption of conservation farming and conservation tillage techniques can lead to a significant supply response. Therefore, tracking the number of smallholder households employing CF and CT approaches remains an important indicator. As noted earlier, the director of the Conservation Farming Unit has estimated the saturation point for these techniques is on the order of 250,000 of the country's 800,000 smallholder households. The current SO 1 Team already has in place a reporting system to capture the number of households using CF and CT in activities implemented by USAID-funded grantees and contractors. It is recommended that the multiple donors supporting CF initiatives collaborate to pool their data on dissemination and adaptation to track the overall progress towards a target like the possible 250,000 households.

It is important to monitor the income effect that adaptation of improved technologies and enhanced marketing opportunities is having on smallholder households. This current review of SO-5's proposed Results Framework would benefit from an indicator that adds the "availability" dimension to USAID's cross-cutting work on food security. Perhaps food utilization is more the purview of USAID's HPN team and SO-5 can focus on food access and food availability. But, it is important that these two ends of the food security spectrum be woven in with nutrition. The *Assessment Of Zambia's Private Sector, Agriculture & Natural Resources Sectors* made some good suggestions about an indicator to capture the food availability dimensions – such as monitoring increased production levels of selected staple and food crops in target areas. In addition, their suggestion of including an aspect of smallholder production of staple crops at the IR level also deserves consideration to add further emphasis to food security in the SO-5 program.