

A review of nutrition and food security approaches in HIV and AIDS programmes in Eastern and Southern Africa

**Dora Panagides¹, Rick Graciano², Peter Atekyereza³, Lilia Gerberg⁴
and Mickey Chopra⁵**

1 Helen Keller International Africa Regional Office, Senegal

2 Helen Keller International Asia-Pacific Regional Office, Cambodia

3 Makerere University, Uganda

4 Congressional Hunger Center, United States of America

5 Medical Research Council of South Africa, South Africa



**Medical Research Council of South Africa,
University of the Western Cape**

In the

**Regional Network for Equity in Health in
East and Southern Africa (EQUINET)**

EQUINET DISCUSSION PAPER NUMBER 48

May 2007

With support from SIDA (Sweden)

Table of contents

| | |
|--|----|
| Executive summary..... | 2 |
| 1. Introduction | 4 |
| 1.1. AIDS and nutrition in East Africa | 4 |
| 1.2. AIDS and nutrition in Southern Africa..... | 5 |
| 1.3. Relationship between HIV and AIDS and food and nutrition | 6 |
| 2. Country responses to HIV and AIDS | 9 |
| 2.1. Kenya | 9 |
| 2.2. Tanzania..... | 12 |
| 2.3. Uganda..... | 14 |
| 2.4. Mozambique..... | 15 |
| 2.5. South Africa..... | 16 |
| 2.6. Zimbabwe..... | 19 |
| 3. Summary overview of AIDS and nutrition policies and programmes | 21 |
| 3.1. Policies and programmes in Eastern Africa | 22 |
| 3.2. Policies and programmes in Southern Africa | 23 |
| 4. Gaps and challenges in programming nutrition into HIV and AIDS | 24 |
| 5. Towards a comprehensive approach of integrating nutrition into HIV and AIDS programming..... | 26 |
| 5.1. What should a comprehensive approach look like? | 26 |
| 5.2. Elements of a comprehensive approach | 28 |
| References..... | 32 |
| Acronyms | 39 |

Executive summary

Sub-Saharan Africa has just over 10% of the world's population, or slightly more than 600 million people, but is home to more than 60% of all people living with the Human Immunodeficiency Virus (HIV) – approximately 25.8 million people. In 2005, an estimated 3.2 million people in the region became newly infected, while 2.4 million adults and children died of Acquired Immune Deficiency Syndrome (AIDS). HIV and AIDS are having a devastating effect on agriculture, education and the private sector. Many farmers have died and many others are debilitated by illness, leading to reduced food production. Low food production and accessibility in turn contribute to food and nutrition insecurity. Furthermore, sub-Saharan Africa is the only region of the world where chronic food insecurity and threats of famine remain endemic for most of the population, and the number of malnourished people is steadily increasing. Thus, in a region where food and nutrition security was already prevalent, the exacerbating factor of HIV and AIDS is having an especially devastating effect. Because of the multi-dimensional nature of the impact of HIV and AIDS on individuals, households and communities, a response to the crisis should include an integrated or comprehensive approach involving persons from various sectors, including health, agriculture, social welfare, education, the private sector and others.

The Regional Network for Equity in Health in East and Southern Africa (EQUINET) through the Health Systems Research Unit of the Medical Research Council (MRC), South Africa, initiated a programme on food security, nutrition and health in Southern and Eastern Africa. The programme explores the links between nutrition and food security interventions both at the health sector level, and in the context of a broader macro-level analysis of trade, agriculture and food security. This paper is one part of this overall project and has been produced in collaboration with Helen Keller International (HKI) and Makerere University, Uganda.

The purpose of this paper is to explore the interface between HIV and AIDS and food and nutrition security, and the policy and programme implications for a comprehensive strategy to address these issues synergistically. Specifically, this paper examines and compares the policies and programmes related to HIV and AIDS and food and nutrition security that are currently in place in three Eastern Africa countries (Kenya, Tanzania and Uganda) and three Southern Africa countries (Mozambique, South Africa and Zimbabwe) and concludes with elements of a comprehensive approach.

This paper is based on a desk review of existing policies and programs in each of the six study countries. In addition, key informant interviews were conducted with persons from various government departments, United Nations (UN) agencies and non-governmental organisations (NGOs).

Findings from this review suggest that HIV and AIDS guidelines, policies or strategic plans have largely been developed with broad consensus through a participatory approach involving various stakeholders. This has led to the development of multi-sectoral approaches to the problem. Nonetheless, the resulting policies and plans, as well as their implementation, have tended toward highly medicalised approaches focusing on prevention, advocacy, de-stigmatisation, and treatment, care and support. Community-based strategies are still limited to home-based or community-based care relying on medical support from the health system or external agencies, such as food aid. The involvement of the private sector is yet to be explored in more innovative and entrepreneurial ways that can potentially enhance the sustainability of mitigation efforts. Furthermore, policies and plans assume that people have access to services or that they are able to follow counseling advice and guidelines without further resource support. While training of health personnel in dietary guidelines and nutrition care for people living with HIV and AIDS is needed, the food and

nutrition dimensions of the problem – and the food and nutrition security of the most vulnerable target groups – should be carefully considered and appropriately addressed.

Inequities in health, nutrition and food security are the product of the underlying social, economic and political structures and tensions in a society. These inequities exacerbate the effects of HIV and AIDS and food insecurity to the point of eroding a community's physical, human and economic capital, and consequently its capacity to respond and recover from these conditions. While health sector responses to the immediate causes of HIV and AIDS and undernutrition are important, they should be reframed in the context of a comprehensive approach to tackling the wider, structural and systemic deficiencies that fuel susceptibility and vulnerability. One of the most important aspects of a comprehensive approach is to link health strategies with community-oriented food-based strategies in order to support sustainable, community participation in problem solving.

If countries in East and Southern Africa are to adopt a more comprehensive approach with a food sovereignty element within their nutrition interventions, governments are going to have to significantly improve co-ordination and communication between ministries. Individual ministries are simply not going to be in a position to provide comprehensive interventions unless this is done. This has at least four important implications for health systems and policy makers:

1. working with different stakeholders;
2. giving greater voice to local communities;
3. strengthening service provision at community health worker level, and
4. capacity development for management and monitoring of comprehensive interventions.

1. Introduction

The Regional Network for Equity in Health in East and Southern Africa (EQUINET) through the Health Systems Research Unit of the Medical Research Council (MRC), South Africa, initiated in 2006 a programme on food security, nutrition and health in Southern and Eastern Africa. The programme explores the links between nutrition and food security interventions both at the health sector level, and in the context of a broader macro-level analysis of trade, agriculture and food security. This paper is one part of this overall project.

The purpose of this paper is to explore the interface between HIV and AIDS and food and nutrition security, and the policy and programme implications for a comprehensive strategy to address these issues synergistically. Specifically, it examines and compares the policies and programmes related to HIV and AIDS and food and nutrition security that are currently in place in three Eastern Africa countries (Kenya, Tanzania and Uganda) and three Southern Africa countries (Mozambique, South Africa and Zimbabwe).

Sub-Saharan Africa has just over 10% of the world's population, or slightly more than 600 million people, but is home to more than 60% of all people living with HIV – approximately 25.8 million people. In 2005, an estimated 3.2 million people in the region became newly infected, while 2.4 million adults and children died of AIDS (UNAIDS, 2006). HIV and AIDS are having a devastating effect on agriculture, education and the private sector. Many farmers have died and many others are debilitated by illness, leading to reduced food production (WFP, 2004; NAADS, 2003; Topouzis, 2003). Low food production and accessibility in turn contribute to food and nutrition insecurity. The proportion of the world's population facing acute and chronic hunger is decreasing on every continent except Africa (WFP and Stanford University Press, 2006). Furthermore, sub-Saharan Africa is the only region of the world where chronic food insecurity and threats of famine remain endemic for most of the population, and the number of malnourished people is steadily increasing (Devereaux and Maxwell, 2001; Rukuni, 2002). Thus, in a region where food and nutrition security was already prevalent, the exacerbating factor of HIV and AIDS is having an especially devastating effect.

This paper explores national policy responses as well as programmatic responses by government, civil society, and non-government organisations in order to determine where linkages exist, to analyse strengths and weaknesses, to note what gaps remain, and to recommend appropriate comprehensive approaches. Because of the large number of policies and programmes, this paper provides a sampling of the range of activities in each country but not a complete account. By analysing trends, opportunities, constraints, and possible synergies, this paper intends to offer a practical way forward for how countries can improve integration of food and nutrition in their response to the HIV and AIDS epidemic.

1.1. AIDS and nutrition in East Africa

An estimated 6% of the Eastern African population is infected with HIV. Adult prevalence rates (as of 2005) are:

- Kenya: 6.1%;
- Tanzania: 6.5%; and
- Uganda: 6.7% (UNAIDS, 2005).

HIV infection in Eastern Africa is primarily spread through heterosexual intercourse although infections through injectable drugs have been reported to be spreading in the Tanzanian island of Zanzibar (IRIN, 2006a). The spread of the epidemic across this region is closely linked to the migration of labor from rural areas to urban centres and across national borders. Long-distance truck drivers and prostitutes belong to high-risk behaviour groups

and tend to spread the infection along trade routes in the region. Although the population aged 15-49 years is most at risk, there are increasing numbers of HIV infection among children aged 0-14 years.

The HIV prevalence rates in the Eastern Africa region show signs of a downward trend. The three-pronged strategy of prevention, treatment and care and support, accompanied by a high level of advocacy supporting this strategy, has led to positive results. Nonetheless, the impact of the deaths, especially of the productive members of the population, is detrimental to both the national and household economy. HIV prevalence indicators show that there are higher levels of infection among women than men, in urban than rural areas, and among the richer than poorer (MoH, Uganda and ORC Macro, 2006; TACAIDS et al, 2006). There are increasing numbers of children being orphaned due to AIDS.

Kenya, Tanzania and Uganda as the focus east African countries of this analysis have estimated populations of about 34.7 million, 37.4 million, and 28.2 million, respectively, for a total of approximately 100.3 million. The region is mostly rural and relatively sparsely populated. The three countries rank low on the Human Development Index. The populations tend to be poor with low per capita income, especially in terms of agriculture, despite the fact that the main economic activity is agriculture-related. Most people depend on subsistence farming, and are at the mercy of the climatic seasons since there is an insignificant level of irrigation.

East Africa is experiencing large increases in the numbers of underweight children – projected to have increased by 36% between 1990 and 2005. Findings for stunting (chronic under-nutrition) and wasting (acute under-nutrition) are similar. Chronic malnutrition is a problem in the three countries under this review. This results from consumption of a diet of inadequate quality for a prolonged period of time as well as chronic disease. According to the Food and Agriculture Organisation (FAO) (2004), the average daily caloric intake in these countries ranges from 1,960 to 2,360 and the undernourished population is approximated at 19%, 30% and 33% for Uganda, Kenya and Tanzania, respectively (IFAD, 2006).

1.2. AIDS and nutrition in Southern Africa

Southern Africa remains the epicenter of the global AIDS epidemic. Prevalence rates (as of 2005) are: Mozambique: 16.1%; South Africa: 18.8%; and Zimbabwe: 20.1% (UNAIDS, 2006). In South Africa, HIV prevalence among pregnant women has reached its highest levels to date. Zimbabwe has shown a decline in national HIV prevalence but rates are still very high. While Mozambique has a lower prevalence rate, it increased dramatically since 2002 and the data show a worsening epidemic overall. In these three countries, an estimated nine million people are living with HIV and nearly three million children have been orphaned by AIDS. In all three countries, most of the reported AIDS cases are among adults aged 20-49 years, the most economically active segment of the population.

