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I RATIONALE AND BACKGROUND: SETTING THE STAGE

1. The purpose of this background paper is to create a common understanding of the bi-directional linkages between food security, nutrition and HIV and AIDS in order to inform evidence-based policy and programming in specific contexts. This paper discusses the evidence regarding the relationship between HIV, food security and nutrition, outlines programmatic responses, including in humanitarian settings, and highlights key policy debates and programming challenges. Throughout the paper addresses cross-cutting issues such as gender, stigma and discrimination.
2. In 2008, approximately 33.4 million people were living with HIV (PLHIV) globally, of whom an estimated 2.1 million were children under 15, there were 2.7 million new infections and 2 million people died of AIDS-related causesⁱ. While HIV knows no socioeconomic boundaries, it may further compound existing inequalities given the vast majority of PLHIV in the world live in low- and middle-income countries. Approximately 1 billion people globally are undernourished (i.e. they do not have access to enough food to meet their energy needs), 195 million children under 5 are stunted and an estimated 26 million are wasted, and the HIV epidemic overlaps with populations already experiencing low dietary quality and quantity, which has a particularly serious impact on the most vulnerable groups, including children and pregnant and lactating womenⁱⁱ. In addition, more than 97% of new infections are in low- and middle-income countries. Most notably, sub-Saharan Africa (SSA), where more than 40% of the population lives on less than one US dollar per day, accounts for more than two thirds (67%) of all PLHIV and for nearly three quarters (72%) of AIDS-related deaths in 2008ⁱⁱⁱ.
3. The importance of good nutrition for a strong immune system and healthy living is well established. However, it is only more recently that attention has focused upon the role and causal relationships between HIV, food security and nutrition. Much of the research on HIV and food insecurity is rooted in the southern African food crisis that began almost a decade ago. Prior to this crisis, evidence had been gathered showing that in sub-Saharan high-prevalence countries, HIV and AIDS increasingly threatened the food security and livelihoods not only of individuals and families, but also of entire communities.
4. Since then, evidence and experience are mounting that linking food security and nutrition with HIV and AIDS prevention, treatment, care and support and impact mitigation activities is essential to a comprehensive and effective response to the HIV and AIDS epidemic. Food insecurity may cause people to adopt lifestyles and behaviours which put them at risk in order to put food on the table, such as migrating for work, dropping out of school or engaging in transactional sex. Malnutrition itself also weakens the immune system, generally making people more susceptible to infections. Furthermore, optimal infant and young child feeding is necessary to both reduce mother-to-child transmission of HIV and maximize the survival of HIV-exposed and infected infants.
5. In addition, food and nutrition interventions are crucial to attaining the goal of Universal Access to treatment. This is because food and nutrition are significantly connected with uptake, adherence and overall effectiveness of antiretroviral therapy (ART). For example, in food insecure environments people may find it difficult to

take-up (start) or adhere to (continue) ART if they have to choose between purchasing food and accessing treatment services which often have significant ancillary and opportunity costs. Also, malnourished individuals sometimes cannot tolerate the side-effects of ART.

6. At the same time, HIV and associated opportunistic infections have a negative impact on the nutritional status of infected individuals by undermining the immune system and nutrient intake, absorption and use. In the absence of treatment, malnutrition weakens the immune system, thereby speeding up the progression of the disease, lowering quality of life and increasing mortality risk. Food security and good nutrition are required to keep PLHIV healthy and able to resist opportunistic infections like tuberculosis (TB) for longer. Furthermore, evidence shows that mortality is particularly high during the first few months of treatment and is indirectly proportional to body mass index (BMI), meaning that undernourished PLHIV on ART have a higher likelihood of dying than well-nourished ones. Improving nutritional status around the start of treatment is an important factor in reducing disproportionate early mortality. Improving nutritional status requires a combination of ART and treatment of opportunistic infections to control and treat infection which enables the body to make good use of nutrients and re-establishes appetite, and a diet that meets nutrient requirements in terms of energy requirements as well as micronutrient content. In resource-limited settings many PLHIV require food supplements to complement their home diet in order to meet nutrient requirements.
7. Global policymakers are increasingly recognizing this complex and potentially fatal relationship between HIV, food security and nutrition. In the 2001 United Nations (UN) General Assembly Special Session *Declaration of Commitment on HIV/AIDS*^{iv} and the 2006 *Political Declaration on HIV/AIDS*^v, member states unanimously recognized the necessity of integrating food and nutritional support into the HIV response in the context of the universal human right to food, which asserts that all people at all times have the right to access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences to lead an active and healthy life^{vi}. Similarly, UN member states have unanimously endorsed separate Millennium Development Goals (MDGs) to reduce by half the proportion of people who suffer from hunger (Goal 1), and to halt and begin to reverse the spread of HIV (Goal 6) by 2015.^{vii}
8. There is increasing acknowledgement that all the MDGs are interconnected and to attain them strategies that address these linkages are critical. For instance, there is evidence that progress in a country's HIV response impacts the other health-related MDGs, improving maternal health and reducing child mortality (Goals 4 and 5)^{viii}. In places such as sub-Saharan Africa where food insecurity, malnutrition and HIV prevalence are high^{ix}, alleviating hunger (Goal 1) cannot be reached independently of combating HIV (Goal 6). Climate change is also expected to exacerbate food insecurity (Goal 7) and the linkages between climate (and in particular drought) and HIV and food insecurity in southern Africa has already been experienced.
9. The global financial crisis combined with the rapid scale up of ART has pushed to the forefront the importance of cost effectiveness of development and health interventions and as well as their sustainability. There is growing pressure on health systems to deliver concrete results^x. In this context, understanding the roles and causal relationships between food security, nutrition and HIV among other factors in

overcoming barriers to successful treatment of patients such as poor adherence and late uptake is important. Poor adherence leads to higher costs as it causes people to develop resistance to initial regimens and requires much more expensive newer regimens^{xi}. Late uptake means poor treatment outcomes and greater mortality.

10. Moreover, the impact of HIV on food security and the importance of making sure that social protection and livelihood interventions are HIV sensitive are crucial to achieving not only MDG 6 but many of the other MDGs as well. The integration of food and nutrition into HIV programming is increasingly acknowledged as crucial to achieve cost effectiveness of both health and broader development interventions in the context of increasing needs and decreasing resources. The inclusion of food and nutrition in HIV programmes will enable countries to deliver concrete results for both individuals and communities and needs to be part of all HIV programming.
11. While some interventions have to be specific to HIV as they are designed to ensure survival for PLHIV, it is also crucial to highlight the role of broad social safety nets and social protection systems for the HIV response. While usually designed to protect people from shocks of all types, their purpose is to reduce the need to engage in negative coping behaviours that put people at risk of acquiring HIV.
12. Social protection has expanded significantly in recent years, especially in Latin America, and safety nets have been successfully used to achieve nutrition or health outcomes. There are also seeds of such mechanisms in Southern Africa (South Africa, Botswana, Lesotho, Mozambique, Namibia,) such as pension schemes, and child or disability grants. While not designed exclusively for PLHIV or targeting them, these social protection measures can significantly improve the socio-economic status of the poor, including those living with and affected by HIV. These types of interventions are well positioned to improve socio-economic status without raising equity issues or HIV-related stigma. There is also a growing realisation that social transfers (cash, food, vouchers) etc. are necessary but not sufficient in overcoming HIV related vulnerability. They must be accompanied by supportive policies and legislation to protect the rights of PLHIV including reducing stigma and discrimination as well as supporting initiatives to promote access to affordable quality services^{xii}.
13. More work needs to be done to understand how social protection can be made HIV-sensitive so as to address the comprehensive needs of PLHIV and affected families and contribute to Universal Access to prevention, treatment, care and support.

II EXPLORING THE LINKAGES BETWEEN HIV, FOOD SECURITY AND NUTRITION

14. This section describes the concepts and evidence surrounding the complex bi-directional (or cyclical) relationship between HIV and AIDS, food security and nutrition. The section begins with an explanation of understanding the local context when considering the linkages between food security and HIV, and defining food security and its key dimensions. It continues with a discussion of the negative cycle of HIV and food insecurity, at the individual, household level and community level. The relationship between the different dimensions of food security and HIV transmission, treatment, care and support and impact mitigation are discussed. The

section concludes with a short discussion on the particular vulnerability of women and girls to food insecurity and HIV.

Understanding the local context of the epidemic

15. It is important to note that although the linkages between food insecurity and HIV and AIDS exist, it is not always possible to isolate cause and consequence. The factors that lead to exposure to the virus and HIV's impact on nutrition and food security are extremely diverse and range from gender-based or socio-economic inequality to conflict, as well as poor education and cultural determinants. This gives the epidemic a different profile between regions and local contexts. Unsurprisingly, the causal pathways from food insecurity to HIV and back to food insecurity, therefore also depend a great deal on local contexts, the specific drivers of each epidemic and the causes of food insecurity and malnutrition^{xiii}.
16. Given this complexity, a differentiated and detailed understanding of each local epidemic is extremely important. The strength of the link between food security, nutrition and HIV in any setting and the appropriate programmatic response depends on the local context of the epidemic, such as disease prevalence, the key drivers of transmission and the dynamics of food insecurity and malnutrition. Even when an epidemic is well understood, it is important to take into account that local conditions are continuously evolving.

