



Nutrition and Food Security for People Living with HIV and AIDS



Giving Hope to a World of Need

ACKNOWLEDGEMENTS

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The cover photo is by Dave Snyder and is a picture of a garden in Northern Malawi.

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Caroline Bishop	Shannon Senefeld
Kate Greenaway	Natalie Kruse-Levy
Kristin Weinbauer	Paul Perrin

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti-retroviral
CRS	Catholic Relief Services
C-SAFE	Consortium for Southern African Food Security Emergency
FANTA	Food Aid and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FFA	Food for Assets
DOTS	Directly Observed Treatment Short Course
HBC	Home Based Care
HIV	Human Immunodeficiency Virus
HQ	Headquarters
IHD	Integral Human Development
NGO	Non-Governmental Organization
OVC	Orphans and Vulnerable Children
PLHA	People Living with HIV and AIDS
QOL	Quality of Life
RDA	Recommended Daily Allowance
TB	Tuberculosis
TFA	Targeted Food Aid
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WFP	World Food Program
WHO	World Health Organization

I. BACKGROUND

In June 2005, an initial meeting was held at CRS Headquarters to discuss the need for additional food security and nutrition programming for people living with HIV or AIDS (PLHA). The following four principles were proposed as a vision for CRS' future work with HIV and food security programming:

- CRS programs will address HIV/AIDS and food security in all of its related programs.
- Food risk reduction programming occurs in all programs addressing PLHA.
- All people receiving ART will be food secure.
- People at end-stage AIDS are provided with sufficient high-quality food, so nutritional food insecurity is not a cause of declining health status.

While everyone at CRS agreed that this programming was important, there was still a need to provide a holistic document that would outline how and why food security and nutrition were important for people living with or affected by HIV and AIDS and how their needs should be addressed within programming. As a result, sub-groups were formed to analyze these issues according to vulnerable populations affected by HIV or AIDS. Specifically, the following groups were formed by HIV and AIDS technical advisors from around the world:

- People at-risk for contracting HIV
- PLHA (specifically asymptomatic)
- OVC & Caretakers
- PLHA on ART
- People requiring Palliative / End-of-Life Care (symptomatic PLHA)

The groups began working on the papers, and it quickly became apparent that many of the groups had overlapping themes and programmatic recommendations. As such, these groups were revised and condensed. The new groups became:

- PLHA (asymptomatic and symptomatic)
- OVC & Caretakers
- PLHA on ART

This paper focuses on the first group, People Living with HIV, both asymptomatic and symptomatic. The OVC paper will follow shortly this summer, and ideally, a paper focusing on nutrition and food security for PLHA on ART will be forthcoming before the end of the year.

This paper is designed to be used as a background piece for many efforts and to inform various departments. For example, the paper can inform advocacy efforts which aim to raise resources to fill current gaps in programming. This paper is an overview of the nutrition and food security situation for PLHA and touches briefly on the main themes

related to this subject matter. However, readers should note that this paper is not intended to be a comprehensive technical guide. Instead, this paper articulates strategies to improve food security and nutrition for affected and infected communities, households and individuals, drawing on the IHD framework. Ultimately, a larger strategy will need to be developed to articulate how CRS and others can best access the necessary resources to pursue these programmatic strategies.

This work outlines the current situation of PLHA and demonstrates best practices in the area of nutrition and HIV and AIDS. The best practices and recommendations sections exemplify what is possible through a multi-disciplinary approach. No longer can HIV or AIDS be seen as a strictly health-based problem. The epidemic threatens not only the health of an individual, but destabilizes communities, while eroding economic opportunities and social capital in the most vulnerable pockets of society. Integrated programming has become an absolute necessity for PLHA, their families and the communities they live in.

II. INTRODUCTION

More than twenty-five years into the epidemic, HIV and AIDS are viewed as more than simply medical issues, with ramifications well beyond the traditional medical model of disease. The more effective responses to HIV and AIDS are multi-sectoral and multi-faceted. Among the sectors that should be involved in the HIV and AIDS response are those supporting nutrition and livelihood security. HIV and nutrition are intertwined, as HIV affects nutritional status, and nutritional status affects the spread of HIV.

Many people in the countries served by CRS programs rely primarily on cereal-centric diets and have never enjoyed a diet which provides 100% RDA of either macro or micronutrients. It is also becoming increasingly evident around the world that people's food security (e.g. their physical and economic access to nutritionally adequate food) does not automatically translate into their nutritional well-being. Nutritional disorders, including under-nutrition, do not necessarily disappear once food security has been achieved. The nutritional status of a household continues to be influenced by access to wood or other fuel, clean water, and food preparation equipment, as well as time for feeding infants, young children, and family members with special needs. Nutritional knowledge and cultural practices influence the amount and the type of food that each person in the household receives. Illness and lack of access to healthcare and sanitation may affect appetite, nutrient needs, and the ability to absorb nutrients¹.

Unfortunately, the adverse effects of HIV and AIDS on nutritional status occur while the body simultaneously needs the best possible nutrition. This often results in rapidly accelerated weight loss, malnutrition, and wasting. Adequate nutrition cannot cure HIV infection, but it is an essential part of maintaining the immune system and physical activity and of achieving optimal quality of life. Replenishment of macronutrients and micronutrients is an essential intervention for people living with HIV and AIDS to mount an effective immune response to fight opportunistic infections. It is required to optimize the benefits of antiretroviral treatment (ART) and may significantly lengthen the period between HIV infection and the onset of active illness.

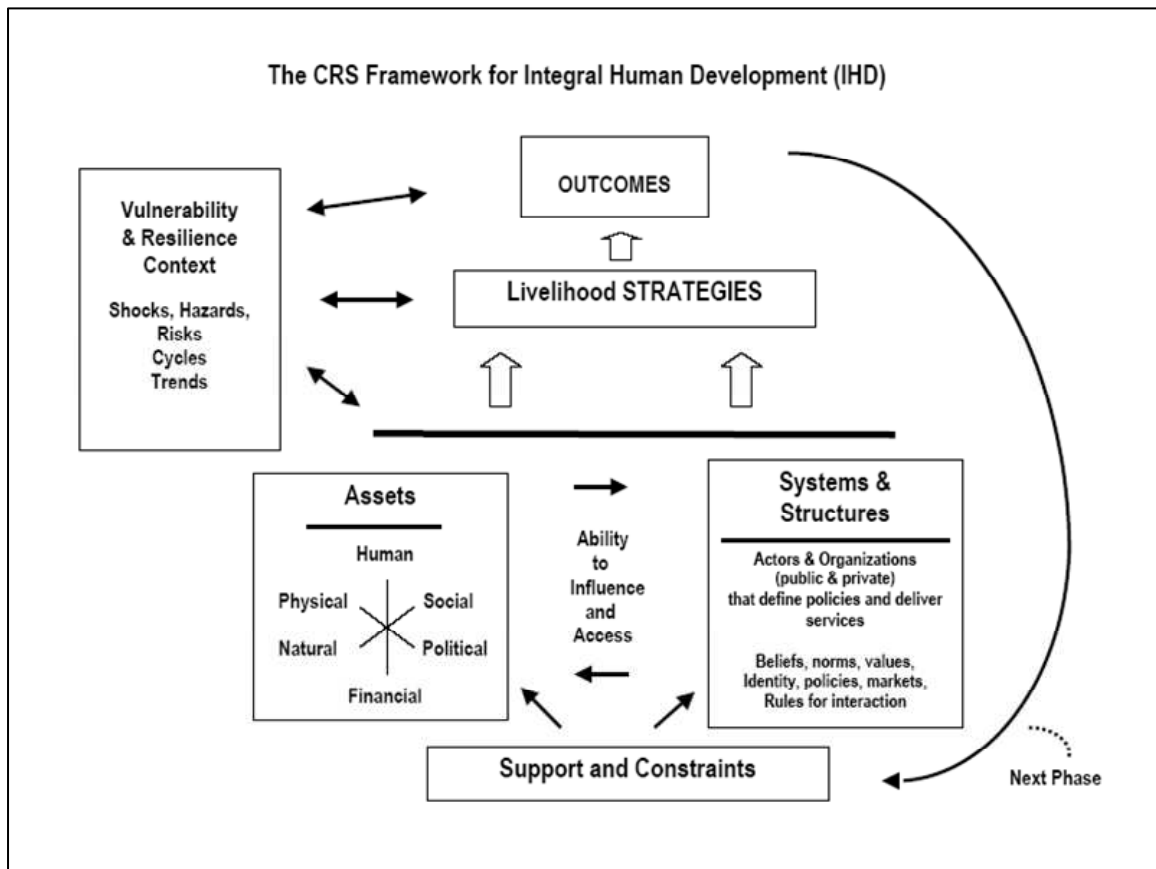
This paper discusses nutrition and livelihood security issues related to people living with HIV and AIDS (PLHA). Where appropriate, differences between symptomatic and asymptomatic PLHA are noted. Section III provides a general situational analysis of PLHA through an integral human development (IHD) approach. In Section IV, best practices and programming options are laid out. Finally, Section V provides recommendations for CRS programming in the area of nutrition and livelihood security for PLHA.