In Southern Africa, this review focuses on Mozambique, South Africa and Zimbabwe. These countries have estimated populations of about 19.7 million, 44.2 million, and 12.2 million, respectively, for a total of approximately 76.1 million. In South Africa, estimates suggest that approximately 35% of the population, or 14 million people, are vulnerable to food insecurity (de Klerk et al, 2004). Forty-three percent of households suffer from food poverty (where monthly food spending is less than the cost of a nutritionally adequate diet (Schmidt, 2005). Nutrition surveillance data from Zimbabwe found that over 70% of households were food insecure (Food and Nutrition Council/GoZ, 2005); in Mozambique, an estimated 64% of the population is food insecure and more than half of the population lives below the poverty line (FAO, n.d.).

In Southern Africa, staple food production (i.e. maize) is the mainstay of the subsistence family sector but it is subject to wide variations due to climatic uncertainty. This dynamic leads to seasonal fluctuations in availability and price with a subsequent impact on marketing opportunities and income generation. Labour constraints at the household level are affected by a seasonal upsurge in malaria, diarrhea, and other parasitic diseases, and by underlying long-term problems caused by deficiencies in micronutrients; these constraints are now being compounded by the increasing impact of HIV and AIDS on households.

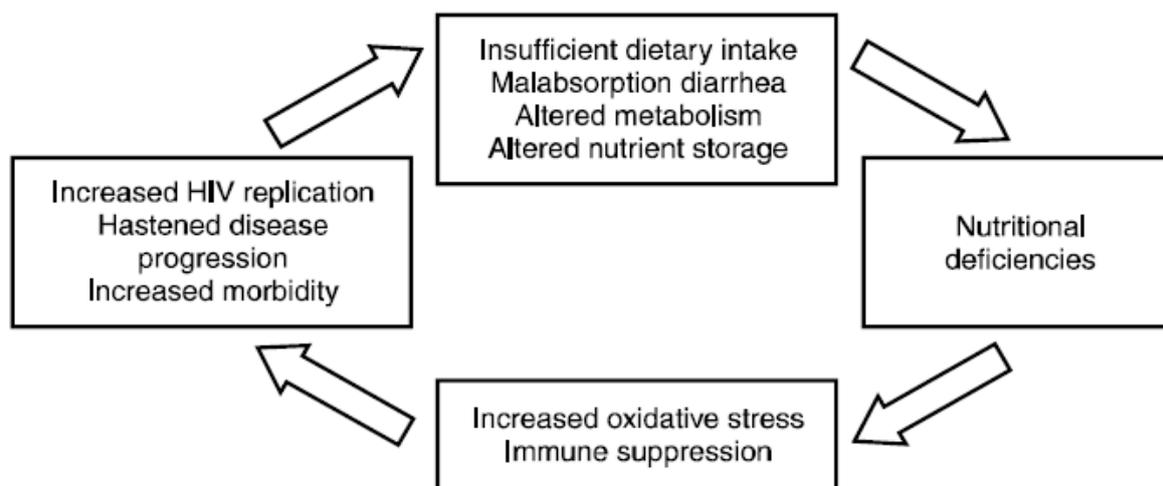
The *National Food Consumption Survey (NFCS) of 1999* in South Africa showed that at least 21.6% of children between the ages of 1 and 9 years were stunted. Preliminary data from the *Zimbabwe Demographic and Health Survey (2005-06)* shows that the prevalence of stunting among children under five years of age is 29%, and in Mozambique, an estimated 41% of children under-5 years of age suffer from chronic malnutrition/stunting. Micronutrient deficiencies were also found to be widely prevalent in all three countries.

1.3. Relationship between HIV and AIDS and food and nutrition

HIV and AIDS interact with nutrition and food security at a number of different levels — biological, individual and community.

At a biological level, HIV and AIDS and malnutrition interact in a vicious cycle (Figure 1). HIV-induced immune impairment and heightened risk of infection can worsen nutritional status, lead to nutritional deficiencies through decreased food intake, malabsorption, and increased utilisation and excretion of nutrients. These processes in turn hasten the progression of HIV infection to AIDS, while HIV infection exacerbates malnutrition by attacking the immune system and by negatively impacting nutrient intake, absorption and the body's use of food (Semba and Tang, 1999; WFP, 2004; Gillespie and Kadiyala, 2005; AVERT, 2005; Scott and Mullins, 2006). Like HIV and AIDS, malnutrition also compromises the immune function and thus increases susceptibility to severe illnesses and reduces survival. Nutritional status modulates the immunological response to HIV infection, affecting the overall clinical outcomes (WHO, 2003; El Beitune et al, 2006; Thaczuk, 2006).

Figure 1: The vicious cycle of malnutrition and HIV



Source: Semba and Tang, 1999.

Due to this relationship, nutritional interventions are critical to fighting HIV and AIDS in three-fold, i.e. nutrition interventions for antiretroviral therapy (ART), nutrition supplements for malnutrition in HIV and AIDS patients, and nutrition interventions for orphans and vulnerable

children (OVCs). First, certain dietary components have the potential to reduce ARVs side effects and specific dietary intake, for example, assist the absorption and metabolism of ARVs (WHO, 2003). Second, nutrition interventions alleviate malnutrition-related weight loss and related malnutrition syndromes seen in HIV+ persons and AIDS patients (Thaczuk, 2006). However, in spite of the positive attributes of nutrition among HIV-infected persons, in resource-limited situations there may be insufficient food available within the family stores for the infected person to eat extra food as their appetite returns (WHO, 2003; El Beitune et al, 2006). Third, increasing household food security of vulnerable families can be effective in improving rates of malnutrition of children and other vulnerable populations.

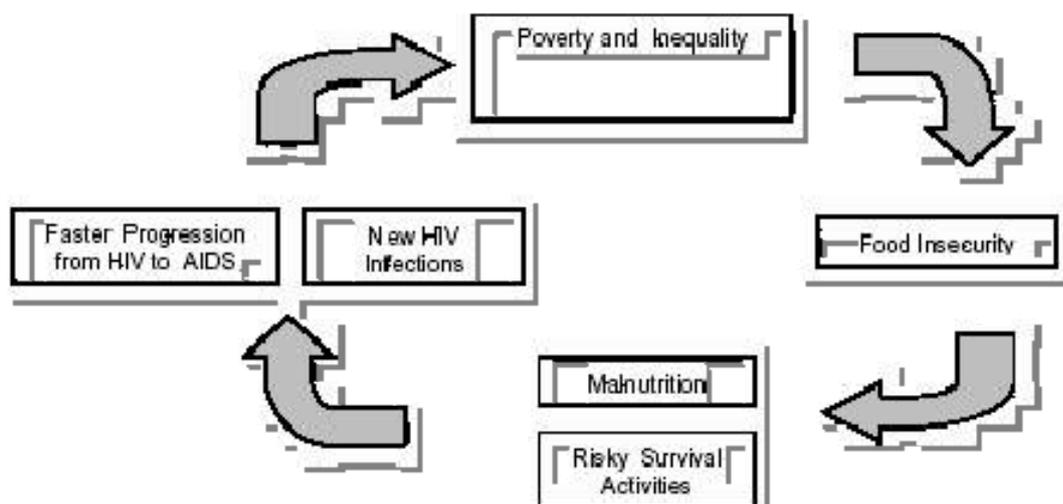
There are also non-biological interactions between HIV and AIDS and food and nutrition security. These linkages are bi-directional – HIV and AIDS are both a determining factor of food insecurity and a consequence of food and nutrition insecurity (see *Figure 2*). In the short and medium term, the epidemic impoverishes households through:

- loss of labour in agriculture and other livelihood activities;
- increased cost of health care and funerals;
- diminished capacity to care for children and other vulnerable individuals; and
- erosion of the asset base.

In the longer term, HIV and AIDS have impacts on social and economic systems and institutions in hard-hit countries. AIDS forces children, particularly girls, to withdraw from school in order to work or care for ill parents. It reduces the inter-generational transfer of skills and knowledge of agriculture, and erodes the human resource base of institutions required to address the sectoral and cross-sectoral impacts of the epidemic. HIV and AIDS reduces the availability of labor and knowledge that in turn affect household level access to food. HIV and AIDS are interwoven with multiple other determinants of food security (NAADS, 2003; Gillespie and Kadiyala, 2005).

Communities are being ravaged by the degeneration of physical (food and agriculture), human and economic resources. Yet, responses to this crisis thus far have been based mostly on fundamentally narrow, medicalised approaches that largely fail to address the underlying and basic causes of increased susceptibility and vulnerability of communities to HIV and AIDS and malnutrition. The realities of the HIV and AIDS pandemic in Africa must be more fully integrated into famine, food security and vulnerability studies and interventions (Baro and Deubel, 2006).

Figure 2: Bi-directional relationship between HIV and AIDS and food security

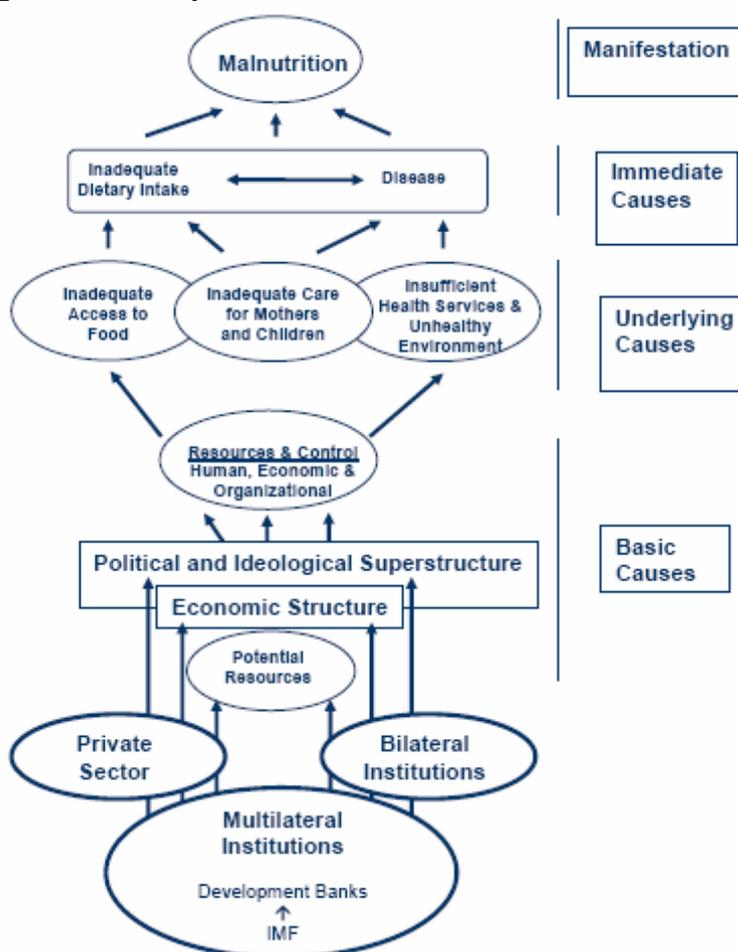


Source: Save the Children and Oxfam, 2002.

The relationship between poverty, nutrition and HIV and AIDS does not begin and end at the biological, individual and community levels (Chopra, 2003). The underlying vulnerability of poor countries has structural roots in the capacity of governments to respond with appropriate policies and programmes made possible through technical, human and financial resources.

The UNICEF (1990) conceptual framework illustrates how the political and economic structures of a country control the delivery (or lack thereof) of public goods, such as food security and health services. The political economy of global trade and finance, as well as external development assistance, can have a profound impact on the health and welfare of populations affected by poverty, food insecurity and HIV and AIDS (Martorell, 1996; Sahn and Scrimshaw, 1982; Sachs, 2005; Stiglitz, 2002). Bloem et al (2005) extended the UNICEF framework, recognising that other external influences, such as donors, also affect nutrition outcomes in developing countries (see *Figure 3*). A thorough analysis of a country's situation requires understanding of the relative importance of each component of the framework as well as the interdependence of these components.