The definition of food security

17. The World Food Summit of 1996 defined food security as existing “when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life”.¹ Commonly, the concept of food security is defined as including both physical and economic access to food that meets people's dietary needs as well as their food preferences. Food security is built on three pillars:
- Food availability: sufficient quantities of food available on a consistent basis.
 - Food access: having sufficient resources to obtain appropriate foods for a nutritious diet.
 - Food utilization: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.
18. HIV and AIDS affect all three dimensions of food security. Morbidity and mortality and other poor health outcomes associated with the disease impact not only individuals, but also households and communities.
19. Healthy nutrition is also often defined by the so-called UNICEF framework², which emphasizes availability, access to and utilization of nutritious food, adequate caring

¹ <http://www.fao.org/docrep/003/w3613e/w3613e00.HTM>

² The UNICEF Conceptual Framework on the causes of malnutrition, UNICEF 1997. The framework shows that causes of malnutrition are multi-sectoral, embracing food, health and caring practices. They are also classified as immediate, underlying, and basic, whereby factors at one level influence other levels. The framework is used, at national, district and local levels, to help plan effective actions to improve nutrition. It serves as a guide in assessing and analysing the causes of the nutrition problem and helps in identifying the most appropriate mixture of actions.

practices and understanding of nutritional needs as well as health, caring practices and hygiene as necessary prerequisites.

20. Discussions surrounding food security often focus on the ability of households to access food, on caring practices in the community, or on wider issues of food availability in a community or region. This means that at times food utilization, which focuses on the ability of an individual to both eat food and absorb energy and nutrients from it, is not given enough attention. Food utilization is where food security and nutrition intersect. Diminished ability to utilize food causes a decline in a person's nutritional status. In general, diminished nutritional status is associated with poor health outcomes. Undernutrition and infection are intertwined in a vicious cycle: an undernourished individual is more prone to infections, and infections are a direct cause of undernutrition. A severely malnourished child, for example, is nine times more likely to die than an adequately nourished child^{xiv}. In some high HIV prevalence countries, between one third and three quarters of the children with severe acute malnutrition (SAM) are also HIV positive. Food utilization is frequently the most poorly understood or forgotten aspect of food security. The response, therefore, needs to focus on the linkages between health and nutrition at the individual level, and the choice of the right food is critical.

The relationship between HIV, food security and nutrition at the individual level

21. In the context of HIV infection, understanding the food utilization component of food security is critical. HIV and AIDS impair a person's ability to utilize food, which refers to a person's ability to eat, as well as the body's ability to digest and absorb essential nutrients from food. PLHIV often lack appetite or struggle to eat due to conditions like oral thrush. PLHIV often suffer from conditions like diarrhea, which means key nutrients are not absorbed. These symptoms are particularly significant because PLHIV have higher energy needs than their healthy peers. So while needing more energy and potentially also more micronutrients in their diet, HIV reduces their ability to meet these needs. Especially in the absence of treatment, this type of malnutrition can weaken the immune system further, increase susceptibility to opportunistic infections such as TB, and speed up the progression of the disease, resulting in early death. However, PLHIV who have been on ART for a long period of time also face chronic conditions with significant nutritional implications, including diabetes and cardio-vascular disease which can be a consequence of pre-existing conditions, long-term treatment and/or HIV-infection itself.^{xv}.
22. Good nutrition management (preferably in conjunction with ART) is required to address these issues. In the absence of treatment, good nutrition can slow down the progression of HIV into AIDS, though it cannot eliminate the disease or halt progression and prevent eventual death. ART combined with nutrition interventions can halt and reverse disease progression and the associated deterioration in nutritional status while significantly reducing mortality and improving quality of life^{xvi, xvii, xviii}. Moreover, food security and nutrition are important complements for successful ART, especially with respect to treatment uptake, adherence and its overall efficacy and success. Pregnant and lactating women and children living with HIV are two populations that are especially vulnerable to poor nutrition. Food utilization is also an issue for HIV-exposed infants, who are often weaned prematurely in settings where safe replacement feeding is not available, putting them at high risk of malnutrition and mortality.

23. Inappropriate infant feeding practices contribute substantially to an increased risk of mother to child transmission (MTCT) of HIV. In the absence of ARVs, mixed feeding (giving breastmilk and other foods, milk or liquids) increases the risk of MTCT at least four fold and is the norm in most high-prevalence HIV countries. Exclusive breastfeeding in the first six months substantially lowers the risk of MTCT. One study found that only about 4% of exclusively breastfed infants (without ARVs) became infected through exclusive breastfeeding from six weeks to six months^{xx}. Exclusive breastfeeding continues to be the recommended feeding option for settings which have set a national policy of breastfeeding and ARVs, including when ARVs are not immediately available. Urgent acceleration of support for at-scale, effective interventions to promote, support and protect optimal infant and young child feeding, particularly exclusive breastfeeding for the first six months, in the general population is a priority in high-burden and high prevalence countries.

Food insecurity, nutrition and ART uptake, adherence and success

24. Malnutrition is a risk factor for mortality among those starting ART. Evidence shows that mortality in the first months of treatment is two to six times higher in low-income countries than in high-income settings^{xx}. Further evidence shows that this is likely related to malnutrition, which weakens the immune system above and beyond the effects of HIV. Malnutrition at the time of starting ART has been significantly associated with decreased survival^{xxi}. Research shows that severely malnourished individuals had a six times higher risk of dying in the first 3 months than those with a normal nutritional status^{xxii}. Adequate food and nutrition support can reduce early mortality and improve treatment success. Mortality upon starting ART is also higher among those infants and young children with severe malnutrition. The causes for these poor outcomes are complex, but malnutrition is one factor.
25. Additionally, where ART is available to patients, there is no guarantee of uptake and adherence to treatment (which means commencing and remaining on treatment). Stopping or interrupting treatment increase the likelihood of drug resistance, which requires switching to different, more expensive treatment regimens which may not be available or affordable. It is important to note that food insecurity and malnutrition also have impact on the success of prevention of mother-to-child transmission (PMTCT) programs. HIV positive women who are severely malnourished are more likely to transmit HIV to their infants and some PMTCT programs that have offered nutritional supplementation to pregnant women and HIV-exposed infants have seen higher rates of follow-up.
26. One study from Ethiopia shows that the lack of food and nutrition support is the second most cited reason for failing to continue treatment^{xxiii}. A number of other studies have reported that food insecurity is an important barrier to drug adherence and treatment adherence in under-resourced settings in general, including for frequent co-infection TB^{xxiv}. Research in Uganda showed that: (i) treatment increased appetite and led to 'intolerable hunger in the absence of food'; (ii) side effects of ART were exacerbated in the absence of food; (iii) participants believed "they should skip doses or not start on ART at all if they could not afford the added nutritional burden"; (iv) competing demands between costs of food and medical expenses led people either to default from treatment or to give up food and wages to

get medicines; and, (v) medication was sometimes forgotten when away working in the gardens or plots^{xxv}.

27. Treatment success, uptake and adherence are significantly connected with access to adequate food and nutrition, making the integration of food security and nutritional support with HIV interventions particularly crucial to attaining Universal Access and the health-related MDGs. When assessing the cost effectiveness of food security and nutrition programmes, it is critical to take into account their impact on increasing treatment uptake and adherence, thus improving overall treatment success and potentially reducing the need for expensive second-line and third-line treatment regimens that patients must take when first-line regimens stop working³.

Food insecurity and HIV transmission

28. There is also evidence that food insecurity can make individuals more susceptible to HIV. When people have difficulty accessing food in sufficient quality and quantity (and other basic necessities), they may engage in behaviours, such as selling assets, migrating in search of work, taking children out of school, exchanging sex for a meal, a ride to a clinic or school fees for their children or engaging in commercial sex, which put them at risk of contracting HIV. While many people engage in behaviour that increases the risk of HIV transmission regardless of food security status, food insecurity can increase the likelihood of such risky behaviour^{xxvi, xxvii, xxviii}.
29. Children, especially girls, may be withdrawn from school because their parents can no longer afford even the most minimal educational expenses and need their help to support the family. Education has been shown to serve as protective factor against HIV and AIDS in children and young adults. A Zambian study found that HIV spread twice as fast among uneducated girls^{xxix}. A study in Uganda showed that young people with little or no education may be 2.2 times more likely to contract HIV as those who have completed primary education and that each additional year of education for girls reduces their chances of contracting HIV by 6.7%^{xxx, xxxi}.
30. Studies in Botswana and Swaziland^{xxxii}, and Malawi^{xxxiii}, show the associations between acute food insecurity and unprotected transactional sex among poor women. Furthermore, a qualitative analysis of the impact of food insecurity on high-risk sexual practices in Uganda demonstrates how food insecurity leads to sexual risk-taking and the links between food insecurity and risks for sexual violence and staying in abusive relationships^{xxxiv}.

The relationship between HIV, food security and nutrition at the household level

31. HIV can create a significant shock for households, and reduce their ability to access to food. Access to food refers to the ability of people in a household to obtain food in sufficient quantity and quality, through any combination of activities, including home production, purchases, barter, gifts, borrowing and food aid.

³ In 2009, the World Health Organization (WHO) issued preliminary guidelines for an integrated approach to the nutritional care of HIV-infected children (6 months – 14 years), as part of their guidelines for ART.³ WHO is currently in the process, together with partners, of reviewing the evidence base for the management of nutrition for adults living with HIV and patients with frequent opportunistic infection tuberculosis.