¹ Adapted from the «Nutrition» section of the «CRS HIV&AIDS Programming Guidelines».

III. SITUATION ANALYSIS

The Integral Human Development (IHD) framework will be used to present the situation analysis of symptomatic and asymptomatic PLHA. The IHD framework is comprised of the following components a) Assets, b) Impacts, c) Shocks, cycles, and trends, d) Structures and Systems, and e) Coping strategies. Figure 1 lays out CRS' IHD framework.

Figure 1: CRS' Integral Human Development Framework.



A) Assets

While the majority of this paper outlines the specific needs of PLHA, it is also important to remember that PLHA also have various assets, lest a negative image and connotation of PLHA emerge. PLHA are often able to work, live a happy life, and positively contribute to their family and community. They have many assets that are seldom recognized by others or even by themselves. Table 1 provides examples of these various types of assets.

Table 1: Examples of Assets of People Living with HIV and AIDS

Human & Spiritual Capital	<ul style="list-style-type: none"> • Potential to maintain (asymptomatic) or regain (symptomatic) health—and thus work—if opportunistic infections are treated and PLHA receives appropriate nutrition • Religious/spiritual beliefs
Physical Assets	<ul style="list-style-type: none"> • Farming tools, house or other belongings. • Livestock • More physical assets in early stages of disease progression • Men tend to have more access to physical assets than women.
Natural Resources	<ul style="list-style-type: none"> • Land for cultivation and housing • Men typically have greater access to land than women • Water from rainfall, rivers, lakes, etc.
Financial Assets	<ul style="list-style-type: none"> • Savings • Men tend to have greater access to financial assets as they engage in wage-earning activities more frequently than women
Social Capital	<ul style="list-style-type: none"> • Generally strong social/family ties in many societies • Symptomatic PLHA with undisclosed or unsuspected HIV status may have larger social capital than PLHA who are known by family, friends and the community to be HIV positive, as openly positive PLHA may face stigma and decreased social support • Conversely, symptomatic PLHA who disclose their status often have increased social support through positive living clubs and other associations of PLHA • Strong social networks and associations of PLHA
Political Capital	<ul style="list-style-type: none"> • Increasing opportunities for advocacy and support through growing number of associations of people living with HIV and AIDS • Government provision of prevention, care and treatment programs for PLHA

B) Impact of HIV on PLHA

While PLHA undoubtedly have many assets, there are also specific needs for this population, especially as related to the impact that HIV and AIDS has on health, nutrition and food security. HIV and AIDS impact both an individual's personal wellbeing and livelihood security situation. Table 2 summarizes some of the common impacts of HIV on a person's assets.

Table 2: Examples the Impact of HIV and AIDS on PLHA's Assets

Human & Spiritual Capital	<ul style="list-style-type: none"> • Compromised health status • Accelerated mortality • Mental strain • Caloric consumption needs increased by 10-30% (depending on the progression of the HIV virus on the individual's immune system) • Compromised nutritional status
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Physical assets	<ul style="list-style-type: none"> • Physical assets sold to pay for medical expenses or to compensate for reduced labor and income within the household
Natural resources	<ul style="list-style-type: none"> • Reduced agricultural production due to decreased labor • Agricultural production altered • Natural resources not exploited in order to cover basic household costs (e.g. land is not left fallow; crops are not rotated, etc.)
Financial assets	<ul style="list-style-type: none"> • Reduced spending on diversified diets and overall household nutrition levels • Reduced financial assets used to pay for medical expenses • Reduced income-generating opportunities due to decreased labor • Reduced opportunities to credit or other lending schemes
Social capital	<ul style="list-style-type: none"> • Social ties may be cut or reduced due to suspicion that PLHA may be HIV positive • Women living with HIV face higher risk of abandonment from their families • Girls often drop out of school to care for sick family member; illness may progress faster in malnourished individuals, leading to earlier drop out rates
Political Capital	<ul style="list-style-type: none"> • Political capital reduced due to suspicion that PLHA may be HIV positive. PLHA may be excluded from decision-making groups (e.g. women's groups/men's groups, community development committees, etc.)

While the aforementioned table demonstrates the many ways HIV and AIDS can impact the lives of PLHA, HIV has specific potential impacts on the nutritional status and livelihood security of PLHA.

Impact of HIV and AIDS on Nutritional Status

HIV and AIDS negatively impact the nutritional health of an individual in three reinforcing ways: 1) HIV and AIDS changes the body's metabolism so that more energy, protein, and micronutrients are demanded and utilized. 2) Individuals with HIV and AIDS often consume less food due to loss of appetite, mouth or throat sores, pain and nausea, side effects of medication, or as a result of worsening household poverty and livelihood security. 3) HIV and AIDS impair the absorption of nutrients consumed on account of diarrhea and vomiting, damaged intestinal cells and other effects of opportunistic infections.

These three impacts, which often occur simultaneously, can rapidly accelerate weight loss, malnutrition, and wasting² (Piwoz & Preble, 2000). A weight loss of 5-10%,

² Weight loss occurs as one either loses fat or lean body weight (e.g. muscle). Once a person loses too much lean weight, his/her body chemistry changes. This condition is called wasting syndrome or *cachexia*.

particularly in less than four months (Wheeler et al, 1998), is associated with an increased risk of opportunistic infections and complications (Zachariah et al, 2002).

Common AIDS symptoms include: anxiety, cough, depression, diarrhea, fever, nausea, weight loss, vomiting, constipation, dementia or delirium, dry mouth, hiccups, incontinence of stool & urine, itching, bedsores, mouth ulcers, trouble sleeping, vaginal discharge, pain, respiratory problems, and tiredness (Larue et al, 1994; WHO, 2003). These medical conditions influence the types of foods that a person can consume in favor of those that will not aggravate a particular health condition (such as mouth sores or nausea).