Figure 3: Conceptual framework of the causes of malnutrition



Source: UNICEF, 1990 extended by Bloem et al, 2005.

An understanding of the potential effect of macroeconomic changes on vitamin and mineral deficiencies is also important to understanding the basic causes of health and nutrition problems. Over the last two decades, the importance of vitamin and mineral deficiencies has been increasingly recognized as a major underlying factor for stunting, infectious diseases, and childhood and maternal mortality in general. Helen Keller International (HKI) carried out work in the Asia Pacific region to examine the effect of macroeconomic changes on

malnutrition, specifically micronutrient malnutrition. Using Bloem's extended conceptual framework, the analysis by Torlesse et al (2003) of long-term nutrition surveillance data from Bangladesh found a strong correlation between the decline in rice prices and child nutritional status, suggesting macroeconomic food policies have an impact on nutrition. While rice consumption had not changed during the period analysed, the decline in rice prices was associated with an increase in household expenditure on non-cereal foods, which was in turn strongly correlated with the decline in child malnutrition (Torlesse et al, 2003). Conversely, in Indonesia, comparison of data from nutrition surveillance, collected before and shortly after the onset of the country's economic crisis in 1998, showed that the economic downturn reduced household access to more expensive micronutrient-rich food items, such as animal source and fortified foods, particularly among the urban poor, and this led to an increase in the prevalence of micronutrient deficiencies (Bloem et al, 2005; Block et al, 2004).

These experiences suggest that food policy responses to these types of crises can influence access to micronutrient-rich foods and therefore positively or negatively affect nutritional status, which will in turn have synergies with HIV and AIDS. It is therefore very important to closely scrutinise how global trade policies and regulations, and other macroeconomic policies at country level impact the prices of commodities, such as rice and other staple foods. There is a need to develop appropriate cross-sectoral programmes to support food security among the most vulnerable groups. This could include homestead food production and agriculture extension programmes, food aid and food subsidies (both targeted and general), and safety net programmes.

2. Country responses to HIV and AIDS

This section examines the food and nutrition insecurity and HIV and AIDS situation in six countries in eastern and southern Africa, and the national responses to the dual epidemics in these countries. All countries have put in place various policies directly or indirectly related to food and nutrition access and security. Governments in eastern and southern Africa have formulated a number of national policies aimed to reduce the prevalence of HIV and help mitigate the impact of the AIDS disease on individuals, household and communities. When, how, and to what extent these policies have been developed and implemented varies from country to country and their focus depends on national priorities.

The review focuses first on countries in east Africa and then on countries in southern Africa.

2.1. Kenya

The first policy response to HIV and AIDS in Kenya was the *Sessional Paper No. 4 of 1997* on AIDS in Kenya (Kenya MoH, 1997). The primary objective of this paper was to provide a policy framework within which HIV and AIDS prevention and control efforts would be undertaken. The National AIDS Control Council (NACC) was established in 1999 with a mission of providing a policy and a strategic framework for mobilising and coordinating resources for prevention of HIV transmission and provision of care and support to infected and affected people in Kenya. NACC was structured to work through decentralised AIDS control units at province, district and community levels (Republic of Kenya, 2001). The AIDS control efforts in Kenya primarily focused on an integrated package of:

- prevention of heterosexual transmission of HIV;
- abstinence before marriage and faithfulness during marriage;
- promoting voluntary counselling and testing for HIV;
- use and availability of condoms;
- treatment of sexually transmitted infections (STIs);
- prevention of infection among young people;

- prevention of mother to child transmission; and
- safe blood supply.

According to Wagah (2005), Kenya has the potential to provide for its food and nutritional needs though this has not been realised due to natural and other structural causes.

Achievement of food security in Kenya is constrained by a number of factors that include climatic conditions, and high production costs as a result of high taxation for farm inputs, which make the price of cereals higher in Kenya than anywhere else in the region (Nyoro and Muiruri, 2001). Wagah (2005) explains that a number of policies have been formulated and have strong implications for food and nutrition security. These include:

- *National Plan of Action on Nutrition*;
- *Kenya Health Policy Framework* (Kenya MoH, 1994);
- *National Development Plan (2002-2008)*;
- *Poverty Reduction Strategy Paper (2001-2004)*;
- *Strategy for Revitalizing Agriculture (SRA, 2004-2014)*;
- *Land Policy*;
- *Economic Recovery Strategy for Wealth and Employment Creation*; and
- *National AIDS Strategic Plan (2002-2005)*.

A review of these Kenyan policy documents by Wagah (2005) indicates recognition of the strong but worsening relationship between HIV/AIDS and food production and access. National estimates show that 50.6 percent of Kenyans are food-insecure, while 30 percent of children under age five are undernourished, lacking adequate food of good nutritional value (RoK/CBS, 2003 cited in Wagah, 2005). According to UNDP (2001), Kenya is categorised as chronically food insecure ranking number 144 out of 173 food insecure countries of the world. Achievement of food security is constrained by a number of factors including the fact that national policies are sector-specific and lack multi-sectoral approaches that would mainstream the relationship between HIV and AIDS and food and nutrition security. This has made it difficult to achieve broad-based results on issues with multiple causes such as malnutrition and HIV and AIDS. The national AIDS strategic plan, for example, was typically skewed towards clinical measures and failed to recognise the food and nutrition dimensions of the disease. The current agriculture policy focuses on food production and lacks links to nutrition and HIV/AIDS (RoK, 1994; GoK, 2000). Prior to setting HIV/AIDS on the international agenda as a development crisis, most countries seemed to formulate sector policies without taking into consideration interactions with related other sectors (RoK, 2000).

In Kenya, a multi-sectoral and multi-actor response to HIV and AIDS has included communities, governments, academia, researchers, NGOs and faith-based organisations (FBOs). Examples of beneficial nutrition interventions include multiple micronutrient supplementation and infant feeding programmes. The uphill task is to get all the stakeholders – governments, development partners, including various UN agencies and NGOs – to act in a coordinated and supportive manner.

The successful nutrition programmes implemented in Kenya recognised the centrality of women's health and the need to build capacity. Such capacity building should be in the areas of improved knowledge, communication and negotiation skills, and monitoring and evaluation (Sustainable Developments, 2004). Nutrition interventions implemented in Kenya include:

- **The Community Savings Mobilisation (COSAMO):** Part of a USAID-funded CARE project in western Kenya, designed to provide sustainable increase in household access to savings and credit in order to strengthen livelihoods. The Group Savings and Lending approach used is an adaptation of the Village Savings and Lending model that CARE has applied in countries such as Zimbabwe and Tanzania.

- **HIV and AIDS Life Initiative:** Implemented in western Kenya, it focuses on improving the food and nutrition security of orphaned and vulnerable children (OVC) and households affected by HIV and AIDS through distribution of food resources. The project is implemented through an already existing strategic partnership specifically established to channel food and other resources to OVCs through CBOs with experience and capacity in HIV/AIDS activities. The HIV/AIDS Life initiative project is intended to:
 - strengthen effective partnerships and distribution mechanisms for food resources established;
 - promote capacity of CBOs to accommodate food resources enhanced; and
 - realise food and nutritional support to OVCs, household and programs improved.

Water and sanitation are also important factors in good nutrition; there are a number of water-related projects underway:

- **Food for Work for Mitigation of Flooding** aims to restore canal, irrigation, dyke and other public infrastructure by:
 - de-silting canals and earth pans;
 - rehabilitating village roads and small scale irrigation schemes; and
 - planting vegetation on restored physical structures to minimise soil and water erosion.
- **Nyanza Healthy Water** project is implemented under the auspices of CARE and the Centre for Disease Control and Prevention Health Initiative. The project's goal is to improve the quality of drinking water at the household level and reduce diarrhoea incidences in the target population, particularly in children below five years. The communities' health promoters teach about the safe water system and about hygiene to the villagers, particularly on safe water handling and storage.
- The **Siaya-Busia Household Livelihood Security Project** (Jamaa Wazima – Healthy Household) is an integrated, multi-sectoral intervention designed to address lack of clean safe water and sanitation as well as poor nutritional intake due to low farm productivity of staple foods. By combining these multi-sectoral interventions with CARE's ongoing Child Survival project, the project is expected to address a number of factors that constrain health services for child survival.
- **Livestock Marketing Enterprise (LIME):** is a commercial model developed by CARE and community members. It is designed to address the challenges faced by pastoralists' from the North Eastern part of Kenya through livestock marketing. The project integrates pastoralists' into the competitive livestock market through forward market contracts resulting in increased incomes. Unlike earlier designs that focused on providing extension services, providing animal health services and increasing production, the current intervention lays more emphasis on improved access to markets facilitated by improved credit provision. LIME also links participating pastoralists to community-based organisations that work in the HIV and AIDS field in order to reduce the impact of the pandemic on the community.
- **Millennium Water Alliance "Clean Living"** is a safe water programme designed to build on and expand the impact of wider CARE Kenya programs under a water and sanitation project, as part of its larger Nyanza Household Livelihood Security Program. It is aimed at livelihood security programming in Bondo focusing on smallholder agriculture, HIV/AIDS mitigation, water supply, hygiene promotion, access to capital and small business development. Better household economic stability, supported and promoted by this project, is believed to increase access to water and sanitation services. Clean living will complement this to expand access, availability and utilisation of potable water in places where need is high.
- The most recent success story is the **Academic Model for Prevention and Treatment of HIV/AIDS (AMPATH)** in western Kenya. This programme was initiated in 2002 and aimed at bolster nutrition security of the most vulnerable patients on antiretroviral regimens over a short period of time by providing supplemental household food rations. Fresh foods are grown on AMPATH's production farms. Patients enrolled already on

ARV treatment access this fresh food through the project. According to Byron et al (2006), experiences show that most current and former food program clients self-report health outcomes of weight gain, recovery of physical strength and resumption of labour activities. These experiences from AMPATH's nutrition intervention provide practical lessons for modifying programme delivery and for informing development of future initiatives to effectively link nutritional support to treatment and care for people living with HIV and AIDS.

2.2. Tanzania

In Tanzania, a National Policy on HIV and AIDS was developed in November 2001. The Tanzanian HIV and AIDS policy was conceived in recognition of the multi-sectoral impacts of HIV and AIDS and the need to tackle the epidemic as a development problem rather than only a health crisis (The United Republic of Tanzania, 2001). A number of measures have been taken by the Tanzanian government, particularly through the *National Multi-Sectoral Strategic Framework on HIV and AIDS 2003-2007*, which have contributed to reducing the national prevalence rate (Tanzania Commission for HIV/AIDS, 2003). In spite of having a multi-sectoral framework of HIV and AIDS, most successful programmes in Tanzania have been in the area of prevention. However, like the other East African countries, food and nutrition are starting to be mainstreamed into the national policies or strategic plans for HIV and AIDS. The Tanzania Commission for AIDS (TACAIDS) has already appreciated the value of integrating ARVs into other national health and food security programmes since ARVs alone cannot boost the patient's immunity. As a result the government of Tanzania announced a programme to provide free food for HIV/AIDS patients (IRIN, 2006b).