32. Households negatively affected by HIV often have a loss of income and/or home food production due to illness and death. This is exacerbated when the PLHIV are the family's main breadwinner. As well, households may need to spend more time caring for the sick, thereby reducing their ability to earn income or contribute to agricultural production. This is combined with large health expenses associated with chronic illness. Households can have health related expenses even where treatment is free. These include the cost of transport to the clinic, the cost of treating opportunistic infections, and the cost of a nutritious diet.
33. A study of rural households in Mozambique has shown that an adult death due to illness, likely to be HIV- related, reduces the amount of staple foods produced by these households by 20–30 percent, contributing to household food insecurity^{xxxv}. HIV erodes expenditures, limits household access to credit, and leads to a reduction in productive and non-productive assets. As a result, the spread of HIV can have a dramatic impact on income, food production, and subsequently household food security.
34. Additionally, in countries with high prevalence, a significant number of children have lost one or both parents, which may have negative long term consequences for education, health and nutrition and lifetime earnings. Moreover, when an HIV-positive parent falls sick his/her ability to work and earn an income is reduced. As family income declines, more money is needed to pay medical bills and less is available for food. For girls, particularly, this can mean being forced into activities that put them at even greater risk of contracting HIV.
35. The stigma of HIV can also weaken a person's social and community networks, which often act as an informal safety net. This can result in a person being denied access to education, or the employment or credit required to cover the cost of treatment^{xxxvi, xxxvii}.
36. It is critical that HIV interventions ensure the food security of the caregivers as well as affected households. Food and nutrition interventions in the context of HIV can contribute to efforts to prevent households from falling deeper into food insecurity and poverty. In cases where treatment is still not available, it is important to recognize the role that targeted nutrition support can have to delay disease progression and mitigate the consequences of the disease. Income transfers can help mitigate the consequences of the shock and allow affected households to live in dignity and care for the infected. In areas with access to treatment, the shock to the household may be temporary. A time-limited income transfer of food or cash can help the household cope during the period in which it faces higher expenditures and lower income.

The relationship between HIV, food security and nutrition at the community, district, national or regional level

37. Food availability is the physical presence of food in the area of concern, whether domestically produced, imported or brought in as food assistance. Food availability is considered a macroeconomic concern, and can be aggregated at the regional, national, district or community level. Though there is some evidence that HIV can

affect availability of food in a community, especially in rural communities with high HIV prevalence where people also rely to a large degree on subsistence agriculture, research has not made a convincing case that HIV impacts food availability on a broader basis, such as the district, national or regional level. Moreover, while less food may be produced in a community with high HIV prevalence, food could potentially be brought in from surrounding communities or other countries. In open market economies, this may mean food becomes more expensive, thus further deteriorating access issues for the poor, but not leading to a generalized availability issue.

38. Trying to analyse the impact of HIV and AIDS on food production and resulting lack of food availability is not straightforward. First, the detrimental impact of HIV and AIDS is hard to isolate from other factors affecting agricultural production. Second and perhaps more importantly, arguments can be made that even if mortality is high, in societies with inefficient, largely subsistence agriculture and surplus labour, mortality may not directly impact the labour inputs into agriculture, especially if the disease is located in primarily urban and peri-urban areas^{xxxviii}.

Women, food insecurity, access to treatment and vulnerability to HIV

39. The negative impacts and challenges of HIV and food insecurity disproportionately affect and involve women and girls. Women are biologically, socially and economically more vulnerable to HIV. Women's vulnerability to HIV in sub-Saharan Africa stems not only from their greater susceptibility to heterosexual transmission, but also to the severe social, legal and economic disadvantages they often confront. The risk of becoming infected is especially disproportionate for girls and young women. In Kenya for example, young women between 15 and 19 years are three times more likely to be infected than their male counterparts, while 20–24-year-old women are 5.5 times more likely to be living with HIV than men in their age cohort^{xxxix}.
40. AIDS-related illnesses are a leading cause of mortality in women of reproductive age, and almost one in every five maternal deaths worldwide in 2008 was linked to HIV. In six hyper-endemic countries, AIDS is also responsible for over 40% of child mortality⁴.
41. There are many reasons for this increased vulnerability to HIV. For instance, women and girls tend to have very limited power to negotiate safe sex practices and, therefore, are particularly vulnerable to unsafe sex, which may expose them to infection. People without access to adequate food, income, land and other productive resources such as credit, training and technology, especially women and girls, are also more likely to be forced into situations, including but not limited to in response to food insecurity, which place them at risk of HIV.
42. Women are also usually centrally involved in producing, purchasing and preparing food. Thus, when a woman is HIV positive, household food security is often impacted, as these responsibilities shift to younger, more inexperienced women in

⁴ Hyper-endemic scenarios refer to those areas where HIV prevalence exceeds 15% in the adult population driven through extensive heterosexual multiple concurrent partner relations with low and inconsistent condom use (UNAIDS, Practical Guidelines for Intensifying HIV Prevention, 2007)

the home. Women are also usually the primary caregivers in households. Caring for ill family members means less time is available for food production and preparation.

43. At the same time, there are special challenges to ensuring women receive access to ART. Between 2008 and 2009, the proportion of pregnant women who tested positive for HIV and were assessed for their eligibility to receive ART for their own health increased from 34% to 51%. Of the eligible, 15% received ART, up from only 9% two years earlier. However, with new WHO treatment guidelines, more women will need to be enrolled in ART programmes. Therefore - when using the new standards- ART coverage amongst women is bound to be even lower.
44. Adequate nutrition in all pregnant /lactating mothers and in children under-5 is crucial in order to guarantee normal growth and development and to prevent malnutrition which can contribute to high rates of death in children under-5. Challenges and confusion have arisen regarding infant and young child feeding in the context of HIV, with many HIV-exposed infants being inappropriately weaned in cases where safe replacement feeding is not available, leading to high mortality. New WHO 2010 guidelines create an enormous opportunity to promote breastfeeding in populations with high HIV prevalence. Uptake and adherence issues for pregnant and lactating positive mothers could potentially be reduced by providing a more comprehensive package of services including food and nutrition. Indeed, some PMTCT programs have found that the provision of food supplements in the postnatal period seems to be associated with reduced loss-to follow-up and thus a better chance of HIV-free survival.
45. In the 12 high-prevalence countries that reported on ART for pregnant women in both 2007 and 2009, the total number of women enrolled in treatment after having been identified as eligible roughly doubled from more than 18,000 to more than 37,000 women. In Swaziland, a major effort was made to provide ART services in mother-child-health settings, which included nutritional support, and the number of women newly enrolled in ART rose from 259 in 2007 to 1844 in 2009^{xl}. While these numbers testify to some progress, they also show how much work remains to be done to improve treatment access for women.

III OVERVIEW OF EXISTING FOOD AND NUTRITION SECURITY INTERVENTIONS IN HIV PROGRAMMES

46. This section reviews the evolution of integrated food and nutrition security and HIV interventions from mitigation activities focused on home-based care (HBC) and orphans and other vulnerable children (OVC) to a more comprehensive approach that now recognizes the key role of food and nutrition support in many areas of HIV programming.
47. The section also examines the different types of integrated food and nutrition security interventions in HIV prevention, care and support and treatment. For each of the three intervention areas, this section will consider both a) food transfers (as one possible social transfer) and b) livelihood support.

48. The role of the major donors in funding these various interventions is also briefly discussed.
49. It is important to note that many food and nutrition interventions that are linked to HIV programmes are considered in national strategies and policies as part of broader social protection programmes for the most vulnerable. A key aspect of social protection in the context of HIV is to make sure that all social protection programmes, including those that have a food security and nutrition objective are HIV-sensitive and not HIV-specific.
50. The role of civil society, including networks of positive and community based organisations is crucial to the delivery of many programs focusing on food security and nutrition. The importance of including beneficiaries in programmatic planning and execution can not be underestimated. Moreover, community based targeting, a method frequently used in broad based food security programs is also used for those interventions whose objective is to also include households affected by HIV.

Evolving context of the HIV and AIDS response

51. Prior to the advance of more widespread access to ART in low-resource settings, the focus of food and nutrition interventions was on support to home-based care (HBC) programmes and support to OVCs to mitigate some of the adverse consequences experienced by HIV-affected households. With the scale-up of access to ART in recent years, HIV has increasingly become a chronic disease demanding new approaches to prevention, treatment and mitigation.

Linkages between prevention, treatment and care and support interventions

52. It is important to keep in mind that interventions with a primary objective of enhancing treatment success may also have impact on HIV prevention. For example, once on treatment, viral load is suppressed and infectiousness greatly reduced. Similarly, care and support interventions such as support to livelihoods through food-for-work or public works programmes may also enhance treatment success by helping PLHIV undergoing ART to adhere (continue) their treatment regimen and by relieving pressure on household food security. Support to optimal infant and young child feeding also has a dual function: it lowers the risk of MTCT and contributes substantially to HIV-free survival of HIV-exposed infants, and in HIV-positive children it helps to prevent growth faltering and acute malnutrition. In other words, interventions such as food transfers, livelihood support and nutrition interventions for children may serve multiple objectives simultaneously.

HIV Prevention Interventions

Food Transfers

53. In terms of food and nutrition interventions to support HIV prevention, the role of school feeding in keeping vulnerable children, especially young girls, in school has been well recognized. There is evidence that the longer young girls remain in school, the less likely they are to engage in risky behaviours that increase their susceptibility to HIV^{xli}, ^{xlii}. Assistance to keep children in school also has a positive impact on the rest of the household and reduces the likelihood of adopting negative coping

strategies, such as migration and transactional sex that can contribute to transmission. School meals targeting secondary school-aged children have greater potential relevance for HIV prevention, as older children are more likely to be at risk of unsafe sex than those in primary school.

54. The role of food and nutrition support to enhance treatment success of PLHIV undergoing ART may also play a key role in preventing HIV by reducing the viral load of PLHIV sooner than if it was not provided. Specifically, since food insecurity has been found to be associated with viral suppression, addressing it could contribute to improved viral load suppression in the context of expanded treatment access. This would also have important implications for HIV transmission due to positive impacts of ‘treatment as prevention’^{xliii}.