In light of the above, research has demonstrated that symptomatic PLHA need significantly more macronutrients than non-infected people or even asymptomatic PLHA. The general recommendations for people living with HIV in resource poor environments are:

- Adults and adolescents:
 - During the *asymptomatic* stage, 10% more energy intake requirements
 - During the *symptomatic* stage, 20-30% more energy intake requirements
- Children:
 - During the *asymptomatic* stage, 10% more energy intake requirements
 - During the *symptomatic* stage with no weight loss, 20-30% more energy intake requirements
 - During the *symptomatic* stage with weight loss, 50-100% more energy intake requirements

While certain internationally-focused organizations, such as FANTA, WHO, FAO, etc., maintain that PLHA need only the RDA of micronutrients, several research organizations in the US and Europe argue that there is evidence of increased micronutrient needs for PLHA. The majority of these studies are correlational in nature, showing that PLHA have decreased levels of certain micronutrients, which does result in increased progression of HIV. As such, many researchers argue that the results indicate that micronutrient supplementation above the RDA for PLHA is needed. However, due to the very correlational nature of the research, it is not entirely clear whether micronutrient deficiencies exist as a result of HIV and AIDS or whether these deficiencies existed before, which have in turn exacerbated the progression of HIV. Regardless of the direction of the relationship, it is clear that PLHA require a regular, daily diet that provides their full RDA of micronutrients.

Impact of HIV and AIDS on Livelihood Security

Decreased productivity, along with an increase in medical expenditures, often results in a worsening livelihood security situation for the PLHA and other members of their household. Research has shown a livelihood security difference between households that reported having a household member living with HIV and AIDS and non-affected households (Senefeld and Polsky, 2005).

With the progression of HIV and AIDS, assets and cash resources become increasingly constrained as incomes decline and associated medical costs rise (see Bonnard, 2002;

Topouzis & du Guerny, 1999; Izumi 2004). The presence of a chronically ill household member can result in reductions in household income levels from 30-35% (Barnett & Whiteside, 2002), as HIV and AIDS results in the reduction of available labor at the household level (Baylies, 2002). Topouzis (2003) further argues that household labor quality and quantity are both affected by HIV and AIDS, first in terms of a reduction of productivity, when HIV-infected persons fall sick, and then when the supply of household labor declines because of patient care and death. This leads to a marked food security difference between households that reported having a household member living with HIV and AIDS and non-affected households, affecting the overall quality of life of the affected households (Senefeld, 2005).

De Waal and Whiteside (2003) have argued that these reductions in household food security are a result of AIDS in the household. Thus, the pandemic is creating a new category of households particularly vulnerable to famine: those affected by AIDS. De Waal and Whiteside (2003) developed the “new variant famine” theory, which hypothesizes that the generalized HIV and AIDS epidemic in Southern Africa helps to explain why many households are facing food shortages, and explains the trajectory of limited recovery.

Many studies have been conducted on topics such as the impact of HIV and AIDS on household size and composition, agriculture and human capital. IFPRI lists dozens of such studies in their “Evidence Base: HIV/AIDS and Livelihood security” (Gillespie & Kadiyala, 2004).

Impact of Nutrition on HIV Transmission

There have been numerous studies on the impact of nutrition on HIV transmission. With regard to sexual transmission, Vitamin A deficiency has been shown to be highly predictive of the shedding of HIV-1 DNA in vaginal secretions (Mostad et al, 1997). In addition, supplementation with multivitamins has been shown to increase CD4+ and CD8+ counts and lower viral loads, thus improving the immune system of the HIV positive individual (Fawzi et al, 1998). The higher the viral load and/or the lower the CD4 count, the more likely the virus will be transmitted to an HIV-positive individual’s sexual partner. Therefore it can be deduced that while proper nutrition does not reduce transmission nor should it be promoted as such, it does decrease the probability of a sexually active HIV-positive individual infecting others. However, no research to date has been conducted on the links between nutrition and sexual transmission.

Numerous studies have examined the impact of nutrition on the risk of HIV transmission from mothers to babies as well as the health status of infants. Among HIV positive pregnant women, multivitamin supplementation during pregnancy has been demonstrated to reduce the chance of poor birth outcomes such as severe preterm birth, low birth weight, and small size for gestational age (Fawzi et al, 1998). Multivitamins also appear to reduce HIV transmission during breastfeeding, decrease death rates, and prolong HIV-free survival among infants born of HIV positive mothers (Fawzi et al, 2002). In another study where HIV positive mothers were given multivitamins during pregnancy and lactation, both HIV positive and HIV negative children had lower risks of diarrhea (Fawzi et al, 2003).

Studies of vitamin A supplementation in pregnant and lactating women have yielded mixed results. Some studies have shown a decrease in the frequency of poor birth outcomes among HIV+ women (Kumwenda et al, 2002). Others have determined vitamin A to have no significant affect on the same variables (Fawzi et al, 1998). Another study involving vitamin A supplementation to HIV+ pregnant and lactating women demonstrated a significant reduction in the risk of acute respiratory illness but no effect on prevalence of diarrhea or CD4+ counts in children (Fawzi et al, 2003). In terms of the impact of vitamin A supplementation on mother-to-child transmission, some studies have shown no effect, while others have shown negative or positive associations (Gillespie & Kadiyala, 2004). Severe vitamin A deficiency does appear to be linked to increased rates of mother-to-child HIV transmission (Semba et al, 1994).

Impact of Nutrition on Disease Progression, Morbidity, and Mortality

Malnourished individuals are at higher risk for infectious disease due to an inadequate immune response. Studies have shown decreased function of the organs (i.e. lymph nodes) of the immune system in malnourished people. Malnourished humans exhibit decreased CD4+ cell and CD8+ cell counts, and the cells' ability to multiply or respond to infectious organisms such as viruses is impaired. The production of antibodies is also depressed when one is malnourished, resulting in a decreased number of B-cells and antibody responses, meaning people living with HIV or AIDS are even more susceptible to secondary opportunistic infections. It is for this reason that the outcomes of certain infectious diseases, such as HIV and tuberculosis, are worse when one is malnourished

In a number of studies, selenium deficiency has been associated with faster HIV disease progression and as a predictor of mortality (Baum & Shor-Posner 1998). Low levels of vitamin A, B12 and zinc have also been linked to disease progression and higher mortality rates (Baum, 2000). Meanwhile, high level supplementation of vitamins C, B1, B2, B6 and niacin have been shown to significantly decrease the rate of progression from HIV to AIDS illness (Tang et al, 1996). A 2004 study (Fawzi et al) showed significantly higher CD4+ and CD8+ cell counts as well as lower viral loads in HIV+ women who were given multivitamin supplements. In the same study, providing vitamin A supplementation alone did not produce changes significantly different from the placebo group. In addition, adding vitamin A to the multivitamin regimen caused a reduction in some of the positive variables observed with multivitamin supplementation. According to another study, vitamin A supplementation seemed to provoke a U-shaped affect on disease progression (Tang et al, 1993). Those patients in the lowest and highest supplement intake quartiles had quicker progression than those patients who took supplements in the two middle intake quartiles. In the same and other studies, increased zinc intake was significantly associated with an increased risk of progression to AIDS and poorer survival (Tang et al, 1993).

C) Vulnerabilities of PLHA

Vulnerabilities refer to an individual's inability to resist external stressors called shocks (sudden events), cycles (recurring negative events), and trends (events that are worsening over time). Table 3 highlights examples of vulnerabilities of symptomatic PLHA.