One of the nutrition and food security-related programme success stories in Tanzania is the *Global Service Corps (GSC)* through the *Seeds of Sustenance (SOS) Fellowship* programme. HIV and AIDS, food security and nutrition are clearly interrelated for African communities, yet these issues are often treated separately in development efforts. GSC strives to address these fields jointly in its SOS Programme, and shorter-term volunteer programmes. The SOS Programme is designed to provide skills and practical information to rural African communities affected by HIV and AIDS. GSC recruits, prepares, and trains pairs of local and visiting fellows to become qualified instructors in the technical areas of HIV and AIDS prevention, nutrition, and Bioelectrical Impedance (BIA) methods. This training is followed by a five- to eleven-month field placement at a participating organisation's office. Fellows assist local participating organisations with the development of community training and education programmes, and facilitate training in the field. By pairing visiting fellows with their local counterparts, the programme aims to provide community assistance and training that is both technically informed and culturally appropriate. By the end of the field placement, local fellows become experienced community trainers and continue to work to ensure the project's long-term sustainability (Lathrop, 2005).

Another successful nutrition program has been implemented by Family Health International (FHI). In recognition of the interrelationship between nutritional status and the progression of HIV, Family Health International (FHI) aims at incorporating nutrition into care, treatment and support programs for people living with HIV/AIDS (PLWHA). According to FHI (2007), these goals have been achieved by developing nutritional services capacity in clinical settings and communities where comprehensive HIV care and support, including ART, are provided. Capacity development centers on the following core activities:

- Building knowledge of the links between HIV and nutrition among clinical staff who provide HIV care and treatment.
- Developing the educational and counseling skills of nutrition staff in health facilities and of community care staff in Home-Based care (HBC) and OVC care.

- Integrating nutrition staff into the multidisciplinary HIV care and support team, and involving them in developing guidelines and standard operating procedures.
- Promoting collaboration and referral linkages between programs delivering HBC and OVC care and local and international organizations providing nutrition services and addressing food security and supplementation.
- Providing training on HIV, the relationship between nutrition and HIV and stigma reduction to nutrition and food-security NGOs working with PLWHA.

In Tanzania, FHI is a partner in the Tumaoni Strategic Alliance, a comprehensive HBC and OVC care program that includes organisations working in nutrition and income-generation activities. FHI helps HBC and OVC NGOs increase their capacity to support PLWHA (FHI 2007). The goal is to enable PLWHA and their households to develop and sustain good nutrition and improve food security.

As already noted, other success stories mainly relate to prevention programmes. The programme of the Students for International Change (SIC), for example, has trained teachers and students as peer educators, who have truly taken ownership of this program by creating and implementing HIV/AIDS awareness campaigns in schools and rural communities. SIC students undergo nine weeks of pre-field training in order to help prepare them for life in Tanzania. As a result of this, five primary and one secondary school educated and peer educators have been trained, 22 community groups taught in 12 sub-villages and 382 tested for HIV/AIDS in six days. In addition, training the trainers was done in communications skills sessions and role-playing episodes during training highlighted power and vulnerability in patient relationships. Training also covered community care techniques, counselling patients through ART use, and nutrition. As a result, the staff are now better equipped to handle the questions that arise during leader workshops and community health workers meetings (SIC, 2006).

In the area of prevention, the Tanga AIDS working group (TAWG) has successfully worked to achieve the goal of alleviating suffering from HIV/AIDS using indigenous knowledge. With the multi-sectoral approach in mind, TAWG identified three communities representing treatment, self-help and care. It constitutes a network traditional healers, PLWHA and staff working in the *TAWG Home Based Care* project. In recognition of the fact that people with HIV/AIDS need all the help they can get, TAWG has developed home care programme that includes counselling, HIV testing, home visits, medical treatment and social support. However, as can be noted food and nutrition components do not clearly come out in the programme strategy (World Bank, n.d).

In relation to this another initiative called Tanzania Care focused on modernising health care facilities and systems, and improving services and access to care for people living with HIV/AIDS throughout Tanzania with support from Abbott and Abbott fund. The key components of the initiative include infrastructure development human resource training. The initiative has so far built a modern, three-story outpatient treatment center at Muhimbili National Hospital which has 26 patient examination rooms, a pharmacy and a training facility for health care professionals. The construction of this facility by the first half of 2005 was expected to increase access services to more than 500 patients each day. It has trained more than 250 physicians, nurses and support staff on the latest approaches to HIV care and treatment. Tanzania Care has increased access to HIV counselling and testing throughout Tanzania by introducing voluntary. In conclusion, Tanzania like the other East African states has now embarked on mainstreaming food and nutrition security into HIV and AIDS programmes (MediLexicon International Ltd, 2007).

2.3. Uganda

Official government intervention started in Uganda in 1986. Uganda is one of the few African countries where rates of HIV infection have declined, and its policies are often held up as a model of "success". The first national policy guidelines, spearheaded by the Uganda AIDS Commission, were developed in 1993 and revised in 1996. The first *National AIDS Policy* was developed in 2003. The *Uganda National HIV and AIDS Policy 2004/5* (UAC, 2004) emphasises individual and collective responsibility in AIDS control activities which should be coordinated from administrative and political levels down to the grassroots level. The policy not only promotes prevention of the spread of HIV through Abstinence, Be Faithful (reducing multiple partnerships) and Correct (and consistent) condom use and prevention of mother-to-child transmission (PMTCT) strategies (ABC) but also addresses active response to and management of, all perceived consequences of the epidemic through coordinated efforts. The goals of the multi-sectoral response to HIV and AIDS include:

- prevention of the spread of HIV infection (sexual, through blood products and MTC);
- mitigation of adverse health and socio-economic impacts;
- strengthening the national capacity to respond;
- establishing a national information base; and
- strengthening the national capacity to undertake relevant research.

As a result of this multi-sectoral response, the country is seen as having implemented a well-timed and successful public education campaign in spite of some challenges. The *Uganda Food and Nutrition Policy 2003* recognises the impact of HIV in aggravating food security problems (Republic of Uganda, 2003:3) and highlights as one of the objectives to promote optimum nutrition for people living with HIV/AIDS. Subsequently, the policy has one of the strategies to incorporate nutrition management in the care of HIV/AIDS patients. While this acknowledgement is made, the national monitoring and evaluation framework for HIV/AIDS activities in Uganda (2003/04-2005/06) mainly focuses on reducing the HIV prevalence rate by promoting behavioural change through ABC, blood safety, reduction of STI prevalence, PMTCT and promoting economic and material support for people living with HIV/AIDS. There is no specific mention of the role of food and nutrition security in the prevention, treatment and mitigation of HIV and AIDS (Republic of Uganda and Uganda AIDS Commission, 2004). Even the monitoring indicators did not mention food or nutrition at all.

Nutrition as an HIV/AIDS program indicator started in 2005 with the follow-up of the commitment on HIV/AIDS as a comparative indicator between OVCs and non-OVCs (UAC, 2005). It was only in 2006 during the revision of the *National Strategic Plan for 2007/2012* that the direct link between nutrition and HIV/AIDS was brought on board after the joint annual review identified it as one of the critical areas in the fight against HIV/AIDS (UAC 2006). So, although Uganda has had both HIV and AIDS and nutrition policies, the two had not yet been mainstreamed into each other.

However, HIV and AIDS and nutrition programmes have been and are underway at the government, UN, donor, and NGO levels. For example, the Ministry of Agriculture, Animal Industry and Fisheries initiated an AIDS control programme in order to strengthen AIDS education, promote nutrition standards for PLWHAs and their families, and reduce poverty through establishing profitable agro-enterprises using farmer groups (MAAIF, 1998). The programme developed a book on nutrition and care for PLWHA for field extension agents, as well other resources on feeding guidelines and sensitization (NAADS, 2003).

The World Food Programme (WFP) supports the National Food Strategy through its *Protracted Relief Recovery Operation*, which targets drought-affected people, refugees and nearly 1.5 million internally displaced people living in camps in the north of the country. In addition, WFP has jointly implemented a project with the National Community of Women

Living with AIDS (NACWOLA) and Mediciens Sans Frontiers (MSF) that enhances social and family support in order to improve ART adherence rates. WFP provides food, MSF provides free antiretrovirals (ARVs) and NACWOLA mobilises targeted women for income generating activities.

The United States Agency for International Development (USAID) is using food aid to help meet the nutritional needs of children and families affected by HIV and AIDS. Their five-year \$30 million programme -- the largest of its kind -- targets about 60,000 individuals who are infected with or live in a household affected by HIV and AIDS. The target population receives nutrition education in addition to food aid. The programme involves communities in food distribution in order to raise awareness, reduce stigma, and mobilize community involvement in HIV and AIDS activities.

Since January 2002, The AIDS Support Organization (TASO) of Uganda has been implementing a nutrition project aimed at improving the food security of PLWHAs and their immediate family members and reducing financial burden. Every HIV-positive primary beneficiary receives food for a five-person household. The foods include corn soy blend (CSB) (fortified with micronutrients) and vegetable oil. Beneficiaries are taught hygiene, nutrition and recipe preparation. Thus far, TASO has served 35,549 beneficiaries. As a result of this project, beneficiaries eat more frequent and varied meals per day, most have gained or maintained body weight, and they report better economic productivity and financial savings. Reduced morbidity and improved adherence to treatment are also reported (Muzoora et al, 2004).

Women-focused NGOs continue to implement successful interventions in Uganda. For example, The Uganda Women's Efforts to Save Orphans (UWESO) was originally established to assist children who had become orphans during Uganda's civil conflicts. When the impact of HIV and AIDS more than doubled the number of orphans, UWESO shifted its focus. In 1995, the Belgian Survival Fund provided more than US\$1.4 million to create the UWESO Development Project. The goal was to increase assistance given to orphans and their adoptive families by means of micro credit. Since the UWESO Development Project started, it has issued about 11,500 small loans, 97% of which have gone to women. Vocational training of orphans is being provided in schools.

However, Uganda still faces many challenges in fighting the HIV and AIDS pandemic. These include ensuring transparent and accountable use of funds meant for the AIDS programmes, improved management of the distribution of drugs and improving working conditions for programme personnel, especially in the areas affected by insurgency and war (PLUS News, 2006).

2.4. Mozambique

Mozambique has strategic plans in place, which include the plan to *Combat Sexually Transmitted Infections and HIV and AIDS for 2004–2008* that focuses on reinforcing prevention strategies, increasing the survival and quality of life of people living with HIV (including providing ART) and reinforcing epidemiological surveillance. There is also a *National Strategic Plan in the fight against HIV and AIDS 2005-2009*, a multi-sectoral plan developed under the coordination of the National AIDS Council, based on a situation analysis and addressing seven areas. These include prevention, advocacy, stigma and discrimination, treatment, impact mitigation, research, and coordination of the national response.

With respect to dietary or nutrition guidelines for PLWHA in Mozambique, a manual was produced in early 2006. This has not been distributed, reportedly due to lack of funds.

However, a small brochure has been drafted; it will be pre-tested, reproduced and distributed to health workers.

Guidelines for infant and young child nutrition for HIV-exposed children have not yet been approved in Mozambique but certain components have already been incorporated into new documents being produced, such as the *Minimum Package of Basic Nutrition Action for Health Facilities (2006)*.

Within Mozambique's home-based care programme, there is a nutrition component, but it is limited to recommendations of what people should and should not eat. The government also has a plan to distribute multi-micronutrient supplements to all PLWHA via a clinic- and community-based approach. In addition, plans are underway to provide food support in the form of corn-soy blend (CSB, which is fortified with micronutrients) and an agreed upon food basket to various target groups, including patients on ART and those HIV-positive patients with chronic illnesses. WFP, through its NGO partners, provides community-based support to orphans and other vulnerable children and AIDS-affected households, as well as people participating in anti-retroviral therapy and prevention of mother to child transmission treatment programmes. A UNICEF pilot that uses Plumpy Nut for nutrition rehabilitation of malnourished HIV+ patients is underway, the results of which will help determine the extent of a future scale-up (Rudert, 2007).