Livelihood Support

55. In general livelihood support for vulnerable and food-insecure PLHIV or HIV-affected households is important in reducing negative coping behaviours, including taking children out of school, migrating and engaging in transactional sex. Reducing the likelihood of each of these coping behaviours helps reduce household susceptibility to HIV and thereby contributes to HIV prevention.
56. Research shows that livelihoods promotion may have the potential to alter sex workers’ vulnerability to infection, but the evidence tends to be mixed.^{xliiv} As long as there is demand for paid (unprotected) sex, the supply of sex workers and the spread of HIV will continue. Offering livelihood support to sex workers is not likely to reduce commercial sex work substantially enough to reduce the spread of the pandemic. However, it could be argued that with more options because of livelihood support, sex workers will have more negotiating power to protect themselves from becoming infected during sex work, therefore leading to a reduction in the risk of transmission. Evidence from the Sonagachi programme^{xliv} in India suggests success of livelihoods initiatives for sex workers depends on strategies being developed with sex workers themselves and combined with social protection initiatives, such as legal protection, to promote the needs and rights of sex workers.

Treatment Interventions

Food Transfers

57. The crucial role of food and nutrition support to enhance nutritional recovery and increase treatment success of PLHIV undergoing ART is becoming increasingly well-recognized^{xlvi}. Different names exist to describe often similar interventions, the two most common ones being Food-by-Prescription (FBP), which emphasizes the medical character of the intervention, and NACS (Nutrition Assessment, Counseling and Support (NACS), a term recently introduced by PEPFAR. Agreement is widespread that integrated food and treatment programmes should have two main components: a solid foundation of nutrition assessment, education and counseling (NAEC) as well as actual food support for those who are malnourished.
58. In terms of programming implications, it is important to recognize that while HIV is a lifelong chronic disease, the food component of the intervention is meant to be finite

in duration. Entry and exit into programmes, which provide a food supplement, should be strictly guided by body measurements (usually Body Mass Index -BMI- for adults, and Mid-Upper Arm Circumference for pregnant women and children, although weight/height are still a commonly used measurement to guide nutrition rehabilitation). These interventions are meant to support PLHIV during the acute phase of the clinical stage of HIV (and related HIV income shocks), usually during the first months of treatment. Furthermore, the selection of food products to be provided needs to be based on a careful evaluation of such factors as the existing diet, nutritional needs, side effects of ART that may make eating and swallowing difficult and the extent to which PLHIV can themselves modify their existing diet. Options include fortified blended foods (FBFs) and ready-to-use-foods (RUFs) containing added vitamins and minerals.

59. HIV-positive pregnant and lactating women HIV-exposed infants and young children are two populations that require special nutritional counseling, assessment, and support. Because of the increased vulnerability of these groups and the metabolic demands of breastfeeding, food supplementation may be required for a somewhat more extended period in these populations than adults living with HIV. Furthermore, children living with HIV have special nutritional needs. HIV-infected infants in particular are highly vulnerable to mortality in the first two years of life, and severe malnutrition at the start of treatment is associated with greatly increased mortality. It is important to treat correctly both HIV and malnutrition in the children, or treatment outcomes will be suboptimal. Additionally, there are large numbers of severely malnourished children in high HIV-prevalence settings whose HIV status is unknown. Programs that treat severe acute malnutrition at facility and community levels should ensure that children are routinely tested for HIV, including screening for HIV exposure with rapid tests and providing referrals to early infant diagnosis services for children who are still being breastfed.
60. It is important to emphasize, that the Nutrition Assessment, Education and Counseling (NAEC) components of these interventions need to accompany treatment over the long-term, even where the provision of food support has stopped. This is because HIV, even when treated, has serious health implications which make careful management of nutritional status and diet crucial.

Livelihood Support

61. Interventions to provide timely support to livelihoods of PLHIV and HIV-affected households are important in a number of respects. The transition from food and nutrition support to livelihood support is important in order to sustain the long-term health and nutritional well-being and to prevent the health or nutritional status of vulnerable PLHIV from deteriorating upon discharge from the food and nutrition support programme. Support to livelihoods can help to ensure continued food and nutrition security and thereby enhance the overall quality of life of PLHIV and their families and treatment success of ART.

Care and Support Interventions

Income Transfers (food, cash or vouchers)

62. The provision of income transfers to vulnerable HIV-affected households is widely recognized as an important way to mitigate the impact of the epidemic. While food transfers have existed the longest in resource poor settings, cash or voucher programmes are also expanding rapidly. The right choice of modality often depends on the context and the specific objectives of the programme. Food may be the preferred modality when nutritional objectives are intended not only for ART clients, but also for their households. These food transfers can have impacts on both household food security and sometimes the nutrition of household members^{xlvii}. Cash has the advantage that it also covers other crucial needs such as health and education. The lack of disposable cash is often a significant barrier to treatment uptake and adherence as many PLHIV require money to pay for regular trips to the clinic for example. If uptake and adherence are poor, programmes may want to consider given a portion of the support as cash.
63. Many care and support programs include components targeted to OVCs. A new approach to OVC programming is to make them child-sensitive. Child-sensitive social protection includes social transfers, social insurance, social services and policies, legislation and regulation that protect children from discrimination and exclusion. There is also considerable evidence that unconditional cash transfers have increased household food consumption as well as reduced hunger. Across seven cash transfer programmes in sub-Saharan Africa, the largest share of transfer spending was on food.
64. South Africa's Child Support Grant demonstrates that when such support is provided during the critical "window of opportunity" when a child is young, social transfers can have a significant impact on their growth. Children who were under the age of two when their household received the Child Support Grant and received the benefit consistently for at least two-thirds of their life until age three, saw significant improvements in their height for age compared to those not receiving the Child Support Grant over this period.
65. The provision of food to OVC through school feeding programmes is also relevant to care and support. School meals have been shown to increase school attendance, cognition, and educational achievement, especially when combined with nutritional measures such as de-worming and micronutrient fortification^{xlviii, xlix}. In other cases, households with OVC have received transfers to help them cover the additional costs of caring for a vulnerable child.

Livelihood Support

66. Interventions to support livelihoods include those that promote income generating activities and micro-finance (which is a loan, not a transfer) can also mitigate the impact of the epidemic and strengthen food security⁵. These types of interventions often provide households with the means of purchasing food as well as cater to other needs such as health and education. These programmes are usually not (and should not) be exclusive to PLHIV. Stigma can arise when PLHIV are singled out for

⁵ IMAGE Project in South Africa: this project proposes the use of microfinance in response to HIV and AIDS

preferential treatment while their equally poor neighbours whose HIV status may be negative or unknown do not qualify.

67. Food-for-work programmes generally attract only the most vulnerable poor people. For such programmes to benefit HIV-affected households, however, they need to be made HIV-sensitive, for example, by designating alternate workers in the household and/or expanding the type of jobs considered eligible for public works. Experience has also shown that there is a risk of posing additional burdens on already overworked womenⁱ and these concerns would also have to be addressed for a public works programme to be relevant for PLHIV and HIV-affected householdsⁱⁱ.
68. One example of an innovative livelihoods programme with tremendous potential for expansion is the Junior Farmer Field and Life Schools (JFFLS). JFFLS provide OVCs with agricultural and life skills in a child-friendly manner in formal and non-formal schools. The JFFLS is active to varying degrees in Kenya, Mozambique, Namibia, Swaziland, Tanzania and Zambia and it is expected to be expanded to other countries.

The role of donors in funding integrated HIV and food security interventions

69. Although these various types of integrated interventions have demonstrated benefits, the trajectory of the epidemic has not been reversed: for every two people who start treatment, another five are infected. Also, in December 2009, WHO issued new guidelines recommending that treatment be commenced earlier, reflecting evidence that starting treatment earlier reduces morbidity and mortality among PLHIV in the long termⁱⁱⁱ. This has financial and operational implications in light of the fact that overall global HIV funding may not continue to grow in line with these needs. There is also a clear shift amongst major donors away from vertical or single disease focused funding toward more horizontal funding streams focused on broad objectives like health systems strengthening. Thus it is important to highlight that integrated HIV, food and nutrition interventions can enable and catalyze the achievement of both vertical and broader horizontal health objectives. Integrated interventions contribute to achieving horizontal objectives because they intersect with so many other health outcomes, including improved maternal and child health. Integrated HIV, food and nutrition interventions should also be understood as ways to increase the return on investment for existing HIV care and support and treatment programmes, because whether or not a PLHIV is on treatment, food and nutrition interventions can reduce mortality and morbidity, while improving quality of life of affected individuals, households and communities, and when combined with treatment, they can improve uptake and adherence and overall treatment success.
70. The Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) and the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) are by far the largest donor sources for funding HIV and AIDS programmes in low- and middle-income countries. However, with the ever increasing need for HIV prevention, treatment care and support activities and increased pressure on the availability of donor funds, national governments may need to continue expanding their share of funding for the response.
71. The GFATM is a significant actor in the food and nutrition programming landscape. The GFATM does not implement programmes directly; its role is to attract, manage

and disburse resources, and to ensure that its resources are directed to the areas of greatest need. Although trends show that food and nutrition are now more frequently included in GFATM proposals, additional guidance is required to ensure their widespread inclusion. The GFATM has taken note and is currently reviewing its monitoring and evaluation guidance to countries for inclusion of food and nutrition indicators.