Table 3: Examples of Vulnerabilities of PLHA

<i>Shocks</i>	<ul style="list-style-type: none"> ➤ Death of spouse or other family member within the household ➤ Political, ethnic or religious-based conflict ➤ Natural disasters
<i>Cycles</i>	<ul style="list-style-type: none"> ➤ Seasonal famine (“hungry season”) ➤ Yearly flooding
<i>Trends</i>	<ul style="list-style-type: none"> ➤ Increasing prevalence of HIV ➤ Increasing resistance to antibiotics ➤ New Variant Famine ➤ Decreasing rainfall and increasing drought

Some vulnerabilities are general, such as natural disasters or seasonal famine, while others are specific to PLHA, such as drug-resistant strains of tuberculosis. In all cases, however, PLHA are often more vulnerable to stressors as a PLHA’s individual and household coping mechanisms are stretched to their limits. De Waal (2003) and Rugalema (1999) stated that as a result of HIV and AIDS, fewer vulnerable households can be expected to cope or recover from the periodic livelihood security shocks to which they are subject.

De Waal and Whiteside (2003) identified one particular threat in the “trend” category which they have labeled the “new variant famine.” It is based on analyses of the compound stresses of HIV, AIDS and drought-induced threats to food availability and livelihoods in southern Africa. The theory proposes that “we are facing a new kind of acute food crisis in which there is no expectation of a return to either sustainable livelihoods or a demographic equilibrium. The impacts of HIV and AIDS on agrarian households mean that they are (a) more susceptible to external shocks and (b) less resilient in the face of these shocks.” This type of famine causes a vicious cycle of increasing mortality from multiple causes and explains a trajectory of limited recovery. This creates various vicious feedback loops that condemn the worst afflicted sectors of society to a downward spiral that has no obvious end point save utter destitution and household dissolution (de Waal & Tumushabe, 2003).

D) Structures and Systems

Various structures (e.g. government bodies, organizations, etc.) and systems (e.g. procedures, laws, policies, etc.) have an influence on a PLHA’s well-being and livelihood. Several of these structures and systems are identified in Table 4 below.

Table 4: Structures and Systems impacting People Living with HIV and AIDS

<i>Structures</i>	World Trade Organization, World Bank, donor organizations, NGOs
<i>Systems</i>	TRIPS, structural readjustment programs, national policies (or lack thereof), health and political systems

E) Outcomes and Strategies used by PLHA

The coping strategies used by HIV and AIDS affected households differ from non-affected households. A study in six southern African countries by Caldwell (2005) found that households with chronically ill (CI) members utilized coping strategies that had a negative impact on diet³ to a significantly higher degree than did households without CI members. Senefeld and Polsky (2005) demonstrated that households affected by chronic illness were more likely to have children drop out of school and send children away to friends or relatives.

Households affected by HIV and AIDS may spend more on healthcare and less on food. Senefeld and Polsky (2005) demonstrated that chronically ill affected households reported not cultivating as much land as they previously had, with the most commonly cited reasons being lack of fertilizer and draught power. They are also more likely to skip days without eating, skip meals, rely on wild foods, eat less preferred foods, and prioritize food within the household for working household members. When households increasingly modify their diets to less nutritious alternatives, it is particularly dangerous for PLHA for whom proper nutrition is critical for a prolonged and productive life.

Table 5: Outcomes and Strategies commonly used by PLHA

Strategy Type	Examples	Rationale
Asset Maximization	<ul style="list-style-type: none"> • Opportunistic infection treatment • ARV treatment • Traditional medicine • Involvement in support groups, counseling services 	<ul style="list-style-type: none"> • Human Capital promotion and development
Asset Diversification	<ul style="list-style-type: none"> • Household members migrate in search of work 	<ul style="list-style-type: none"> • Diversifies household income
Asset recovery	<ul style="list-style-type: none"> • Joining NGO or government-sponsored projects • Involvement in skill-building and income-generating activities undertaken by PLHA associations • Enlist extended family to care for younger children 	<ul style="list-style-type: none"> • Increases available household assets and resources
Engagement	<ul style="list-style-type: none"> • Involvement with PLHA association 	<ul style="list-style-type: none"> • Increase voice, act to change
Risk reduction	<ul style="list-style-type: none"> • Prophylaxis for opportunistic infections 	<ul style="list-style-type: none"> • Protection of health status
Coping/Survival Mechanism	<ul style="list-style-type: none"> • Borrowing money • Selling assets to pay for medical fees 	<ul style="list-style-type: none"> • Mitigates the intense impact felt at the individual and household level by engaging

³ The Coping Strategies were: Limit portion size at mealtimes; Reduce number of meals eaten per day; Skip entire days without eating; Borrow food or rely on help from friends or relatives; Rely on less expensive or less preferred foods; Purchase/borrow food on credit; Gather unusual types or amounts of wild food / hunt; Harvest immature crops (e.g. green maize); Send household members to eat elsewhere; Send household members to beg; Reduce adult consumption so children can eat; and Rely on casual labor for food.

	<ul style="list-style-type: none"> • Pulling children from school for care giving or to save money (girls more affected than boys) • Reducing food consumption • Relying on wild foods • Prioritizing food for working household members • Reducing cultivation • Begging • Migration • Medical migration 	in short-term strategies to alleviate the strain
Adaptation	<ul style="list-style-type: none"> • Cultivating less labor intensive crops • Changing type of work • Other family members take on the usual work of the PLHA 	

IV. BEST PRACTICES & PROGRAMMING OPTIONS

HIV and AIDS can have profound negative effects on nutrition and the overall food security of an individual, family and community, presenting an unprecedented range of opportunities for programming. Until very recently, so much attention has been focused on the virology and immunology of HIV and AIDS that the potential contribution of nutrition has been overlooked and underestimated. To respond specifically to the nutritional and food security needs of people with asymptomatic HIV infection, two broad strategic approaches have been identified: A) population-based strategies, which aim to improve the nutritional status of the general population *including* asymptomatic PLHA, and B) targeted strategies, which aim to intentionally (and perhaps—though not always—exclusively) serve PLHA. These approaches can be implemented concurrently very successfully and will be discussed in the following section. In addition, general practices on establishing a continuum of care (C) and dealing with coping mechanisms (D), along with the challenges and limitations of the best practices (E) are discussed.

A) Population-Based Strategies

The majority of the people living in developing countries who are HIV positive do not yet show signs of having the illness. The quality and length of life can be increased dramatically during this period of infection through healthy living. The impact of the disease can be dramatically decreased if individuals take care of their health, plan for the future for their family, and prevent further spread of the infection to other people. Unfortunately, fewer than 10% of those in developing countries get tested and are aware of their HIV status. For those who are infected and aware of their status, but not showing symptoms, issues of stigmatization, limited resources for programming, and a competing need to focus on those most noticeably needy (those with AIDS) has moved people away from focusing on those who are living with HIV and still asymptomatic. Population-based strategies, by their very nature, allow us to “cast the net wide” to capture those who are infected alongside the general population.

Many people living in developing countries subsist on a diet inadequate in both macro and micronutrients. Population-based interventions aimed at boosting food and nutrition security in the general population will benefit PLHA (regardless of whether or not they know their status), and must be revitalized in order to overcome this long-standing and endemic malnutrition. Population-based nutrition interventions are generally considered to be good for “everyone”, are designed to reach the maximum number of beneficiaries at the lowest possible cost, and typically fall into four categories: 1) fortification, 2) supplementation, 3) nutrition education, and 4) public health measures related to food safety and nutrition security.