In response to loss of inter-generational agricultural knowledge in Mozambique, FAO is working with WFP and other UN agencies, NGOs and local institutions, to set up the Junior Farmer Field and Life Schools (JFFS). At these farm schools, orphaned and other vulnerable children learn the necessary skills to produce food and earn income from agriculture. The schools aim to share agricultural knowledge, business skills and life skills with orphans and vulnerable children between 12 and 17 years of age. Both children who are and who are not enrolled in the school system participate in the programme. The schools cover both traditional and modern agriculture. Children learn field preparation, sowing and transplanting, weeding, irrigation, pest control, utilisation and conservation of available resources, utilisation and processing of food crops, harvesting, storage and marketing skills (FAO, 2006)

The field schools also help to recover or sustain traditional knowledge about indigenous crops, medicinal plants and biodiversity. In addition, the schools address such issues as HIV and AIDS awareness and prevention, gender sensitivity, child protection and sexual health, while offering psychological and social support, nutritional education and business skills. Furthermore, the knowledge and skills acquired by the young girls and boys should help them to develop positive values regarding gender equality and human rights (Djeddah et al, 2006).

Mozambique is the focus of the project with a total of 28 Junior Farmer Field and Life Schools up and running in the central provinces. So far, around 120 orphans have successfully completed their training, and 840 more students are currently learning how to work the land with hands-on lessons in farming techniques, nutrition and medicinal plants. After the successful experience in Mozambique, FAO is launching similar schools in Kenya, Namibia, Swaziland, Zambia and Zimbabwe (FAO, 2005).

2.5. South Africa

In 1992, the Government of South Africa formed the National AIDS Coordinating Committee of South Africa (NACOSA) in order to mobilise different sectors to raise awareness about HIV and AIDS. A 1997 review of NACOSA demonstrated the need for a multi-sectoral approach to deal with HIV and AIDS, and led to the development of the *National Strategic Framework for HIV and AIDS and STIs, 2000-2005*. Its four priority areas are:

- prevention;
- treatment, care and support;
- legal and human rights; and
- research, monitoring and surveillance.

However actual implementation and roll-out of this plan was mixed. In 2000, the South Africa National AIDS Council (SANAC) was formed, comprised of sixteen government representatives and sixteen civil society representatives. It brings together government, communities and NGOs. However, SANAC was moribund until the end of 2006.

In 2001, South Africa's Department of Health issued national nutrition guidelines for PLWHA, tuberculosis and other chronic debilitating diseases (Department of Health, South Africa, 2001). These guidelines were distributed to Provincial Departments of Health who were responsible for further dissemination. The 2001 guidelines are currently being updated with a more clinical focus. UNICEF (n.d.) has supported the Department of Health to produce *Comprehensive Policy and Guidelines on Infant and Young Child Feeding* UNICEF also provides training on safe infant feeding practices and choices, as well as mentoring and on-site supervision to more than 5,000 health workers and lay counselors.

The Government of South Africa provides home-based care for PLWHA. Families affected by the epidemic receive foster care grants, assistance to child-headed households, food parcels and other interventions. The government increased its budget for community- and home-based care for PLWHA from R94.5-million in 2002/03 to R138-million in 2004/5. Several NGOs, some supported by government, have set up home-based care projects to help families in need, including: Hospice Association of South Africa, Palliative Medicine Institute and Treatment Action Campaign (Government of South Africa, 2006).

Efforts are underway in South Africa to expand home- and community-based care for PLWHA. The idea is that these volunteer caregivers can provide nutritional education and support during their visits, and could provide a referral system network through which patients could receive food and nutritional supplements.

The government envisions a national response to the need for nutrition supplements, either in the form of a fortified meal, vitamin and mineral supplements, or therapeutic feeding. The plan for the HIV and AIDS care and treatment programme calls for the provision of supplement meals to people with AIDS who are clinically malnourished and are eligible for ARVs, and who do not have access to a secure food supply. Those people with AIDS who are food secure and receive care and treatment should be referred to an appropriate existing nutritional programme for additional nutritional support (such as counseling), if needed. Micronutrient supplements are provided to those who need them, as part of the comprehensive response to HIV and AIDS, as a complement to the appropriate forms of treatment. Some 90,000 people have accessed this service since April 2004. An amount of R7 million was made available for purchasing nutrition supplements in the 2003/04 financial year (BuaNews, 2006).

The plan is that all seropositive pregnant women should receive micronutrient supplements (equivalent to 1 RDA/day) as part of their care and treatment programme, and, supplement meals should be provided to those who need them. Furthermore, all HIV-positive children under the age of 14 years who enroll at service points should receive nutritional packages consisting of vitamin syrup and a supplement meal. Caretakers of HIV-positive infants and children must be well educated on nutritional management. Thus, appropriate counseling should be included in pediatric clinical visits. Also, child-headed households should be identified and connected with the network of available nutritional services.

HIV-infected pregnant and lactating mothers will receive appropriate counseling to facilitate informed decision-making pertaining to optimal infant feeding using the Acceptable Feasible Affordable Sustainable and Safe (AFASS) criteria which is to avoid breastfeeding and use replacement feeding, when it is acceptable, feasible, affordable, sustainable and safe. Counseling sessions will include the risks and benefits of exclusive breastfeeding and exclusive replacement feeding, and the dangers of mixed feeding. Also covered are steps for safer breastfeeding (e.g. practicing exclusive breastfeeding and good breast health), the safe preparation of infant formula for those mothers who chose to use it, as well as appropriate foods for mothers to consume. Infant formula may be provided in some areas, but it is likely that it will not be widely available or affordable to most mothers. The prevention programme currently includes prevention of mother-to-child transmission and post-exposure prophylaxis where pregnant HIV-positive women received nevirapine to reduce the risk of MTCT. In 2005, more than 3,050 facilities offered PMTCT services and approximately 78% of pregnant HIV-positive women received nevirapine in public sector facilities in 2004 (Department of Health, South Africa, 2006).

South Africa has an Integrated Nutrition Programme (INP) that was developed from the recommendations of the Nutrition Committee. Its goal is to promote food security by empowering communities to become self-reliant and self-sufficient in terms of their food and nutritional needs. The project was piloted in 52 clinics in the Eastern Cape, Zululand and KwaZulu-Natal. It is funded by the WK Kellogg Foundation and by the National Development Agency in twelve of the clinics in the Eastern Cape.

The INP is implemented as part of the primary health care approach at the different levels of health management structures, and it facilitates a coordinated inter-sectoral approach to nutrition. The target groups include:

- malnourished children and their households;
- pregnant and lactating mothers and their families;
- people suffering from “nutrition-related diseases of lifestyle, communicable and infectious diseases;” and
- patients in hospitals.

Thus, while the initial focus of the programme was on maternal and child health and nutrition, HIV and AIDS has been integrated into the targeting and activities of the programme. Activities include: supplements for children, breastfeeding counseling and promotion, growth monitoring, poverty alleviation, vitamin supplements, de-worming, primary school feeding programmes, and nutritional advice for specific conditions, like HIV and AIDS.

At the primary health care level, children who are examined and identified as undernourished (including children and adults who are HIV positive and with tuberculosis) will be given food supplements including fortified maize meal and a high-energy drink. Health workers provide counseling, information and education about healthy diets and food preparation, and dieticians (where present) also provide specialised services to the community. Also, health workers counsel women on exclusive breastfeeding and weaning foods, and discuss other feeding options with mothers who are HIV positive (National Department of Health-Directorate of Nutrition, n.d.).

Other existing integrated nutrition programmes include the National Emergency Food Programme (NEFP) to alleviate food insecurity and the Nutrition Supplementation Intervention for tuberculosis (TB) and HIV-infected individuals, which provides supplement meals and micronutrients. These programmes facilitated improved food intake for many South Africans, and encouraged the establishment of projects such as vegetable gardens and small-scale poultry farming. These programmes are examples of joint collaborations among the departments of Health, Social Development, and Agriculture. According to its

Operational Plan, the Department of Health is responsible for coordinating interdepartmental nutritional programmes and developing nutritional training materials. But it is not clear whether the referral of PLWHA to the NEFP is not merely overburdening an already strained resource. For maximum impact, these programmes must be integrated, expanded, and adequately funded to cover the nutritional needs of all those infected with TB and HIV.

2.6. Zimbabwe

Zimbabwe has adopted a multi-sectoral approach that is led by the National AIDS Council. The Council engages government ministries, the private sector, NGOs, churches, communities, community-based organisations, support groups for people living with HIV and AIDS, the media, and international collaborating partners in the fight against HIV and AIDS. In 1995, the government of Zimbabwe initiated a process to develop a national HIV and AIDS policy. The government developed the policy through a broad consultative, consensus-building process with stakeholders in all parts of the country. This policy formulation process is seen as a good example of an effective participatory approach that provided opportunity for involvement by all sectors of society and produced a consensus policy that was readily adopted and implemented (SADC, 2002). The *National HIV and AIDS Policy* was officially adopted in December 1999. In 2000, the National AIDS Coordination Programme led the development of the *National HIV and AIDS Strategy Framework 2000-2004*, a strategic plan that includes specific goals and targets (NAC Zimbabwe, 1999). These two documents guide the national response to the HIV and AIDS epidemic.

The overarching goals of the national policy and strategic framework are to prevent the spread of HIV and to reduce the personal, social and economic impact of the epidemic. The policy is a comprehensive document that contains 43 guiding principles. The *1999 National HIV and AIDS Policy* guides service provision, health promotion, and overall management of the epidemic. Two of the strategies under this guiding policy address the nutritional needs and dietary management of HIV and AIDS. Strategies that have been put in place include: Voluntary Counseling and Testing for HIV (VCT), PMTCT, prevention and management of Opportunistic Infections (OIs), Home-Based Care (HBC), food fortification, and nutritional support.

In 2002, guidelines on infant and young child feeding for HIV-exposed children were published in Zimbabwe and the Ministry of Health and Child Welfare (MOHCW) began nationwide training of health workers. However, due to lack of resources, not all provincial health workers were trained and efforts are now directed at introducing lessons about infant and young child feeding into the general nurse training curriculum as well as other basic health related training.

Dietary guidelines for PLWHA were issued in 2004 (MoHCW Zimbabwe, 2004a). Training for provincial nutritionists was conducted and guidelines were distributed to all provinces. Of the three Southern Africa countries reviewed, Zimbabwe has the most comprehensive guidelines on nutrition for PLWHA. These are the only guidelines that recognise that food security activities should be introduced to mitigate the impact of HIV and AIDS. The guidelines specifically suggest that food security activities include:

1. production and consumption of a variety of nutritious foods for those infected and affected by HIV;
2. equipping affected communities, households and individuals with appropriate skills and knowledge to enable them to re-orient food production in the face of HIV and AIDS;
3. promoting transfer of skills and knowledge within HIV-affected communities and households in order to ensure access to food throughout the year; and
4. increasing access to labor-saving technologies for affected communities and households to facilitate food production.

The MoHCW launched the *National Home-based Care Standard* in April 2004, and tens of thousands of volunteer caregivers have been trained across the country. The training manual includes a section on the importance of proper nutrition that describes why nutrition is important for PLWHA and lists foods required for a balanced diet. In 2006, the WFP provided nutritional support to home-based care programmes, which targeted people living with AIDS. In food-insecure areas, the home-based care programme combined a monthly food ration with basic first aid and medical care, health education, psychosocial support, and counseling for AIDS patients who could not access or afford proper institutional care. The program has undergone an evaluation and future activities are pending results of this. Zimbabwe has a *National Home-Based Care Programme* and training is being provided to home-based care providers. A section on nutrition is included in the training sessions (MoHCW Zimbabwe, 2004b). Various government and non-government organisations have conducted trainings for home-based care givers. For example in 2002, 400 specially trained volunteers were working on Zimbabwean Red Cross Society's Home Based Care Programme across the country, assisting more than 5600 clients. In 2004, there were 22 HBC projects in Zimbabwe's eight provinces. Volunteers provide hygiene training and food and nutrition education, as well as support for OVC and food distribution to PLWHA.