72. 2007 marked the first year that PEPFAR requested specific information regarding food and nutrition programming. In 2008, PEPFAR supported food and nutritional supplementation in the 15 focus countries^{liii} for approximately 48 000 HIV-positive pregnant or lactating women; 814 800 OVC; and 73 000 people receiving ART, with evidence of severe malnutrition^{liv}.
73. Furthermore, UNAIDS recognises that food and nutrition are crucial in the response to HIV and AIDS by positioning them in three priority areas of its Joint Outcome Framework: i) ensuring that people living with HIV receive treatment; ii) preventing them from dying of tuberculosis; and iii) enhancing social protection for people affected by HIV.
74. WFP, as a UNAIDS cosponsor, is responsible for nutrition and food support within the UNAIDS Division of Labour. Through its new 2010 HIV and AIDS policy guides, WFP interventions aim to ensure that food-insecure people receiving ART in low-income countries receive nutritional support and that people affected by HIV or TB do not use negative coping mechanisms to address increasing expenses and reduced household incomes. In 2009, 3.0 million beneficiaries, including children, in 47 countries benefited from WFP supported activities targeting PLHIV and TB-DOTS patients such as nutritional rehabilitation, safety nets or a combination of these either through clinics or communities or a mixture of both.

IV KEY CHALLENGES AND POLICY DEBATES REGARDING INTEGRATING FOOD AND NUTRITION SECURITY IN HIV AND AIDS PROGRAMMES

75. This section concentrates on a number of the programmatic challenges faced by implementers of integrated food and nutrition interventions in an HIV-specific context. It will not address challenges with respect to interventions where the primary objective is not HIV-specific, even though they can contribute to HIV-related outcomes. Examples of such interventions include broad social protection interventions like income transfers, school feeding programmes and livelihood support that can, among other things, mitigate the impacts of food insecurity and may contribute to the prevention of HIV.

Complexities in transitioning from home-based care model to a comprehensive nutritional support and treatment model

76. While the evidence surrounding the importance of food and nutrition interventions to achieving Universal Access to HIV prevention, treatment, care and support is now widely recognized, programmes across the world are often still in transition from pre-ART Home-Based-Care programmes to becoming more comprehensive programmes with a strong nutrition component (like FBP or NACS).

77. Traditional home-based care programmes are usually limited to objectives relating to impact mitigation and food is often a core component of those programmes. The transition from a focus on HBC to FBP or NACS is complex for two reasons. First, expanding programmes to meet rapidly growing needs, while also maintaining quality of service and sometimes changing the types of services provided, can be a major challenge. For example, even if financial resources are available to hire the additional staff needed for comprehensive programs, that staff needs to be trained and has to develop experience to be able to deliver quality services. In addition, early programmes were mostly community-based, whereas in the treatment context, both the health and community sectors need to work together, which adds a level of complexity.
78. Second, while many more people have access to treatment in 2010 than they did a decade ago, at least three times more are still waiting. As a result, new programmes need to address the needs of PLHIV on ART, while at the same time continuing to address the needs of the many who do not yet have access to treatment, and for whom a focus on impact mitigation is still needed. Therefore, what is required for the foreseeable future is to maintain a dual approach where integrated food security and HIV programmes need to cater to both groups of people, those with and without access to treatment, while still focusing efforts on accelerating the scale-up of ART.

Challenges relating to the efficacy and cost-effectiveness of specific food products

79. PLHIV have increased energy needs (10% more when asymptomatic and 20-30% more when suffering from opportunistic infections), may require specific foods or food preparation methods to mitigate treatment side effects or improve palatability in a situation of reduced appetite, and it is very important that micronutrient intakes are at the level of one RNI, which in many situations requires taking micronutrient supplements and/or consuming specially formulated foods. Where people do not have the means to improve their regular diet in order to meet their increased and modified nutrient needs, food supplements may be required. As yet, the choice of such products is limited and food and nutrient needs vary with disease stage, nutritional status as well as food preferences and cultural practices.
80. Due to the lack of products developed specifically to cater the needs of different groups of PLHIV (children, pregnant and lactating women, adults, both pre-treatment and on ART), the main implementers currently use products initially developed for malnourished young children, such as Fortified Blended Foods (FBFs) or Ready-to-Use Foods (RUFs).
81. Research shows that in settings with high food insecurity, consumption of ready-to-use foods (RUFs) provided to malnourished PLHIV result in faster weight gain than providing them with a fortified blended food (FBF)^{iv}, ^{vi}. This faster improvement of nutritional status during the initial treatment phase may be particularly of value among severely to moderately malnourished patients who are at increased risk of death. Proving a difference in mortality is not easy though, as it usually requires expensive studies with large sample sizes.
82. In terms of cost-effectiveness it is important to note that the cost of the RUFs is approximately three times higher than that of an FBF, while providing the same

amount of total energy. Therefore, though it might be more effective to give PLHIV RUFs, it is important to assess whether, in a world of limited resources and very poor coverage for integrated HIV and food and nutrition interventions, the incremental benefit of faster weight gain justifies the significantly higher cost. Additional research on the possibility of providing a combination of RUFs and FBFs to reduce cost, while still obtaining optimal impact is needed. A basic standard for nutritional rehabilitation of PLHIV is also needed, much like what has been done with acutely malnourished children under five, so that programs have a standard protocol for nutritional support.

83. Challenges are also faced in obtaining commitment for implementation of effective infant and young child feeding interventions at scale in many HIV-affected countries. While there are some success stories such as Zambia and Kenya, in most countries the scope and scale of programmes needs to be significantly strengthened and accelerated to achieve results. Programmes for the management of SAM also face challenges in terms of sustained funding to achieve high coverage.

Transition, exit strategies and sustainability

84. As mentioned, the food component of programmes needs to be finite and exit strategies need to be firmly in place in order to be credible and avoid the “revolving door” syndrome of patients on ART entering, exiting and re-entering programmes.
85. Data from Kenya shows, for example, that between 15 and 20 percent of ART patients who graduate from receiving food, become food insecure, experience diminished nutritional status, and meet the programme entry criteria within a short period of time, making them eligible once again for food support. In this context, it can sometimes seem that clients have responded well to the programme, but when they have graduated and lost the actual food support, they return to a food insecure environment that does not allow them to retain these nutritional achievements.
86. It is important to emphasize that weight loss occurs even in high income settings among ART clients and despite adequate food security. This would seem related to the disease itself and the causal pathways involved are unlikely to be the same as in the Kenya example above. Both areas need further investigation to better understand the reasons for relapse in nutritional terms and to increase the chances of preventing it.
87. In addition, linkages must be created to livelihood strategies without reinforcing stigma and discrimination that can arise when PLHIV are targeted for food in a situation of widespread poverty and food insecurity. In such cases, HIV-specific programmes need to be closely linked with broader social protection programmes.

Challenges related to Nutrition Assessment, Education and Counseling (NAEC)

88. An associated challenge is the provision of comprehensive NAEC programs. In order to achieve a comprehensive package of care, including food and nutrition services, for HIV patients attending health facilities, it is crucial to have those interventions deeply and fully integrated into the health system. However, hiring, training and retaining additional staff to deliver these integrated services can pose major challenges. For instance, the mechanics of food distribution are often new to the health sector and can present a significant added burden for overworked staff. The

integration of nutritional assessment, education and counseling alone bring significant challenges. In many low-income countries, for instance, health services are understaffed and lack the capacity to deal with the large number of patients they now need to see as a result of HIV. Also, the addition to treatment programs of what are frequently time-consuming nutrition activities, which require a one-on-one interaction with the patient and frequent follow-ups, can be unrealistic given the already stretched capacity of the health sector in many low-income countries.

Linking health sector and communities

89. There is no consensus on where food and nutrition programmes should be located in the context of HIV. There is a debate between those who feel community-based therapeutic care/ community based management of acute malnutrition, which has demonstrated successful management of severe acute malnutrition in children under-five should be adapted for adult use. They argue that folding nutrition rehabilitation of clients into clinical settings for HIV care and treatment programmes is a step backwards. Others feel just as strongly that health clinic based programmes that integrate food and nutrition security are a natural extension of clinical services. The real answer may lie in the middle. Comprehensive programmes require leveraging the strengths of both the health sector and communities. While only the health sector can ensure the nutritional status is always seen in conjunction with the course of treatment and bio-medical analyses, the health sector is unprepared to support affected households or to provide livelihood support.
90. It is, therefore, important to invest more time researching how best to link treatment programmes based in the health sector with community-based care and support activities in order to guarantee a continuum of comprehensive care to patients and their households through an adequate referral system between health facility and communities. If nutritional support already puts additional strains on the health sector, livelihood activities need to occur outside of it. This is where linkages to community-based programmes become extremely important. Many of these programmes remain in place from earlier years when the main focus was on impact mitigation and not on treatment. It is crucial these programmes are reconverted to link with health sector-initiated interventions and to complement them. Both the health sector and communities have their strengths and weaknesses and any comprehensive solution to tackle the needs of both the infected and the affected will require close collaboration between the two.