Fortification

Interest in fortification⁴ has been given further emphasis in the context of the HIV and AIDS pandemic, where indications are that multiple micronutrients can improve survival and quality of life if given throughout the course of infection.⁵ During the recent emergency response in Southern Africa, the World Food Program (WFP) promoted and implemented the large scale milling and fortification of donated food aid, using a standardized premix (WFP, 2003). The World Health Organization (WHO), in a consultative meeting held in April 2005, reaffirmed its commitment to “accelerate the fortification of staple foods with essential micronutrients” as part of a purposeful response to the HIV and AIDS pandemic (WHO, 2005). At this time, however, there is insufficient evidence to drive the development of a new or enhanced fortificant blend specifically designed for PLHA: the standard premix for cereals⁶ will be used until clearer evidence emerges. NGOs have a strong history of involvement at various levels of fortification work.

Supplementation

Supplementation refers to the provision of vitamins or minerals by mouth or injection to provide sufficient stores of a specific nutrient for a defined period of time. (e.g. Vitamin A for children under 5 years old, iron and folic acid for pregnant women). Research has recently shown (Fawzi et al., 2005) that a multivitamin supplement for *symptomatic* PLHA improved overall health. While there is a strong evidence base for the efficacy and cost-effectiveness of these targeted programs, there is insufficient evidence to support the provision of multivitamin supplements to all *asymptomatic* PLHA on a population scale, as there is still a lack of scientific data that identifies the effects of supplementation of HIV progression in asymptomatic individuals. In addition, mass supplementation as a population-based strategy may be unsustainable and costly in the long term.⁷ As such, many programs attempt to provide the necessary nutrients through locally produced or homegrown food stocks versus the provision of vitamins and minerals.

Nutrition Education

Nutrition education that is relevant and accessible to the entire population is the third mechanism for large-scale improvement in nutrition. This requires political commitment

⁴ Fortification is the process of adding vitamins and/or minerals to foods to increase its overall nutritional content and can be implemented on several levels: mass or universal (e.g. fortification of a staple food, possibly required by law), targeted (e.g. products designed for vulnerable subgroups, such as infants, children or the elderly, including fortified CSB or powdered milk), household (including “Sprinkles” or crushable tablets that can be added to food as it is prepared at home), hammer-mill level (fortificant is added to locally-produced cereals as they are milled for a small fee) and open-market (food or drinks that are fortified to make them attractive to the purchaser because of marketed health benefits)⁴.

⁵ Micronutrient Malnutrition and Food Fortification: The Situation in the Southern African Development Community (SADC), based on papers by Nana Kgosidintsi, Judith Mutamba, Philip Randall and Peter Ranum. All these papers were commissioned by MI and partly funded by WFP in 2003.

⁶ The standard premix fortificant for cereals is generally comprised of Vitamin B complex, iron, zinc and folic acid. Several African countries have legislation governing the fortification of cooking oil and/or sugar with Vitamin A, or have added it to their cereal premix.

⁷ While population-based supplementation is not widely promoted for targeting PLHA, targeted supplementation to various groups is commonplace and considered a best practice with many groups. For example, supplementation for pregnant women is advocated within maternal child health programs. However, supplementation is not normally a feasible option for a population-based strategy.

and the positioning of nutrition in national policies and programs, placing nutrition high on the public agenda. Nutrition education includes the promotion of dietary diversification and growing techniques to increase the nutrient value of crops grown, and food handling, preparation, processing, and storage techniques to minimize nutrient loss. While it may be possible (even preferable) to target PLHA with these specific interventions, raising the bar for those most vulnerable in the entire population will have the effect of supporting asymptomatic PLHA, whether or not they know their status or choose to identify themselves. There is a clear role for NGOs such as CRS in assisting government programs in design, implementation and monitoring of nutrition education programs.

Public Health Measures

Public health measures are generally designed to address issues that may interact with micronutrient malnutrition such as poor sanitation, access to potable water, malaria control, and management of intestinal parasites. It is generally considered a public health mandate to contribute to monitoring and advocating for general food/nutrition security, and to protect the general public from the commercial marketing of untested diets, remedies, and therapies for PLHA. As with Nutrition Education, the NGO sector has a strong and proud history in health programming that could be extremely influential.

B) Targeted Strategies

Targeted interventions, while based on the same science as population-level approaches, are most effective when purposefully designed by and for PLHA. For instance, while Positive Living (see discussion below) is good for everyone (even HIV negative people), it is particularly important for people living with HIV. Carefully designed programming can ensure that key messages influence the people who need them the most.

Symptomatic individuals with HIV or AIDS require nutritional support that is tailored to their particular situation. General population-based intervention strategies, which are convenient and commonly used for asymptomatic PLHA, often do not offer as much coverage or support as is needed for the symptomatic group. Symptomatic PLHA may be difficult to identify because they do not know or do not want to share their status. Also, persons who have been identified as HIV positive are entitled to confidentiality to protect themselves from the discrimination and abuse that may come as a result of their disclosure.

As stigma decreases in many medium- to high-prevalence countries, HIV testing and disclosure will continue to increase. In this environment, targeting symptomatic PLHA through community-based HIV and AIDS organizations is relatively straightforward. However, in countries with high levels of stigma and low HIV testing uptake, the symptomatic group is harder to reach.

Many symptomatic PLHA are targeted directly through home-based care programs, as well as health centers and hospitals. Rather than saying that the program will target symptomatic PLHA, many programs target “chronically ill” members of the community. Although by supporting these types of programs, we are likely to be supporting individuals who are not HIV positive, it remains a good strategy due to 1) the lack of

confirmation of actual HIV positive status, 2) in fact that it can reduce stigmatization of PLHA and 3) interventions that symptomatic individuals need most often are also needed by those who are HIV negative, but chronically ill.

Finally, unlike asymptomatic individuals, symptomatic individuals often have reduced labor capacity and will often be relying on friends and family members for support. As such, while nutrition support continues to target the needs of the symptomatic individual, a need emerges to also target the entire family support network with livelihood security interventions. There are several programming options that are widely regarded as effective in targeted livelihood security and nutrition interventions for symptomatic PLHA and their families.

Current best practices focus not only on illuminating the nutritional needs of an individual but on enhancing the ability of these individuals to *acquire* the food they need. There are several key areas of intervention:

Counseling and Information

Consistent, unambiguous messages are the cornerstone of effective communication. While adequate nutrition cannot cure HIV infection, it is essential to maintain the immune system and physical activity, and to achieve optimal quality of life (WHO, 2005). In order to achieve the required impact, strategic nutrition interventions must be deliberately integrated into all programs offering care, treatment and support for people living with HIV and AIDS.

Nutrition and positive living counseling can improve nutrition and help to maintain health and weight, but the success of a nutrition counseling and care intervention is highly dependent on the skills and training of the provider, which are often limited where human resources are scarce and demand is high. Several programs have begun providing training to home-based care volunteers and health care workers on nutritional counseling and incorporating nutrition messages into on-going care programs. Human resource development and protection is vital to the delivery of these much-needed interventions.

Once staff is appropriately trained in nutritional counseling, they are able to provide a wealth of information and assistance to symptomatic PLHA. Nutrition education specific to symptomatic PLHA is almost universally administered to home-based care clients and their families. In addition, many hospitals and health centers now maintain a nurse or nutritionist to discuss nutrition with PLHA and their families. Home-based care volunteers and health workers advise symptomatic PLHA and their families on the necessary energy and individual nutrient requirements. As wasting is a common problem among symptomatic PLHA in many places, many health workers specifically monitor symptomatic PLHA for signs of wasting and advise their clients on appropriate foods and exercise to mitigate the condition.

In addition to educating PLHA and their families on appropriate foods and nutrient sources, many health care workers also recommend general food preparation education sessions and demonstrations. These sessions ensure that food is prepared properly to

preserve the nutrients in the food (e.g. overcooking vegetables can destroy many of the nutrients that they contain). In addition, these sessions also demonstrate how to clean and store food to avoid any food-borne illnesses and/or contamination. Food can be contaminated with harmful bacteria, parasite and viruses, which produce dangerous toxins. People with compromised immune systems, specifically symptomatic PLHA, are more susceptible to these pathogens, which can produce diarrhea and result in additional weight loss.