In Harare in October 2006, The International Federation of the Red Cross and Red Crescent Societies in collaboration with the World Health Organisation Africa Regional Office (WHO/AFRO) and the Southern Africa HIV and AIDS Information Dissemination Service launched a prevention, treatment, care and support training package for community-based volunteers. The WHO endorsed the package, making it an international standard that enhances the capacity of care facilitators and community-based volunteers to support and care for clients on anti-retroviral therapy. The package, which was pre-tested in Zimbabwe and other African countries, is made up of eight modules including nutrition, community-based counselling, and palliative care. Perhaps this package will prove to support community-based care givers efforts but it will need to be accompanied by adequate funding for full implementation of services.

Some small-scale food support initiatives are being conducted by agencies such as ActionAid and the Red Cross. Action Aid is giving food rations to HIV infected and affected households and to those OVC. They provide vouchers worth 20kg of maize-meal, 750ml of vegetable oil, 1kg of beans, 375ml of peanut butter and 12.5kg of corn-soy blend (CSB), which is a family ration for a month. The foods are based on the food basket recommended by the Ministry of Health and Child Welfare. Eligible persons can redeem these at participating supermarkets. About 3,000 people infected or affected by HIV have been reached to-date.

The Red Cross has a similar programme operating in all provinces; however, coverage is not province-wide. Targeted persons are home-based care clients who are HIV-positive, OVC and affected households. WFP has initiated a programme to provide nutritional support to pregnant and lactating women, while linking with programmes to help the prevention of mother-to-child transmission of HIV. Such programmes provide voluntary counseling and HIV testing, along with nevirapine to reduce HIV transmission to infants. This WFP programme was launched as a pilot in December 2005, following consultation with the Government and partners to review the strategic approach and targeting criteria.

FAO piloted Junior Farmer Field Schools in Zvishavane district, Midlands province in December 2003. Due to stigma associated with HIV and AIDS, the project worked with organisations already working with orphans, rather than targeting children orphaned due to HIV and AIDS directly. Sixteen agriculture extension officers and four farmer facilitators were trained in indigenous poultry production, HIV and AIDS awareness and prevention, and agribusiness and entrepreneurial skills. Eight JFFS were established, training 94 boys and 91 girls (International Crops Research Institute for the Semi-Arid Tropics, 2005). WFP

supports an OVC programme, which targets orphans of former home-based care clients, as well as other vulnerable children, provides a monthly food ration and is linked to support for household gardens, life-skills training, income generation and other food security initiatives. UNICEF's Young People We Care Programme deploys youth volunteer caregivers in order to develop a sense of community responsibility and care for those affected and infected by HIV and AIDS. The programme trains young people to work alongside home-based caregivers to support the chronically ill and help families by growing food, doing household chores, and assisting with basic necessities. The young people also provide educational and counseling support to orphans and vulnerable children (UNICEF, 2005).

3. Summary overview of AIDS and nutrition policies and programmes

A summary of the main features of country policies and programmes is presented in Table 1.

Table 1: Summary of country policies and programmes

| Country | Policies | Programs | Integration/ links |
|------------|---|--|---|
| Kenya | <ul style="list-style-type: none"> National Plan of Action on Nutrition National AIDS Strategic Plan (2002-2005) National AIDS Control Council (1999) National Plan of Action on Nutrition | <ul style="list-style-type: none"> HIV Prevention (ABC, VCT, treatment of STIs, PMTCT, safe blood supply) Livelihood protection (IGAs, livestock marketing) Nutrition (micronutrient supplementation, infant feeding, water and sanitation) OVCs (food distribution) | <ul style="list-style-type: none"> Limited integration; policies tend to be sector-specific Some multi-sectoral response on the part of programmatic actors |
| Tanzania | <ul style="list-style-type: none"> National Policy on HIV and AIDS (2001) National Multi-Sectoral Strategic Framework (NMSF) on HIV and AIDS | <ul style="list-style-type: none"> Capacity building (Global Service Corps' Seeds of Sustenance (SOS) Fellowship) Students for International Change Family Health International | <ul style="list-style-type: none"> Multi-sectoral framework expands response to HIV and AIDS from a health to a development endeavor |
| Uganda | <ul style="list-style-type: none"> Multi-sectoral Approach to HIV/AIDS -Guidelines (1993) Food and Nutritional Policy 2003 National HIV and AIDS Policy (2004-2005) National Strategic Plan (NSP) (2007-2011) ART and PMTCT Policies Fisheries Policy | <ul style="list-style-type: none"> Prevention (ABC, PMTCT, blood safety, education, capacity building) Food security (agro-enterprise) Nutritional support (WFP/MSF, USAID, TASO) OVCs | <ul style="list-style-type: none"> Both HIV and AIDS and Nutrition policies exist, are not yet integrated. Plans to do so in the new NSP Multi-sectoral programs have integrated activities |
| Mozambique | <ul style="list-style-type: none"> Plan to Combat Sexually Transmitted Infections and HIV and AIDS (2004–2008) | <ul style="list-style-type: none"> Nutritional support (WFP, UNICEF) Agriculture (FAO's JFFS) HBC (dietary counseling) | <ul style="list-style-type: none"> Guidelines for infant feeding for HIV-exposed children |

| Country | Policies | Programs | Integration/ links |
|--------------|---|---|---|
| | <ul style="list-style-type: none"> National Strategic Plan in the fight against HIV and AIDS (2005-2009) National AIDS Coordinating Council | | <ul style="list-style-type: none"> incorporated in ENA Nutrition component of HBC Dietary guidelines for people living with HIV and AIDS |
| South Africa | <ul style="list-style-type: none"> National Strategic Framework for HIV and AIDS and STIs (2000-2005) National nutrition guidelines for PLWHA, TB and other chronic debilitating diseases (2001) Comprehensive Policy and Guidelines on Infant and Young Child Feeding South Africa National AIDS Council (SANAC) | <ul style="list-style-type: none"> Safe infant feeding CBC and HBC Nutrition support (fortified food, micronutrient supplementation) Integrated Nutrition Programme (INP) National Emergency Food Programme (NEFP) | <ul style="list-style-type: none"> Collaboration between departments of Health, Social Development, and Agriculture on integrated nutrition programs Dietary guidelines for people living with HIV and AIDS Guidelines for infant feeding for HIV-exposed children |
| Zimbabwe | <ul style="list-style-type: none"> National HIV and AIDS Policy (1999) National HIV and AIDS Strategy Framework (2000- 2004) Guidelines on infant and young child feeding for HIV-exposed children (2002) Dietary guidelines for PLWHA (2004) National AIDS Coordinating Council | <ul style="list-style-type: none"> Prevention (VCT, PMTCT, treatment of OIs) HBC (Red Cross, WHO) Nutritional support (WFP, ActionAid, Red Cross) OVCs Agriculture (FAO's JFFS) | <ul style="list-style-type: none"> Guidelines recognise that food security activities should be integrated to mitigate the impact of HIV and AIDS Dietary guidelines for people living with HIV and AIDS Guidelines for infant feeding for HIV-exposed children |

3.1. Policies and programmes in Eastern Africa

In Eastern Africa, there has, as of yet, been limited integration of HIV and AIDS and Nutrition policies, although Uganda's new *National Strategic Plan 2007-2011/12* moves towards greater integration (UAC, 2006). While Kenya, Tanzania and Uganda all have national HIV and AIDS strategic plans and policies, but they are at different points in terms of developing complimentary and integrated nutrition policy and strategy.

Until recently, HIV and AIDS policies and programmes have focused on prevention, especially Uganda, which has been held up as a model for education, sensitisation and prevention. Tanzania, too, has tended to focus more on prevention and support for OVCs. However, there is more program attention on the interconnections between agriculture, food and nutrition security, and HIV and AIDS, as exemplified by the livelihood protection programs, like AMPATH, in Kenya and agro-enterprise activities in Uganda as well as the SOS and FHI programs in Tanzania which aim to target households affected by HIV and AIDS.

In addition, the Food and Nutrition Technical Assistance (FANTA), SARA, and Linkages, an infant and maternal nutrition project - working in partnership with African institutions such as the Regional Centre for Quality of Health Care (RCQHC) in Uganda and the Commonwealth Regional Health Community Secretariat in Tanzania put together the nutrition guidelines. FANTA and the RCQHC developed a handbook on how to develop and apply national guidelines. The challenge remains that of implementation and in particular to how to integrate nutritional counseling into HIV/AIDS services. Whereas AIDS patients that lack nutrition guidance are disadvantaged, people living with HIV/AIDS learned about making changes in food choices and preparation to help ease symptoms of HIV-related infections such as oral thrush in Ssembabule, Uganda. There is, therefore, more to learn from regional HIV/AIDS programming experiences in East Africa (Linkages et al, 2002).

3.2. Policies and programmes in Southern Africa

The main policy framework in Southern Africa has focused on halting the rapid spread of HIV in the region. But since Southern Africa is particularly prone to food insecurity (even more than Eastern Africa), policy interventions for HIV and AIDS should also focus on providing food and nutrition security. Interventions for HIV in Southern Africa focused on prevention, positive living, treatment support and mitigation of impacts to address various stages of HIV infection and various target groups. The three countries share certain commonalities, in terms of policy, guidelines, and programme development. For example, each of the three countries have a National AIDS Coordinating Council or Committee overseeing efforts to establish national guidelines and policies for the management and prevention of HIV and AIDS. Mozambique, South Africa and Zimbabwe have recognised that all individuals receiving care and treatment for HIV and AIDS should receive nutrition counseling, to support them in managing their illness and make them aware of the importance of nutrition.

Furthermore, the Ministries of Health have produced nutrition or dietary guidelines for people living with HIV and AIDS. All guidelines were based on global scientific information on nutrition and HIV and AIDS. The guidelines describe the importance of good nutritional advice and support for PLWHA and are intended to provide health workers, other HIV and AIDS service providers and PLWHA with correct, consistent and reliable information on nutrition care and support. A good source of technical information on the nutrient requirements of PLWHA and food and nutrition implications of antiretroviral therapy (ART) is the Food and Nutrition Technical Assistance Project (FANTA). FANTA has created a number of useful documents, including *Counseling Materials for Nutritional Care and Support of People Living with HIV and AIDS* (2005) (with the Regional Centre for Quality of Health Care); *HIV and AIDS: A Guide for Nutritional Care and Support* (2004); and *Handbook: Developing and Applying National Guidelines on Nutrition and HIV and AIDS* (2003).

In addition, Mozambique, South Africa and Zimbabwe developed guidelines on infant and young child feeding based on *The Global Strategy for Infant and Young Child Feeding*, adopted by WHO and UNICEF (2003), which states that the optimal feeding pattern for overall child survival is exclusive breastfeeding for the first six months and continued breastfeeding for up to two years and beyond, with complementary feeding from age six months. To reduce the risk of HIV transmission, HIV-positive mothers are advised to avoid breastfeeding and use replacement feeding, when it is AFASS.

On the programmatic level, thousands of health professionals have been trained in the management, care and treatment of HIV and AIDS in the three southern Africa countries. In all countries reviewed, support and care for those affected by HIV and AIDS is expanding through growing programmes such as home- and community-based care. And in the three countries, various government and non-government initiatives are underway to address the nutritional needs of PLWHA.

