

### 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

---

<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 80 percent 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