Positive Living (PL)

HIV is unique because it interacts with the immune system over a much longer time span than any other known infection. The virus not only damages the immune system over time, but it causes the body to use up nutrients at a faster rate than our bodies are used to, as we fight both HIV and opportunistic infections. The long-term effects on the immune system are different from a short-term (acute) infection, and the support needed by the immune system (to keep it strong) is unique. It is widely accepted that nutrition interventions should be instituted as early as possible during infection and should be adapted over time to meet emerging needs. Advocates of PL have demonstrated that it is possible to slow the progression of HIV to AIDS, extending the average period of asymptomatic HIV infection (now typically 6-8 years) by four years, to a new average of 10-14 years (Patient & Orr, Positive Health, 4th Edition, Juta Press, 2004). While this estimate has not been independently verified, PL is still an overall, positive approach to health, regardless of the number of years that may be “added” as a result of its practice.

PL is a collection of strategies aimed at increasing the quality of health through immune-strengthening and disease-prevention methods in the period between contracting the virus and the onset of full-blown AIDS. It is also applicable to people who have stabilized on antiretroviral medication and are experiencing relatively good health⁸. Information and support for PL is the starting point for restoring hope and dignity and should include:

- ✓ Nutritional assessments of PLHA in order to:
 - Identify and track body composition changes and trends to determine the effectiveness of nutrition therapy in slowing the progression of disease,
 - Offer tailored treatment and management based on the assessment results,
 - Address concerns and fears about physical health status.
- ✓ Strategies for achieving and maintaining a healthy, balanced diet, which provides sufficient quantity and quality of both macro and micro nutrients to reverse pre-existing nutrient deficiencies, meet increased metabolic demands, and reduce oxidative stress, weight loss, and susceptibility to infection;
- ✓ Information and support for the protection of good health (especially during periods of hard physical labor or high stress) with adequate energy intake, access to clean drinking water, close attention to personal hygiene and adequate rest;
- ✓ Food preparation and storage techniques to maximize nutrient intake and protect against food-borne infections;

⁸ Adapted from David Patient and Neil Orr ‘Introduction to Positive Living’, Empowerment Concepts, 2004.

- ✓ Strategies for home management of common opportunistic infections and support to increase dietary intake to promote nutritional recovery following bouts of illness ;
- ✓ The importance of crop (and dietary) diversification to meet increased energy and micronutrient demands associated with HIV;
- ✓ Appropriate psychosocial support to encourage health-seeking behavior.

PLHA should seek immediate attention for health-related problems, especially those that interfere with nutrition. They need advice and support to adopt and maintain healthy lifestyles (i.e. reducing smoking, alcohol intake, etc.) The lack of widespread voluntary counseling and testing (VCT), particularly in many developing countries, means that individuals may not know their status. In addition, access to health care services remains a problem for many PLHA. As a result, most do not access services until they are at an advanced stage of illness and their nutritional status has been compromised. NGOs can play an important role in advocating with Government authorities for better access to care and support services. In areas where services are not available, NGOs can work with communities to ensure care and support services are available to those who need them.

Prescribed/Targeted Nutrition Supplementation

As many families affected by HIV or AIDS live in resource-poor environments, many programs introduce targeted food assistance (TFA) for PLHA. While there have been a number of short-term food supplementation programs linked to symptomatic illness, there is very little evidence to support targeted supplementary food assistance for asymptomatic PLHA who would likely require long-term nutrition support. A long-term supplementary food aid intervention with healthy PLHA is generally considered to be inappropriate because of cost, the likelihood that the food will not be entirely consumed by the target individual, and the risk of creating (needless) dependence. Thus the challenge of ensuring nutritional adequacy for asymptomatic PLHA rests in protection of livelihoods and year-round agricultural production, except where there are extenuating circumstances.

It is essential, however, that short-term supplementary or therapeutic rations be available to food-insecure PLHA (both symptomatic and asymptomatic) who experience (temporary) weight loss. The purpose of this form of nutritional supplementation is to assist in rehabilitation. It is also essential to evaluate the needs of asymptomatic PLHA during a food security emergency, when a short-term intervention to protect their nutrition status might be warranted.

There are three types of targeted nutrition supplements: micronutrients, food rations to manage mild weight loss, and therapeutic feeding for rehabilitation of moderate and severe malnutrition (Piwoz, 2004). Multiple micronutrient supplementation to assist PLHA in reaching their RDA (recommended daily allowance) is a relatively cheap intervention that could be effective where chronic food insecurity and micronutrient malnutrition are prevalent. It is already generally accepted that micronutrient supplements should be made available to high-risk groups (HIV positive children and pregnant/lactating women). However, the ideal content of the supplementation for PLHA is still unknown.

Experience has shown that food aid is most appropriate for the purposes of improving the nutritional status of targeted groups, providing an income transfer, and providing an incentive for participation in a particular activity. If the primary objective of the distribution program is to improve nutritional status for PLHA, then the ration must be calculated to provide the right balance of calories, fat, protein, and micronutrients to allow for nutritional recuperation and maintenance. If, on the other hand, the distribution program seeks to provide an income transfer, then the ration must be calculated in accordance with wage, rather than nutritional, standards. Finally, if the objective of the distribution program is as an incentive to participate in an activity, such as regular attendance at a Direct Observation Therapy Short-Course (DOTS) Tuberculosis (TB) program, then the ration needs to take into consideration the value of the ration in the local market and the cost to the target population for participation in the program (e.g. transportation, daily wages) (USAID, 2000). Table 7 highlights the various distribution program objectives supported by USAID Title II food aid.

Table 6: Distribution Programs, Objectives and Ration Emphasis⁹

Distribution Program	Distribution Objective	Ration Emphasis	Possible Indicator
Emergency and Safety Net (General, Supplementary, and Therapeutic Feeding)	Improved nutritional status	Nutritional recuperation and maintenance	Improved nutritional status
Food for Work (Agriculture, Education, Natural Resource Management)	Income transfer	Food rations less than a day's minimum wage	Increased food income
Direct Observation Therapy-Short Course (DOTS) – for Tuberculosis Treatment	Incentive	Compensation for time spent	Completion of DOTS therapy

In most cases, the TFA is generally distributed at the household level. While the symptomatic PLHA is the person in need of additional nutrients, research has shown that providing TFA only to this individual is not effective, as the food is shared within the household. As such, the rations are generally calculated on a household ration size. The TFA should contain food aid that is needed by the household, which should be determined during an in-depth nutrition assessment before TFA begins. Food aid should be a supplement to other food sources that exist within the community and are available to the households. Thus, the ration should not generally provide the complete energy requirements per person per day, but rather supplement a deficiency that has been found to exist.

Short-term therapeutic rations should also be available to food-insecure PLHA who experience situational weight loss due to medical issues (e.g. thrush) or environmental

⁹ Adapted from “General Considerations for Calculating Food Aid Rations in Title II Programs,” Memo from Jenny Aker, CRS West Africa Regional Office to “WARO DAP Programs.” Accra, Ghana: January 22, 2001.

effects (e.g. drought) to assist in their rehabilitation and to mitigate the impact on their individual nutritional level. Several programs also use food aid interventions to bolster adherence or participation in other programs, such as providing food aid to clients on ART or in TB treatment programs.