4. Gaps and challenges in programming nutrition into HIV and AIDS

All the Eastern Africa countries have HIV&AIDS and Nutrition policies but they are still in the process of mainstreaming these policies into each other. The 2005 IFPRI International Conference on HIV/AIDS and food and nutrition security and the 2006 XVI international AIDS conference helped put food and nutrition security on the HIV and AIDS agenda and now many countries are responding to this challenge, e.g. Uganda has been mainstreaming food and nutrition into the revised *National Strategic Plan (2007/12)*. There is need for:

- improved management of drug supply chain to promote adherence and avoid potential drug resistance;
- improved health-nutrition-education programmes to fight AIDS and sexual risk behaviour;
- modified rules governing women's rights; and
- agricultural development to improve livelihoods given the link between poverty and AIDS (Jayne, 2007).

In all these challenges, food security remains central. There is still a gap in de-stigmatising nutrition support to people living with HIV and AIDS. Byron et al (2006) note that while stigma associated with collecting food from program distribution sites seems to fade away with time, it is important to consider removing labels on food supplements with AIDS-identifying messages in spite of their educational intentions. Other challenges relate to donor-dependent nutritional programs and the need to share information across borders. It is unnecessary for each country to conduct independent studies to inform HIV and AIDS programs when they can learn from the studies done in similar settings in the region.

While guidelines are in place, implementation, training and capacity continue to be a problem at clinic and community levels. South Africa has a plan to roll-out new nutrition guidelines for PLWHA. This will involve training for all provincial departments of health who would then be responsible for training other health workers at the district level. In Zimbabwe, sporadic training on the guidelines has occurred. Not all health workers know about the nutrition guidelines for PLWHA and, in Mozambique there are no funds for the manual or for the training. At the same time, South Africa, Zimbabwe and Mozambique are faced with a burden of huge staff turnover, and loss of staff infected with HIV. Many health workers posted in rural areas either move to urban areas or emigrate, when possible. In South Africa, 37% of the country's doctors and 7% of its nurses have moved abroad, while in Zimbabwe, 11% of doctors and 34% of nurses have left (SAMP, 2006). And as of 2000, 75% of doctors and 19% of nurses born in Mozambique were living in other countries (Clemens et al, 2006). This 'brain-drain' makes it even more difficult to ensure that staff knowledge, particularly in rural areas, is adequate to provide the necessary nutritional care and support for PLWHA.

Furthermore, most training that has occurred has been for caregivers working at the clinic-level. Relatively little effort thus far has focused on caregivers at the community-level, such as home-based care providers, village health volunteers or even members of households affected by HIV. An additional challenge is the capacity of the existing volunteer base - with an increasing workload, volunteers are often stretched to their limits (International Committee of the Red Cross (ICRC), 2004). In addition, there is need to improve the quality of nutritional training and counseling and promotion of PMTCT in Eastern Africa. Training of health workers and counselors is being outstripped by the increasing number of new HIV infection or people living with HIV that are progressing to AIDS. Such people ultimately need HIV counseling and Testing (HCT), treatment and care and support services.

And even where there are trained health professionals working in clinics and communities, there may not be resources in place to support their efforts. For example, even if they provide counseling and education on what foods to consume, the patient or family may not

have the means to access the foods that are being recommended. Often foods that are more nutritious are also more expensive and thus outside the financial reach of households, such as micro-nutrient rich meat, fish, eggs, dairy products, and fruits and vegetables. As discussed previously, many households affected by HIV and AIDS are in a vicious circle of poverty, disease and malnutrition.

Small-scale programmes are in place to address nutritional concerns of HIV-positive persons and affected households. These include food aid, fortified maize porridge, provision of a food basket, and vitamin and mineral supplements. The response is limited, reaching only a few of the millions eligible for such assistance. However, there has been no evaluation as to whether these programmes are sufficient to cover the needs of individuals and households, or whether they have nutritional impacts. Clearly, a more integrated approach is needed to address the food and nutrition needs of those infected and affected by HIV and AIDS.

While food security is recognised as an important component in HIV and AIDS programming in Zimbabwe, the number of agencies actually implementing this on the ground are limited. A recent assessment of NGOs working in Zimbabwe found that home gardens are scattered, they do not necessarily integrate nutrition into planning gardens, and very few have a nutrition education component (UNICEF, 2006). It is clear that the capacity of NGOs and others to integrate nutrition into on-going programmes is limited. Furthermore, it may be difficult to introduce home gardens in South Africa, where there is social proclivity to purchasing food in much of the country, rather than producing it oneself. Overall, efforts are underway to try to address various aspects of HIV and AIDS, food security and nutrition but there is limited scope and often programmes are addressing only the immediate effects of HIV and AIDS rather than underlying factors in HIV transmission and food and nutrition insecurity, namely poverty, inequity, and vulnerability.

Lastly, there is a gap in the society-wide coordination of multi-stakeholder HIV and AIDS organisations for targeting efficiency. There is particular need to revise the criteria for nutrition and food support to people affected by AIDS and poverty. Weaning clients off food supplementation is a major programmatic challenge given its critical importance in sustaining nutritional, health and productivity gains (Byron et al, 2006). However, exclusion of food-insecure people due to poverty (not AIDS) also means that interventions prefer these people to be infected with HIV before they can be supported with food. Uganda, in particular, poses a big challenge of fighting HIV and AIDS and hunger in conflict areas of north and east. There is need to reconcile the immediate and long term nutritional needs in programming.

The experience of AMPATH in Kenya also shows that the limited human capacity to verify borderline candidates usually affects targeting efficiency. In resource-poor settings, a high proportion of PLWHA will be chronically food insecure compared to their counterparts that tend to be food-insecure seasonally. In relation to this, there is critical need to improve transparency in the utilisation of AIDS funds particularly the global fund for fighting AIDS, tuberculosis and Malaria.

In summary, the experience of countries in the region suggests that HIV and AIDS guidelines, policies or strategic plans have largely been developed with broad consensus through a participatory approach involving various stakeholders. This has led to the development of multi-sectoral approaches to the problem. Nonetheless, the resulting policies and plans, as well as their implementation, have tended toward highly medicalised approaches focusing on prevention, advocacy, de-stigmatisation, and treatment, care and support. Community-based strategies are still limited to home-based or community-based care relying on medical support from the health system or external agencies, such as food aid. The involvement of the private sector is yet to be explored in more innovative and entrepreneurial ways that can potentially enhance the sustainability of mitigation efforts. Furthermore, policies and plans assume that people have access to services or that they are

able to follow counseling advice and guidelines without further resource support. While training of health personnel in dietary guidelines and nutrition care for people living with HIV and AIDS is needed, the food and nutrition dimensions of the problem – and the food and nutrition security of the most vulnerable target groups – should be carefully considered and appropriately addressed.

5. Towards a comprehensive approach of integrating nutrition into HIV and AIDS programming

Because of the multi-dimensional, multi-level and multi-sectoral nature of the impact of HIV and AIDS on individuals, households and communities, a response to the crisis should include an integrated or comprehensive approach involving persons from various sectors, including health, agriculture, social welfare, education, the private sector and others. This section outlines the elements of such an approach.

5.1. What should a comprehensive approach look like?

A comprehensive approach to integrating nutrition and food security into HIV and AIDS programming requires assessing the nutrition situation of people living with HIV and AIDS, analysing the causes of malnutrition and community and household incapacity, then developing an intervention based on the analysis of the available resources.

Inequities in health, nutrition and food security are the product of the underlying social, economic and political structures and tensions in a society. These inequities exacerbate the effects of HIV and AIDS and food insecurity to the point of eroding a community's physical, human and economic capital, and consequently its capacity to respond and recover from these stressful and vulnerable conditions. While health sector responses to the immediate causes of HIV and AIDS and undernutrition are important, they should be reframed in the context of a comprehensive approach to tackling the wider, structural and systemic deficiencies that fuel susceptibility and vulnerability.

There is ample evidence that people living with HIV and AIDS in resource-poor settings are unlikely to be able to follow food and nutrition recommendations provided with anti-retroviral therapy (ART) due to their lack of access to required foods or because they cannot take ARVs on an empty stomach. An important first step toward a more comprehensive approach is mapping the synergies between HIV and AIDS and food security programmes, and deriving effective solutions that link existing policies and programmes that have had some measure of success in different sectors.

Such a comprehensive approach has been elucidated by others and should include treatment and rehabilitation for health problems, prevention activities to counter causative factors at the individual level, and advocacy to tackle the intersectoral causes operating at the societal level. Considerable experience has been gained internationally in the development of comprehensive and integrated programmes to combat undernutrition, which can inform the development of programmes to address the broader issues relating to HIV and AIDS and food security (Sanders 1998, 1999).

One of the most important aspects of a comprehensive approach is to link health strategies with community-oriented food-based strategies in order to support sustainable, community participation in problem solving. Since inadequate dietary intake is an immediate cause of malnutrition, food and agriculture activities, such as homestead food production (HFP), can contribute to improvements in micronutrient status and HIV and AIDS mitigation efforts. Food-based strategies, such as HFP, not only have the potential to increase food availability, but also to increase household income and empower women and girls by increasing their

involvement in decision-making and enhancing their skills. Nutrition education combined with such an approach also increases household capacity to make appropriate food and crop choices, with the potential for improving nutritional status and further expanding the capabilities of beneficiaries. Links between HFP programmes and HIV and AIDS mitigation efforts have the potential to enhance, reinforce and sustain the benefits of these programmes, and to be applied preferentially among the most vulnerable groups to compensate for the effects of structural inequities (Mooney, 1996).

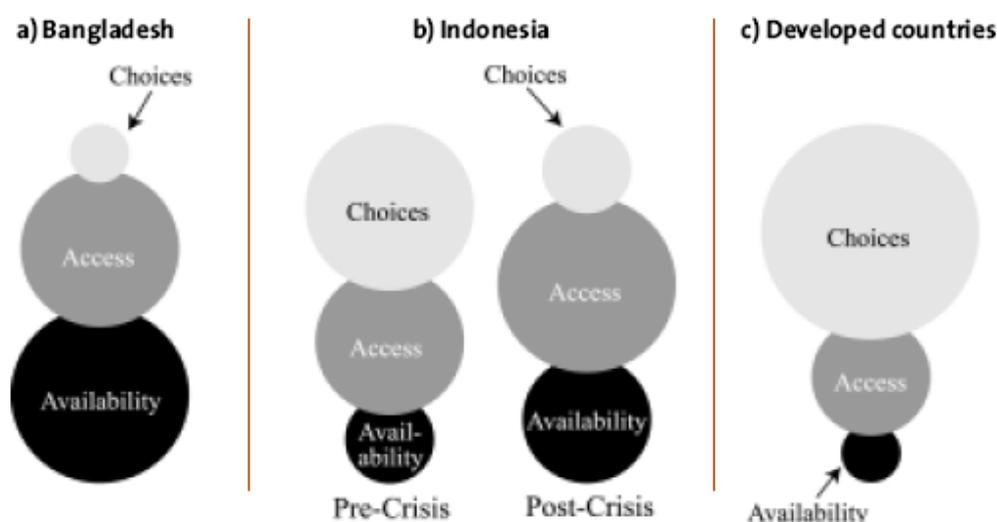
It is important to assess and analyse the factors that underlie food insecurity within a given context. According to FAO (1996), food security is built on three determinants:

- the physical availability of food in a particular setting;
- the economic access of the population to food; and
- the utilisation or consumption (at social, individual as well as biological levels) of food.

Food availability relates to agricultural production, both domestic as well as imports, and is affected by seasonal as well as market issues and forces. Food access relates to household purchasing power and the ability to secure foods from the market or other sources. Food utilisation relates to diverse aspects that include sufficiency in the required intake, food habits and preferences, health status, intra-household distribution of food, food safety, and caring practices. Kiess et al (2001) substituted 'utilisation' with 'choice' (extending the concept from Sen, 1981) because, when accessibility and availability are ensured, utilisation primarily represents household and individual 'choices' for food, health care, and other opportunities (Kiess et al, 2001).