Understanding and overcoming demand-side barriers to seeking healthcare for PLHIV

91. In order to ensure treatment uptake, adherence and success, it is also important to better understand the 'demand side' of healthcare, i.e. what makes patients enroll for treatment and continue to adhere to it, and how best to address barriers to uptake and adherence.
92. A study conducted on the costs of obtaining free ARV treatment in South Africa found that patients still had to cover the costs of transport as well as the opportunity costs of time required for clinic visits^{lvii}. In addition, many clinics charge a visit fee and/or expect patients to pay for additional drugs required as part of their treatment. Patients were found to spend approximately US \$12 in total per visit, a substantial

amount of money for people who often live on less than US \$1 per day^{lviii}. Furthermore, visit fees and transport costs also compete with food needs, often forcing people to make difficult choices, and thereby at times impeding access to ART.^{lix} More recently, the global economic crisis and subsequent rise in food prices has also impacted food insecure PLHIV. In addition, a study by the International Treatment Preparedness Coalition (ITPC)^{lx} found that lack of access to adequate nutrition plus the personal financial burden of those on treatment made it difficult for many to obtain – and remain in – necessary care^{lxi}. In Kenya, where around half the population lives on less than US\$1 a day, about 40% of people living with HIV and receiving treatment are no longer taking ART after two years. This is largely due to cost; they have to choose between expensive bus fares to and from the clinic, and food. Accelerating the scale-up of often nascent social protection programmes is viewed as necessary to address these issues,^{lxii} ^{lxiii} but as these programs are not solely focused on how to overcome barriers to seeking ART, it can be difficult to assess their effectiveness in this regard.

93. While there are some studies available with respect to specific contexts that assist in identifying some of the demand-side barriers, more are needed to understand these issues on a broader scale, and to design interventions that address them. It should be noted that barriers to treatment uptake and adherence are also significant in high income countries and many lessons can probably be learnt from programmes in developed settings which have used a variety of enablers to overcome those barriers.

Stigma, discrimination and equity issues

94. Despite significant strides, stigma and discrimination at all levels can be formidable barriers for people living with HIV^{lxiv}. Universal Access to prevention, treatment, care and support is still limited in many contexts. The reasons for that are not only on the supply side, such as lack of financial or human resources, but also on the demand side. In many cases, people shy away from getting tested for HIV, because of the stigma associated with a positive result, which explains why in settings with high levels of stigma and discrimination people tend to present to clinics far too late, resulting in unnecessarily high levels of malnutrition, morbidity and mortality. Even when status is known, stigma and discrimination continue to be barriers to treatment uptake and adherence, thereby impeding treatment success in many cases.
95. Furthermore, in many instances short-term safety nets, such as voucher schemes or cash transfers, continue to lack an adequate exit strategy and dependency questions remain unresolved. Linking livelihood support to treatment programs can be one way of addressing some of these programmatic difficulties.
96. Lastly, even though counter-intuitive, HIV programmes, can amplify issues of stigma and discrimination unless carefully designed. Perceived or real equity issues can arise when programmes single out PLHIV and their households for assistance and livelihood support, while these services may not be available for people who are HIV-negative, or whose status is unknown. This is particularly true in situations of widespread poverty and food insecurity.

Orphans and vulnerable children (OVC)

97. There have been a number of critical shifts in programming on orphans and vulnerable children which have implications for food and nutrition programming in the context of HIV. It is now widely agreed that orphan hood is not a consistently useful determinant of child vulnerability in the context of HIV and AIDS and there is the need to consider other measures of vulnerability including wealth. Analysis shows that in 23 out of 35 surveys analyzed, orphans were more likely to be wasted but in only 5 of the 35 the difference was statistically significant^{kv}. Nutritional outcomes for children are much more likely to be affected by wealth and levels of education within the household rather than orphan status.
98. Better understanding of child vulnerability in the context of HIV has led to programming becoming HIV-sensitive rather than HIV-exclusive. There are undoubtedly specific vulnerabilities faced by children affected by HIV, for example HIV related stigma, barriers in accessing ART and so on. But many of the hardships children affected by HIV face, for example difficulties in accessing school and household poverty, are shared with other children who are not HIV affected. Therefore interventions for economic strengthening of households or supporting livelihoods should be targeted at poorest households some of whom will be HIV affected, rather than just HIV affected households.
99. The same distinction is important in relation to nutritional interventions. Targeted nutritional interventions are still required for severely malnourished children living with HIV (through combinations of HIV treatment and therapeutic feeding) and similarly HIV positive mothers and their infants will require support with exclusive breastfeeding. However HIV-sensitive rather than HIV-exclusive interventions are required for chronically food insecure children affected by HIV in a context where many other children and households face poverty and food insecurity. Targeting social transfers, including food and cash, on the basis of orphaning status or household "AIDS-affectedness" have been shown to be stigmatising and risks excluding other equally needy children and families.
100. Whilst the evidence on cash and other social transfers is compelling, it is widely acknowledged that such transfers need to be complemented by other aspects of social protection support. For example family support services working with vulnerable HIV affected households are essential to support good health and nutritional outcomes, such as exclusive breast-feeding and hand washing. Similarly families (including elderly headed households) who may be caring for orphans often need care and support, including psychosocial support and help in accessing social grants.

V FOOD AND NUTRITION PROGRAMMING AND HIV AND AIDS IN HUMANITARIAN SETTINGS

101. Humanitarian crises pose some distinct challenges for delivering integrated food and nutritional assistance programmes to people affected by HIV and AIDS, though there is much overlap between programming activities and challenges in non-humanitarian contexts.
102. Populations affected by conflict and/or natural disasters may often become more vulnerable to HIV infections because of a range of factors including loss of

livelihoods, displacement, food insecurity, increases in pre-existing levels of gender-based violence, transactional sex, and the disruption of health services including HIV treatment and prevention programmes.

103. Vulnerability to transmission can also increase due to a breakdown of family ties and of the overall social fabric, including cultural norms that regulate gender relations and sexual relationships, increasing the likelihood of often exploitative, unprotected sex. The influx of armed groups, uniformed services, and humanitarian aid workers can furthermore increase the demand for commercial or transactional sex. Finally, the increased mobility after prolonged periods of conflict, which are often characterised by restrictions on movements, often leads to high levels of interaction among people from different HIV prevalence settings, including returnees, peacekeepers, humanitarian workers, and long distance truck drivers, and hence to increased risk of HIV transmission.
104. PLHIV are often already vulnerable before emergencies occur. Social exclusion as a result of stigma and discrimination, combined with an increasing burden on household resources, can easily lead to a reduced ability to build or maintain livelihoods. PLHIV are also among the first to suffer in humanitarian emergencies. ART may be interrupted due to lack of medication, due to displacement or because of inaccessibility or closure of relevant medical facilities. Reduced access to sufficient quantities of food can pose a further serious problem for treatment adherence, while inadequate hygiene and the absence of clean water increases the risks of opportunistic infections.
105. In addition to ensuring regular supply of ART even in disasters, adequate nutritious foods need to be made available at short notice for PLHIV and TB patients as well as other vulnerable groups. Countries are currently not sufficiently planning for the special needs of those populations. There is also a need to address the HIV and food security requirements of non-recognised/ irregular migrants in humanitarian situations, as they might be particularly vulnerable to exploitation and risky behaviour due to their lack of recognized status.
106. Although many issues regarding the underlying rationale for delivering integrated food and nutritional assistance programmes for PLHIV are the same in emergency as well as non-emergency settings, there are some distinct challenges for delivering such support in humanitarian settings.
107. Humanitarian crises generally disrupt food security for all, and therefore humanitarian assistance programmes focus on delivering food-assistance to the broader population, which has become vulnerable, and food insecure. Not unlike in the case of livelihoods programmes and social protection schemes, the focus of programming in these settings of generalised food insecurity is to ensure that food assistance programmes are HIV-sensitive (inclusive), as opposed to specifically targeting PLHIV with food assistance and tailored nutritional support, which might not be possible in the midst of a major humanitarian response.
108. Such inclusiveness has to ensure, for example, that PLHIV have full access to humanitarian assistance and are not discriminated against because of their HIV status. At the same time their right to confidentiality has to be respected. It is also important to ensure that as soon as the situation stabilizes, longer-term strategic

interventions are developed and/or reinstated which can ensure targeted food and nutritional support for PLHIV and their families, as part of a wider and comprehensive HIV treatment, care and support package.

109. In 2004, the Inter-Agency Standing Committee (IASC) issued the guidelines for addressing HIV/AIDS interventions in emergency settings to help guide those involved in emergency responses to plan the delivery of a minimum set of HIV prevention, care and support interventions for people affected by humanitarian crises. These guidelines have now been revised and they draw on the latest evidence and experiences of governments, UN, inter-governmental and nongovernmental organizations, and the Red Cross / Red Crescent movement. The 2010 guidelines take into account, among other things, the growing understanding that ART and related medical care can be provided in low-resource settings, including in conflict zones, as well as the latest normative guidance on food security, nutrition and livelihood support. The guidelines are a crucial tool for ensuring the inclusion of HIV into humanitarian response interventions.^{lxvi}

VI CONCLUSION

110. Evidence introduced and reviewed throughout this paper shows the multiple linkages between HIV and AIDS and food and nutrition insecurity. HIV exacerbates often pre-existing food insecurity and malnutrition, while food insecurity can increase susceptibility and vulnerability to HIV.
111. The strength of the bidirectional linkages between food and nutrition insecurity and HIV and AIDS in any specific setting also depends on the influence of other contextual factors. Therefore an adequate understanding of the context is needed to design appropriate food and nutrition interventions for a successful response to the epidemic.
112. The overview provided of the existing food and nutrition security interventions and the programmatic challenges show that more research needs to be conducted in order to fill the current knowledge gaps, given the evolving nature of the HIV and AIDS response.
113. Despite mounting evidence on the importance of food and nutrition interventions, many HIV and AIDS programmes are only recently including these components. In addition, although considerable progress has been made in low- and middle-income countries, in terms of scaling-up access to HIV testing, counseling and the provision of ART, a large proportion of people still do not have access to these services.
114. For now we know that in contexts of widespread poverty, short-term safety nets for PLHIV will struggle with questions of graduating beneficiaries and sustainability and dependency questions may remain unresolved as a result. In addition, where treatment is not yet available, home-based care and mitigation activities will need to be continued, while in other settings the care infrastructure which is in place can be built on to provide a broader structure of support activities that complement treatment programmes.
115. WHO's decision to recommend earlier commencement of treatment further compounds the financial burden: bringing the estimated number of people in need of

immediate treatment from 10 to 15 million, and surely increasing overall future treatment needs. This means there will be continued pressure to increase funding for the AIDS response, while also putting implementers in the difficult situation where they need to simultaneously modify and expand programmes, while maintaining or improving service quality.