In spite of its benefits, TFA is not a sustainable strategy as a stand-alone activity. Rather, each TFA activity should only be used as a short-term strategy that is needed until a longer-term strategy can be implemented. Many programs now refer to a “graduation strategy” whereby a clear strategy exists to assist families affected by HIV or AIDS to move from TFA to a more sustainable intervention.

Community and Home Gardens

Many programs have begun implementing community and home gardens that are rich in the nutrients required by PLHA. Both can also serve as an additional income source for the communities and families. At the individual level, symptomatic PLHA often do not have the energy to journey long distances to previously maintained fields or crops. As such, the overall productivity of many households decreases, as time is now needed to care for the symptomatic PLHA, while also making up for the symptomatic PLHA’s decrease in workload. The introduction of home gardens often means that PLHA can tend to the small plots themselves. In addition, the nutrients obtained from the home plots can help to increase and maintain the health of the symptomatic PLHA. At the same time, many programs have introduced community gardens, which are often maintained by home-based care volunteers or other community groups. The groups turn over parts of the small yield to chronically ill affected households and are able to sell the rest. Membership in the management of community gardens also serves as a small incentive to some home-based care volunteers. Additionally, PLHA associations have been known to work together on a garden to help support their efforts and those chronically ill in the association.

Many TFA programs provide short-term food aid while interventions such as community and home gardens are in the initial phases. Once these more sustainable interventions begin yielding a profit of food and nutrients, TFA is phased out.

C) Establishing a “Continuum of Care”

Nutrition and food security programming for PLHA needs to be addressed as part of the overall “continuum of care.” A continuum of care refers to the range of services (e.g. health, social, agriculture, economic, legal) which should be available for PLHA and their families. The continuum of care should be responsive to the changing nutrition/food requirements of individuals at different stages of disease progression. For example, asymptomatic PLHA may benefit most from nutrition counseling, positive living activities and psychosocial support. When symptoms develop they may require health services to treat opportunistic infections, home-based care, community garden support or therapeutic food assistance to recover weight lost during a particularly severe illness.

While it’s recognized that infected and affected individuals need a range of services across sectors, cross-sectoral partnerships and linkages are often weak. This is partly as a result of limited human and financial resources but mainly because the level of

coordination required is hard to implement. Ensuring PLHA have access to services requires more than just a large number of qualified service providers; it demands a strong referral system and the coordination of service provision at household, community, and district levels.

Many nutrition interventions for HIV and AIDS tend to concentrate on the rehabilitation and immediate food needs. However food and nutrition programs will not be as effective in the absence of basic services like safe water and sanitation. It is important to note that unless nutrition interventions are integrated into other sectors, their impact will not be as sustainable or cost-effective.

D) Strengthening Household and Community Coping Mechanisms

Research has repeatedly shown that AIDS negatively affects the coping strategies of affected households and families, as families resort to dangerous coping mechanisms in order to survive. As such, many programs now recognize the need to carry out HIV and AIDS and nutrition interventions within an integrated livelihoods framework. In this manner, the full range of interventions is available to the affected communities or families, viewing HIV and AIDS as a crosscutting programmatic issue. Programs attempt to improve the food and nutrition security of the communities and households affected by HIV and/or AIDS, but also provide support for income generating activities, education and training (including vocational training, junior farmer field schools, etc.), micro finance programs, and psychosocial programs designed to support the overall improvement of quality of life.

General livelihood security programs have now been expanded to respond to the current needs of communities and households affected by HIV and AIDS. For example, research has shown that families affected by HIV and AIDS are less likely to cultivate their land, and this result is compounded in times of drought. As a result, many programs have begun implementing water programming including activities such as the introduction of treadle pumps and drip kits. Research has also shown that lack of draught power is a major constraint for AIDS-affected households. Programs can provide draught power through farmers groups to be collectively managed or start farmer-field schools to unite farmers for a collective cause. Innovative agricultural programs, such as Seed Fair Vouchers, have proven to be successful in many countries. Junior farmer-field schools have proven to be an effective method for knowledge-transfer and long-term education rewards.

Improved community resilience and coping mechanisms lead to sustainable interventions. Increasing community and household coping mechanisms also strengthens existing safety nets at the community and household levels.

Much research has toted the “New Variant Famine Theory” that states that safety nets are being broken down as

Examples of Livelihood Strategies appropriate for PLHA and their families:

- ✓ Junior farmer field schools
- ✓ Vocational training
- ✓ Microfinance programs
- ✓ SILC [savings program]
- ✓ Treadle pumps and drip kits
- ✓ Seed Fair Vouchers
- ✓ Etc.

AIDS wears away at them over time. However, there are several programming options that can help to reinforce the threads of these safety nets to mitigate the impact of HIV and AIDS. Strengthening the general livelihood security of affected communities and households serves to reinforce positive, existing safety nets at all levels.

NGOs can play a key role in strengthening household and community coping mechanisms/ safety nets, including:

- 1.) Strengthen linkages with community organizations to maximize coverage, effectiveness, and sustainability in the integration of HIV, AIDS and food security programming. It is important that the targeted communities be involved in the actual choice of the intervention. A participatory assessment and decision will yield longer-term, more sustainable results. Community ownership and participation is the key to the success of the livelihood program no matter which activities are selected. In order to guarantee this community ownership and participation, it is a universally accepted best practice to partner with a local or community based organization (including the Government, hospitals, etc.) for the implementation of nutrition and livelihood security interventions. If support groups such as PLHA associations exist, their inclusion is good as well. As mentioned in the TFA section, sustainability for these interventions is key. Sustainability will be most likely ensured by partnering with an organization or institution that has a long-term vested interest in the targeted communities. In addition, local organizations or institutions are the most in tune with the actual needs of the communities and are able to respond accordingly.

Potential partners include:

- a. Government extension workers and community organizations supporting agriculture, conservation farming etc. especially where HIV and Positive Living has been integrated
 - b. District and community health service providers
 - c. Legal aid providers experienced with land tenure, property grabbing, will writing, etc.
 - d. Community-based organizations with experience in wellness promotion, home-based care, prevention education, psychosocial support, livelihoods and skills training, etc.
 - e. Churches and other faith-based organizations that can provide pastoral support.
- 2.) Develop or strengthen livelihoods security strategies to support positive coping strategies (and discourage or pre-empt the use of negative coping strategies), especially those that improve access to food/nutrition security:
 - a. Support access to financial services
 - b. Support access to income generation opportunities
 - c. Facilitate access to livelihoods inputs and training
 - d. Reinforce mechanisms that ensure intergenerational knowledge transfer, protection of productive assets and gender equity
 - 3.) Where food insecurity co-exists with high prevalence, identify appropriate uses for food aid targeting asymptomatic PLHA, through Food for Work/Assets programming:

- a. Food for training in life skills or alternative livelihoods strategies;
 - b. Food for training in alternative growing practices (low input/high yield, crop diversification),
 - c. Food for developing assets that build resilience to future shocks (water harvesting, sanitation structures),
 - d. Food for participation in risk reduction, behavior change or support group activities
 - e. Food as a bridge for adopting new practices or technologies, or establishing new livelihoods strategies
- 4.) Support the development and sustainability of *short-term* food aid safety nets for crisis periods. Graduation criteria and exit strategies must be clear, realistic and explicit. While asymptomatic PLHA might be targeted as the primary beneficiary for food assistance, it is acknowledged that food rations are generally shared between household members, where small children and working adults are often prioritized. To ensure that the primary beneficiary is actually safeguarded by this safety net, it is recommended that a household ration be delivered. Primary beneficiaries may include:
- a. Asymptomatic HIV+ infants, children or Pregnant/Lactating Women, to ensure adequate daily intake;
 - b. Asymptomatic HIV+ adults who have no other source of food or income due to relocation, destitution, recent death of a spouse or household breadwinner or other extenuating circumstances. While food assistance should be made available to protect the nutritional status and/or productive assets of the primary beneficiary, it is crucial that this individual have facilitated access to a longer term food security/livelihood strategy.