116. Current funding constraints in a context of increasing needs may also lead to donors perceiving they have to make trade-offs regarding investments. However, feeling one has to prioritize between a single disease focus and general health systems strengthening, between low- and middle-income countries, between low and high disease burden contexts and between prevention and treatment may not be the right approach.

117. Strategies instead should focus on linkages. Food and nutrition should for example be seen as enablers to Universal Access to prevention, treatment, care and support, reflecting their significant impact on uptake, adherence and efficacy of ART. Providing food and nutritional support is a relatively small investment to make the money spent on treatment and care and support more effective.

Abbreviations and Acronyms

AIDS Acquired immunodeficiency syndrome
ART Antiretroviral therapy or Antiretroviral treatment
BMI Body mass index
CBC Community based care
FAO Food and Agriculture Organization of the United Nations
FBP Food by Prescription
FBFs Fortified Blended Food
GBV Gender-based violence
GFATM The Global Fund to fight AIDS, TB and Malaria
HBC Home based care
HIV Human immunodeficiency virus
MDGs Millennium Development Goals
NACS Nutrition Assessment, Counseling and Support
NAEC Nutrition Assessment, Education and Counseling
OVC Orphans and vulnerable children
PEPFAR President's Emergency Plan for AIDS Relief
PLHIV People living with HIV
PMTCT Prevention of mother-to-child transmission
RUFs Ready to use Foods
RUTFs Ready to use Therapeutic Foods (RUTFs)
RUSFs Ready to use Supplementary Foods
TB Tuberculosis
UN United Nations
UNAIDS Joint United Nations Programme on HIV/AIDS
UNICEF United Nations Children's Fund
WFP World Food Programme
WHO World Health Organization

ANNEX I: KEY DEFINITIONS

Food security

Food security exists when all people have, at all times, physical, social and economic access to sufficient, safe and nutritious food that meets their dietary energy requirements and food preferences for an active and healthy life. Household food security means that all members of the household are food secure.

Food insecurity exists when people lack adequate physical and economic access to sufficient, safe and nutritious food for normal growth and development, and for active and healthy lives. Household food insecurity means that one or more members of the household are food insecure. Food insecurity can be caused by unavailability of food, lack of sufficient purchasing power to acquire and/or produce sufficient, safe and nutritious foods.

At the household level, inappropriate acquisition and distribution, and/or inadequate use of foods can contribute to food insecurity of one or more members. People or households that suffer from periods of a lack of physical and economic access to sufficient, safe and nutritious foods, while having adequate access at other times, are still considered food insecure. Food insecurity can thus be chronic (at most or at all times), seasonal, or transitory when an extraordinary event occurs that negatively affects food access after which adequate access is restored (see Vulnerability to food insecurity). When people or households suffer from food insecurity, their right to adequate food is not realised, even if the food insecurity condition is temporary. Only when people or households are food secure do they fully enjoy their right to adequate food.

Nutrition security

Nutrition security means that a person enjoys at all times an optimal nutrition condition for an active and healthy life. An optimal nutrition condition is relative to age, desired life style, and physiological condition, and covers both quantitative (dietary energy requirements) and qualitative (protein, mineral and vitamin requirements) aspects. Persons who at no time, or who at some times only, enjoy an optimal nutrition condition, are nutritionally insecure. As with food insecurity, nutrition insecurity can be chronic (at all or at most times), seasonal or transitory. Persons can be nutritionally insecure due to food insecurity, or due to non-food causes, such as poor health and sanitation conditions that result in certain diseases that affect the absorption of food by the body. Particularly relevant to the nutrition security of small children are childcare and feeding practices that negatively affect children's nutrition condition. Nutrition security means the enjoyment of the right to adequate food and of the right to health.

Vulnerability to food and nutrition insecurity

Vulnerability refers to the presence of factors that place people at risk of becoming food insecure or malnourished, including factors that affect people's capacity to deal with, or resist, the negative impact of risk factors on people's access to adequate food and/or on their nutrition conditions. Vulnerability thus combines exposure to one or more risk factors, and the capacity to withstand the effects of that risk or those risks. People or households which are exposed to certain risks, but have adequate capacity to deal with those risks and maintain or quickly recover adequate access to food, are not considered vulnerable.

On the other hand, people or households that have little or no capacity to safeguard their access to food, even when confronted with a minimal risk factor, are considered vulnerable or even highly vulnerable. Vulnerability can be thought of in terms of degrees, depending on the combination of: (i) the extent of exposure to risks (and the types of risks) and (ii) the capacity to compensate for the effects of those risks on the adequacy of food access or on one's nutrition conditions.

Food insecure people or households are also vulnerable, because any exposure to a risk will further aggravate their food insecurity condition. External risks factors to which vulnerable groups may be exposed are far ranging. They include: Climatic and environmental changes: droughts, floods, environmental degradation, deforestation; demographic and economic changes: rapid population growth, sharply rising consumer prices or falling producer prices; health and diseases: HIV/AIDS pandemic, high malaria incidence, plant pests; wars and armed conflicts; Laws, policies and regulations that adversely affect the resource-poor.

Nutrition support

These types of interventions always include nutrition assessment; education as well as individual counseling. In some cases, it also includes the prescription of targeted nutrition supplements (e.g. micronutrient supplementation) as well as linkages with food-based interventions and broader livelihood programmes. Given the profound consequences of HIV on nutritional status, nutrition support needs to be a standard part of HIV treatment protocols in low and high income countries, even though the specific components may differ. Nutrition Support may or may not include the provision of food. Helping PLHIV and TB patients mitigate the nutritional consequences of the disease before and during treatment and in the case of HIV the longer term side effects of treatment with antiretroviral drugs is critical to encourage adherence to treatment.

Food support

Food support is a component of nutritional support that involves the provision of food or food supplements. Food support can be provided through different modalities—for example, in rehabilitation centres, through linkages with treatment centres, or through community organizations. Malnourished PLHIV and TB patients should be prescribed food support in the early stages of ART, which is known to be a particularly vulnerable period. Food support may also be provided to families affected by HIV as an income transfer. Food support is generally provided for only a limited period of time, until people recover from malnutrition and are able to provide for their own food needs. Its main objective is to enhance treatment success rather than to address poverty which is often widespread and affects the HIV-positive and negative alike. Ideally, it should be linked to livelihood support and broader safety nets, so as to enable households who are recovering from the shock of HIV or TB infection to provide for themselves in a sustainable manner.

Malnutrition

People suffer from malnutrition when they have a physiological condition that may be caused by a consistently deficient intake of energy, protein, and/or of vitamins and minerals, or by a consistently excessive intake of these, relative to their requirements. Malnutrition thus refers comprehensively to all forms of under or over-nourishment, and/or of consistent deficiency in the intakes of proteins, vitamins and minerals.

Undernourishment

Undernourishment means a level of food intake with an energy content that consistently fails to meet the dietary energy requirements of a person. In the same way, over nourishment means a daily energy intake that consistently exceeds energy requirements. Children and adults, whose body weight significantly, and for an extended period, exceed their normal weight, are thus over nourished. Dietary energy requirements of an individual are determined by the energy needs for normal body functions, and by energy needs to maintain good health and normal activity. Dietary energy requirements vary with age, gender and life style. They also vary between individuals of the same age and gender, as life styles and activity levels vary. At the same time, as life styles and activity levels change over time for the same person, so do her/his daily energy requirements, including for short periods of time, such as in seasonal agricultural labour.

Household level survey data on food intake are often not available at country level. To estimate the daily energy intake for a country, FAO uses the data from food balance sheets to measure the daily energy available for human consumption, or daily energy supply, which is thus an indirect measure of daily energy intake. The prevalence of undernourishment, or food deprivation, is then estimated for countries by applying mathematical formulas to approximate the distributions in the population of daily energy requirements and of the daily energy supply²⁸. Per capita Daily Energy Supply and the prevalence of undernourishment are used to monitor over time the country's food security position.

Food availability

Food availability is the physical presence of food in the area of concern through all forms of domestic production, commercial imports and food aid. Food availability is considered a macroeconomic concern, and can be aggregated at the regional, national, district or community level.

Food access

Food access describes a household's ability to obtain food in sufficient quantity and quality. Access to food can occur through one or a combination of activities, including home production, purchases, barter, gifts, borrowing and food aid. Food may be available but not accessible to certain households if they cannot acquire a sufficient quantity or diversity of food through various mechanisms.

Food utilization

Food utilization refers to households' use of the food to which they have access, and individuals' ability to ingest or eat, and the body's ability to absorb and metabolize the nutrients – the conversion efficiency of the body. In this way, nutrition is a key component of food security. Food utilization includes the ways in which food is stored, processed and prepared, feeding practices, particularly for individuals with special nutrition needs, such as babies, young children, the elderly, sick people, and pregnant or lactating women, the sharing of food within the household, and the extent to which this corresponds to individuals' nutrition needs, and the health status of each member of the household. Food may be *available* and *accessible* but certain household members may not benefit fully if they do not receive an adequate share of the food in terms of quantity and diversity, or if their bodies are unable to absorb the food because of poor food preparation or sickness. Food utilization is focused on the needs of individuals within the household. It is a particular important topic in HIV and TB as the disease, especially

when untreated, impairs the body's ability to make use of nutrients.