E) Challenges and limitations

Fear of HIV and AIDS-related stigma often creates additional obstacles for PLHA trying to access advice or implement recommendations. Experiencing or anticipating stigma can cause depression or anxiety, which may further suppress the appetite. While it is acknowledged that stigma is still a constraint to targeting in some programming areas, many PLHA have exhibited a refreshingly pragmatic attitude towards “this disease which has come”, opening the door to the development of more concrete and unambiguous programming approaches. Involvement of PLHA in program design and implementation generally produces more relevant programming and has been shown to reduce stigma and engage communities.

The targeting of interventions, while a cost-effective means of ensuring that the most vulnerable access services, could lead to social disharmony if selection is based purely on households affected by HIV and AIDS. This approach could also lead to an increase in stigma and discrimination. Sensitivity to stigma includes not only taking care not to contribute to stigmatization, but taking care *not to perpetuate* stigma where it is, in fact, diminishing. While this is a very delicate balance, our role is not simply to observe and acknowledge the influence of stigma, but to actively seek to diminish it. Thus it will be beneficial when planning and implementing projects to “normalize” the existence of HIV and AIDS in communities. Strategies for normalization range from consistently including

those infected and affected by HIV and AIDS in all stages of the project, giving them key roles and encouraging open dialogue.

Another challenge includes the efforts to integrate nutrition care and support. They have long been hampered by the lack of empirical evidence about what makes for effective intervention (and what doesn't), with often seemingly has conflicting or counter-intuitive findings. Interactions between various nutrients become even *more* complicated in the presence of a slow acting virus like HIV. And in populations with chronic, endemic food insecurity, micronutrient deficiencies and frequent exposure to other diseases (such as malaria and TB), the search for empirical evidence becomes even more difficult and expensive with these various confounding factors.

However, it is urgent that we act on what we do know, and make thoughtful, courageous choices about programming based on less definitive information. There is a dire need for systematic, practical research on both what to do and how to do it, and CRS is well placed to provide the programming infrastructure and beneficiary access required for Operations Research. It is unacceptable to waste valuable learning opportunities when so much is at stake. Partnerships with academic institutions and investment in internal capacity for research, documentation and dissemination must be built into programming at the outset.

V. RECOMMENDATIONS

A) Recommendations for the Design Process

It is possible to intentionally attract people living with HIV into the planning, implementation, and monitoring of project activities, regardless of the type of project. Involving people and households affected by HIV and AIDS empowers them to become part of the solution, rather than relegating them to the status of “beneficiary”. This not only demonstrates our commitment to the normalization process, but strengthens programming by ensuring that those affected will be involved in critical decisions that directly affect them. This is often referred to as GIPA or the Greater Involvement of People with HIV and AIDS.

Better targeting and the participation of PLHA in the design of programs can make interventions more responsive to different types of vulnerability and needs, and enable individuals to take charge. This is particularly the case with livelihoods programs, which require a shift away from the use of traditional stakeholders such as farmers’ organizations. Agricultural interventions must also move beyond a focus on labor saving technologies and practices to a broader form of labor management.

Involving relevant AIDS Service Organizations in project planning and participant selection will also strengthen on-going community initiatives and safety nets, and formalizes the development of collaborative relationships between the project and key stakeholders. It also paves the way for complementary activities, offering a “captive audience” of workers gathered in one location who could be targeted for sensitization activities. Integration of these concepts will support stigma reduction, personal empowerment, constructive behavior change and the development of community-level safety nets.

B) Programmatic Recommendations

Recommended strategies for CRS programs are drawn from Best Practices and are presented through the “levels of influence” outline below. It has been shown that the more levels of influence one is able to target, the greater the impact and the more sustainable the intervention (McLeroy et al, 1988).

Recommended strategies were chosen based on the following criteria:

- ✓ Need for the proposed intervention
- ✓ Likelihood of impact
- ✓ CRS experience and capacity
- ✓ Partner experience and capacity
- ✓ Likelihood that intervention will address greater livelihood security issue

Table 7: Recommended Nutrition Interventions to Support PLHA across Different Levels of Influence.

	Intervention Recipient	CRS Intervention
Individual	PLHA	<ul style="list-style-type: none"> • Nutritional counseling and training in self-care • Multivitamin supplementation • Micro-nutrient supplementation • Food aid-nutritional rehabilitation • Food aid-incentive for DOTS • SILC
Interpersonal/Family	Family members	<ul style="list-style-type: none"> • Training in food preparation • SILC • Market gardens • Analysis of crops that are less labor intensive but viable and culturally acceptable
Community	Volunteers	<ul style="list-style-type: none"> • Training in nutritional counseling • Market gardens • Analysis of crops that are less labor intensive but viable and culturally acceptable
	Traditional Healers	<ul style="list-style-type: none"> • Training in HIV and nutritional counseling
	PLHA Association	<ul style="list-style-type: none"> • SILC • Training in nutritional counseling
Institution: Hospitals/clinics and hospices	Health care workers	<ul style="list-style-type: none"> • Nutrition guidelines development and dissemination • Training in nutritional counseling
Institution: PLHA associations	PLHA organization staff	<ul style="list-style-type: none"> • Training in nutritional counseling • SILC • Capacity building & financial support

C) Other Recommendations

- ✓ In countries where the majority of the population is in poverty, programming should recognize that agriculture is the principle economic activity and it is often interrupted for reasons not related to HIV and AIDS, such as an area where drought and/or conflict is common.
- ✓ When looking at total household labor productivity and food security, within an Integral Human Development framework, additional solutions relating to the labor required for household and land production may be uncovered. The Integral Human Development framework may also provide an outline of potential mitigating and coping responses to risks and impacts faced by HIV and AIDS affected households.
- ✓ Current best practices focus not only on illuminating the nutritional needs of an individual but on enhancing the ability of these individuals to acquire the food they need.
- ✓ Consistent, unambiguous messages are the cornerstone of effective communication. While adequate nutrition cannot cure HIV infection, it is essential to maintain the immune system and physical activity, and to achieve optimal quality of life (WHO,

2005). In order to achieve the required impact, strategic nutrition interventions must be deliberately integrated into all programs offering care, treatment and support for people living with HIV and AIDS.

- ✓ Diets high in vitamin A and selenium as well as needed macronutrients such as protein are found in foods often sold for cash crops or less available to those in many rural communities. Interventions focused on increasing a household's ability to obtain and consume these types of foods are needed.
- ✓ Thus the challenge of ensuring nutritional adequacy for PLHA rests in protection of livelihoods and year-round agricultural production, except where there are extenuating circumstances. Examples of short-term supplementary or therapeutic rations should be made available to food-insecure PLHA who experience (temporary) weight loss to assist in rehabilitation or needy asymptomatic PLHA during a food security emergency. It may also be appropriate, in some settings, to use food aid interventions to improve adherence or participation in specific programs, such as PMTCT or TB treatment programs.
- ✓ While food assistance should be made available to protect the nutritional status and/or productive assets of the primary beneficiary, it is crucial that this individual has facilitated access to a longer term food security/livelihood strategy.
- ✓ It is unacceptable to waste valuable learning opportunities when so much is at stake. Partnerships with academic institutions and investment in internal capacity for research, documentation and dissemination must be built into programming at the outset.

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