Livelihoods

This term comprises the capabilities, assets (including both material and social resources) and activities required for a means of living linked to survival and future well-being^{lxvii}.

Safety nets

A safety net is a predictable set of institutionalized mechanisms (food, voucher or cash-based transfer activities) that help vulnerable households cope with shocks and meet their minimum consumption requirements. Ideally, a food-based safety net should be part of a national social protection strategy.

Underweight

This is measured by comparing the weight-for-age of a child with a reference population of well nourished and healthy children. It is estimated that the deaths of 3.7 million children aged less than five are associated with the underweight status of the children themselves or their mothers.

Wasting

Wasting reflects a recent and severe process that has led to substantial weight loss, usually associated with starvation and/or disease. Wasting is calculated by comparing weight-for-height of a child with a reference population of well nourished and healthy children. This term is often used to assess the severity of emergencies because it is strongly related to mortality.

Body Mass Index (BMI)

Weight (in kilograms) divided by height (in meters) squared (kg/m²). Normal range: 20–25. A value of 30 or greater shows obesity-related health risks. Values below 18.5 show moderate acute malnutrition, values below 16 are considered severe and require immediate medical attention and often facility-based treatment. In addition to BMI, MUAC (Mid-Upper Arm Circumference) is often used for Pregnant and Lactating Women as well as young children.

Micronutrient powder (MNP)

MNPs are a powder which contains many essential vitamins and minerals. They are used to fortify foods after preparation, just before consumption, to ensure an adequate intake of micronutrients essential for bodily functions, growth, immunity, productivity, and prevention of mortality among different population subgroups. MNPs were designed to provide micronutrients to young children who cannot swallow micronutrient capsules and who eat so little staple food fortification will not allow them to reach their required nutrient intake (RNI) of most micronutrients.

Core content of the Right to Adequate Food

The core content of the right to adequate food consists of:

- Economic and physical access to food
- Food availability
- Food adequacy

Economic accessibility implies that personal or household food costs for an adequate diet should be at a level such that the satisfaction of other basic needs is not compromised. Economic accessibility applies to any acquisition pattern or entitlement through which people procure their food and is a measure of the extent to which it is satisfactory for the enjoyment of the right to adequate food. Physical accessibility implies that adequate food must be accessible to everyone. Victims of natural disasters, people living in disaster-prone areas and other disadvantaged groups may need special attention, and sometimes priority consideration, with respect to access to adequate food. Economic and physical accessibility must be stable, meaning that food access must not fluctuate much over time, once it is at adequate levels (See Food Security).

Food availability or supply must be adequate to meet food demand (at optimal levels), and food systems must be environmentally and economically sustainable. Food systems that make food available to the consumers consist of food production (including food production for self consumption by the household), processing, distribution and marketing, and all these processes must be efficient, have long-term economic and environmental viability, and not produce ecological damage. Otherwise, long-term food security is compromised (See Vulnerability to Food Insecurity). For food (intake) to be "adequate", it must fulfill three basic conditions:

- The diet must meet all nutritional requirements, both quantitatively (energy content) as well as qualitatively (protein, vitamins and minerals content).
- It must be safe for human beings to eat and not cause any disease.
- The food must be culturally acceptable to those who consume it.

Non-discrimination

Any discrimination in access to food, and in access to means and entitlements to acquire food, on the grounds of race, colour, sex, language, age, religion, political or other opinion, national or social origin, property, birth or other status with the purpose or effect of nullifying or impairing the equal enjoyment or exercise of economic, social and cultural rights constitutes a violation of the International Covenant on Economic, Social and Cultural Rights.

Policies, programmes and institutions need carefully to be examined to detect discriminatory outcomes and effects that they may produce when benefiting certain groups at the expense of others. Strategies to eliminate discrimination in access to food should include: guarantees of full and equal access to economic resources, particularly for women, including the right to inheritance and the ownership of land and other property, credit, natural resources and appropriate technology; measures to respect and protect self-employment and work which provides a remuneration ensuring a decent living for wage earners and their families; maintaining registries on rights to land.

Gender sensitivity

In many countries, women and girls are more often victims of rights violations. Although men and women are generally equal before the law, women are usually discriminated against in access to food, land, credit and other means of production. Applying a gender sensitive approach means going beyond equality in the legal system, by considering the differences in living conditions and interests of women and men from the outset, and in a consistent manner, when formulating and implementing a social policy, programme or project. This also implies the promotion of compensatory measures in order to achieve

de facto equality in accordance with Article 4, Convention on the Elimination of All Forms of Discrimination against Women.

ANNEX II: ADDITIONAL RESOURCES (supplementing the endnotes of this background paper)

Select policy and programme guidance documents

- HIV, Nutrition, and Food: a Practical Guide for Technical Staff and Clinicians, Family Health International, December 2007
- Food and Agriculture Organization of the United Nations (FAO) Policy Brief: Food Security. Issue 2, Rome, Italy: FAO 2006
- The State of Food Insecurity in the World: Economic Crises, Impacts and Lessons Learned. Rome, Italy: FAO, 2009
- The Right to Food in the Context of HIV/AIDS, FAO 2009
- FAO resources on the Right to Food, available at http://www.fao.org/righttofood/publi_en.htm
- Nutrition, Food Security and HIV: A Compendium of Promising Practices, FANTA (Food and Nutritional Technical Assistance), October 2008
- Food Assistance Programming in the context of HIV - Handbook prepared jointly by FANTA and World Food Programme (WFP)
- FANTA Project and World Food Programme (WFP). Food Assistance Programming in the Context of HIV. Washington DC, USA: FANTA Project, Academy for Educational Development (AED), 2007
- Inter-Agency Standing Committee (IASC) Guidelines for Addressing HIV in Humanitarian Settings, 2010
- World Food Programme HIV and AIDS Policy, October 2010
- Food Assistance Programming in the Context of HIV: Ration Design Guide, WFP, 2008
- Getting Started: Programming Food Assistance for Orphans and Vulnerable Children, WFP, 2008
- Getting Started: WFP Food Assistance in the Context of Tuberculosis Care and Treatment, WFP, 2007
- Getting Started: Running a Junior Farmer Field and Life School, WFP, FAO, 2007
- Getting Started: WFP Support to HIV/AIDS Training for Transport and Contract Workers, WFP, 2006
- Getting started: HIV/AIDS education in school feeding programmes, WFP, 2005
- Ten Minutes to Learn about Nutrition Programming, A joint Initiative of the United Nations World Food Programme and DSM, 2008
- Fortifying Food in the Field to Boost Nutrition: case studies from Afghanistan, Angola and Zambia (WFP Occasional Paper16)
- Social Protection in the Era of HIV and AIDS: Examining the Role of Food-Based Interventions (WFP Occasional Paper17)
- Widening the 'Window of Hope': Using Food Aid to Improve Access to Education for Orphans and Other Vulnerable Children in Sub-Saharan Africa (WFP Occasional Paper 15)
- Joint United Nations Programme on HIV/AIDS (UNAIDS) Terminology Guidelines, June 2010
- World Health Organization (WHO). Nutrient Requirements for People Living with HIV/AIDS. Report of a Technical Consultation. Geneva, World Health Organization, 2003

- WHO, the United Nations Children's Fund (UNICEF) and UNAIDS. Towards universal access: scaling up priority HIV/AIDS interventions in the health sector. Geneva: WHO, UNICEF, UNAIDS, 2009
- World Health Organization (WHO). Rapid Advice: Antiretroviral Therapy for HIV Infection in Adults and Adolescents. Geneva, WHO, 2009

Select supplementary research carried out in the field of food and nutrition security and HIV/AIDS

- Aranka A, Vogenthaler n, Frongillo EA, Kadiyala s, Weiser S. Food insecurity and HIV/AIDS: Current knowledge, gaps, and research priorities. Current HIV/AIDS Reports 2009;6:224-231.
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- Gillespie S, Kadiyala S, Greener R. Is Poverty or Wealth Driving HIV Transmission? AIDS 2007;21:S5-S16.
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Websites of select organizations engaged with issues related to food and nutrition security & HIV/AIDS

- Joint United Nations Programme on HIV/AIDS (UNAIDS)
<http://unaids.org/>
- Food and Agriculture Organization of the United Nations (FAO) <http://www.fao.org/>
- Office of the United Nations High Commissioner for Refugees (UNHCR)
<http://www.unhcr.org>
- United Nations Children's Fund (UNICEF)
<http://www.unicef.org/>
- World Food Programme (WFP)
<http://www.wfp.org/>

- World Health Organization (WHO)
<http://www.who.int/en/>
- The World Bank
<http://www.worldbank.org/>
- The Global Fund to Fight AIDS, Tuberculosis and Malaria
<http://www.theglobalfund.org/en/>
- The United States President's Emergency Plan for AIDS Relief
<http://www.pepfar.gov/>
- Food and Nutritional Technical Assistance (FANTA)
<http://www.fantaproject.org/>
- Family Health International
<http://fhi.org/en/index.htm>
- Global Alliance for Improved Nutrition (GAIN)
<http://www.gainhealth.org/>
- International Food Policy Research Institute (IFPRI)
<http://www.ifpri.org/>
- Regional Network on AIDS, Livelihoods and Food Security (RENEWAL)
<http://programs.ifpri.org/renewal/>

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