The relative contribution of these determinants varies across and within country settings, in response to crises or disasters, and over time (see *Figure 4*). Identifying and formulating the most appropriate policies and programmes to address food security in a particular context requires a thorough analysis of the balance between availability, accessibility and choice in that setting. Understanding the dynamics of how crises and other shocks affect the relative contribution of these determinants will also be instrumental in developing effective programmes to counter their impacts. Examining these issues provides insight into how the benefits from food-based strategies, as well as from macro-level food policies, may be maximised to positively reinforce clinical HIV and AIDS interventions.

Figure 4: Determinants of food security in Bangladesh, Indonesia (prior to and after the onset of the 1997 economic crisis) and in developed countries



Source: Kiess et al, 2001.

In Bangladesh, HKI implemented a homestead food production (HFP) programme in 1990 that has now reached nationwide scale (reaching more than 1 million households, or more than 5 million people), and this programme has been adapted in other countries in the Asia Pacific region. The programme not only provides households and communities with agricultural, technical and other inputs for homestead gardening and small-scale animal husbandry or poultry production (and aquaculture in some settings), but also combines this with nutrition education and a strong emphasis on micronutrient-rich crop diversification to ensure year-round garden output. Findings from the HFP programme in Bangladesh show that production, in combination with information on complementary feeding and increased opportunities for women (who mostly undertake the homestead food production work), was associated with increased consumption of micronutrient-rich foods (Talukder et al, 2000; Marsh, 1998). Through this programme, food availability has not only been increased through homestead production, but extra household income from the sale of excess produce further increased the capability of households to exercise choice, and purchase more micronutrient-rich animal source foods that they would not otherwise be able to afford without reducing expenditure on other basic needs.

There is growing evidence that HFP programmes are having an impact on micronutrient deficiencies. Studies in Bangladesh have shown that the current risk of night blindness was lower among children in households with homestead gardens (Kiess et al, 1999; Cohen et al, 1985). In Indonesia, homestead gardening was associated with a higher intake of vegetables and lower risk of vitamin A deficiency among women in Central Java (de Pee et al, 1998a), while a social marketing campaign led to an increase in egg and vegetable consumption, and improvements in vitamin A status (de Pee et al, 1998b). A study in Ethiopia showed that homestead gardening, linked with a dairy goat project, increased the intake of vitamin A rich foods. Women and children in households who participated in homestead gardening had a lower prevalence of night blindness than the control group (Ayalew et al, 1999). Research conducted in Eastern and Southern Africa has clearly demonstrated the high potential contribution of orange-flesh sweetpotato for combating vitamin A deficiency concurrent with improving overall energy availability (Odongo et al, 2002; Kapinga et al, 2003; van Jaarsveld et al, 2005). In addition, a two-year intervention-research study conducted in a drought-prone area of central Mozambique, the *Towards Sustainable Nutrition Improvement Project*, showed that farmers were willing to adopt orange-fleshed materials. Results demonstrate a significant increase in vitamin A intake at the household level and among children under five years of age, with a significantly greater reduction in vitamin A deficiency among intervention children compared to control children being attributable to the intervention (Low et al, 2001). Understanding the increased nutritional requirements of people living with HIV and AIDS, it is essential that a comprehensive response draws on the added value of integrating participatory food-based strategies in its repertoire of interventions.

5.2. Elements of a comprehensive approach

A comprehensive approach to the integration of food and nutrition into HIV and AIDS policy and programming needs to bear in mind four main objectives: Prevention, positive living, treatment, and mitigation of social and economic impacts (Drimmie and Mullins, 2006:287-289). Programming for these pillars must also bear in mind the context in which HIV and AIDS exists, including the local dimensions of food insecurity. The stakeholders at family, community and societal (institutional) levels then would consider how their work in economic security and livelihoods could potentially assist in achieving these objectives.

Available literature shows that most interventions tended to deal with the immediate manifestations of the problem without addressing the long-term implications. A comprehensive approach requires facilitating the understanding and ability to deal with the immediate determinants of the problems and the underlying and basic causal factors that

worsen and perpetuate the situation. In order to alleviate the problem of HIV and AIDS and food insecurity, a more comprehensive approach needs to frame the responses to the immediate causes of HIV and AIDS and undernutrition into the wider, structural and systemic deficiencies that fuel susceptibility and vulnerability. There is ample evidence, for example, that people living with HIV and AIDS in resource-poor settings are unlikely to be able to follow food and nutrition recommendations for anti-retroviral therapy (ART). Therefore, sustainable food security programming is critical to a comprehensive intervention approach. In order to reduce the risk of acquiring HIV infection, programmes should support and mitigate the impact of HIV and AIDS by enhancing livelihood and skills training for adolescent girls to increase their options for secure incomes and livelihoods. Also, food aid that targets at-risk women and girls helps them to avoid transactional sex. In addition, partnerships in capacity building in education and advocacy for zero-tolerance of abuse of female students would also reduce the risk of HIV infection. In order to improve positive living with HIV, efforts should be geared towards increasing access to financial assets for both affected and non-affected households as well as support for production and preparation of nutritious field crops and vegetables. This would also need a national umbrella organisation that links families to agricultural and health care interventions. Finally, the mitigation of social and economic impacts of HIV and AIDS would also require food targeted at at-risk women and girls, national AIDS commission grants to facilitate the writing of wills, dissemination of information on inheritance laws, and strengthening access and control over resources by widows and orphans (Gilborn et al, 2001; Drimmie and Mullins, 2006).

HIV and AIDS policies need to be reviewed to reflect this belated realisation of the strong relationship between food and nutrition and HIV and AIDS. It is particularly important to harmonise these sectoral policies to reflect:

1. nutrition needs in HIV and AIDS policies;
2. HIV and AIDS implications in food and nutrition policies; and
3. the design and dissemination of intersectoral policy guidelines that would reflect the integral relationship between HIV and AIDS, food and nutrition, and livelihoods for sustaining lives beyond the impacts of HIV and AIDS.

To achieve the above important aspects in fighting the HIV and AIDS pandemic with the food and nutrition lens, there is need for many responses at different levels and such responses need to continue being grounded on the pillars of prevention, positive living, treatment support and mitigation of impacts (Binswanger et al, 2006). Whereas there is now ample information and knowledge on what needs to be done, little is being achieved. It is, for example, known that fewer than 12% of the six million people estimated to be in immediate need of treatment are receiving it (WHO, 2005). In order to reverse the trend, there is need to acknowledge the slow-onset nature of the epidemic, the enormous stigma surrounding HIV and AIDS, and the multiplicity and complexity of actions required in the areas of prevention, care and treatment and social protection. This requires institutional coordination at the global or regional level (by the donor community), the regional level (especially by tapping into the already existing networks), the national level (including the National AIDS commission and policy guiding organs), and community levels (especially in decentralised programme implementation frameworks at districts) and household levels. It is, therefore, imperative to conduct stakeholder mapping at these levels to enable appropriate action interventions under the four pillars of the fight against HIV and AIDS. Such multi-sectoral, multi-stakeholder and multilevel considerations can promote effective sustainable actions.

There are challenges to achieving the objectives identified above. These are much related to the existing gaps and programme implementation challenges. Agricultural research and extension institutions, for example, should be aware of how populations respond to the impact of HIV and AIDS and what their needs are in order to adapt their programmes adequately. For instance in Tanzania, programmes were still focusing on farming systems based on banana and coffee, while households and communities had already started to shift

to less labour-intensive crops such as beans and cassava (Rugalema, 1999). The research evidence upon which HIV and AIDS impacts are assessed and interventions for mitigation are evaluated is narrow (Gillespie et al, 2001). There is a clear need for more knowledge on the impact of HIV and AIDS on nutrition and food security in the region, specifically on the identification of the most vulnerable farming systems and the most vulnerable households. It is especially urgent to define costs and effectiveness of these interventions (Mutangadura et al, 1999). Mechanisms for sharing information and making it accessible to a wider audience have to be found. This is where networks such as the Regional Network on AIDS, Livelihoods and Food Security (RENEWAL) become important.

The above-mentioned gaps among others present challenges. The issue of HIV and AIDS in relation to nutrition and food security has come up only a few years ago in the countries stricken by the epidemic. There is a challenge in mainstreaming HIV and AIDS into relevant development and service programmes. The exact how's, who's and when's of cost-effective responses are not well understood. Little evidence is available on costs and effectiveness of responses from the Eastern and Southern Africa countries. There is a need to document and learn from lessons from country experiences and act more quickly and adequately when it comes to policy making and implementation in order to mitigate the impact of the HIV and AIDS epidemic.

The policy challenges relate to, for example:

- data and information management for competence building among staff in the agriculture sector (and other sectors) to deal with HIV and AIDS issues at workplace and client level;
- monitoring and evaluation of responses to the impact in order to select the most cost-effective interventions;
- using participatory and community-based approaches building upon existing local responses and strengthening these initiatives; and
- creating an enabling environment for sharing information and implementing local responses. Access to resources such as knowledge, credit, and labour-economising methods is crucial for this.

We must acknowledge that HIV and AIDS tend to exacerbate existing development problems through its catalytic effects and systemic impact, but we should not forget that problems due to the epidemic are not specific to HIV and AIDS alone. Nevertheless, the use of an HIV and AIDS lens to evaluate development issues, such as food and livelihood insecurity, can help to develop policies and programmes that minimise the risk or mitigate the impact of the epidemic. Historically, nutrition and food security falls in between the cracks of the health and the agriculture sector. Nutritionists need to use this experience to their advantage and play an important role in advocating for and ensuring that HIV and AIDS and food security and nutrition are linked in policy making and implementation.

If countries in East and Southern Africa are to adopt a more comprehensive approach with a food sovereignty element to nutrition interventions governments are going to have to significantly improve co-ordination and communication between ministries. Individual ministries are simply not going to be in a position to provide comprehensive interventions unless this is done. This has at least four important implications for health systems and policy makers:

- **Working with different stakeholders:** If policy makers are serious about a more sustained and effective nutrition and livelihood approach then health systems will need to move beyond easier solutions such as purchasing of food commodities from large retailers or multi-nationals to engaging with a wider range of partners and role-players and changes in modes of working. This calls for a broader assessment of the institutional and macro/micro political situation within which service delivery is taking place, and

building collaborative work with governments and bureaucracies, civil society and local communities.

- **Giving greater voice to local communities:** An integral part of supporting a more comprehensive food sovereignty approach entails strengthening a human rights approach within health system provision and empowering citizens to ensure competent, responsive services. This potentially takes place through two routes:
 - the immediate, 'short route' to accountability between service providers and users (for example, by involving poor people in monitoring and providing services, consumer power to complain, making the income of service providers dependent on accountability to users); and
 - the 'long route' to accountability between governments and citizens involving broader social and political change, through local organisation building a relationship between local community-based structures and personnel, and external state agents.
- **Strengthening service provision at community health worker level:** The effectiveness of state actors is increased when they are part of, or well acquainted with, the communities they are seeking to serve. A common feature of many successful community-based health programmes is the presence of a cadre of workers trusted by and with access to households, and programmes that situate the right to health in the broader context of the claims and entitlements of citizens to equal consideration and treatment on the basis of need.
- **Capacity development for managing and monitoring comprehensive interventions:** Involving other role-players, in particular those from vulnerable communities, calls for new capacities in state and non-governmental agencies, to negotiate and monitor relationships between state and non-state providers and to promote action learning.

References

1. AVERT (2005) *Resource-poor Communities: HIV and AIDS Treatment and Care*. West Sussex, UK: AVERT, available at: <http://www.avert.org/hivcare.htm>
2. Ayalew WZ, Gebriel W, Kassa H (1999) 'Reducing vitamin A deficiency in Ethiopia: Linkages with a women-focused dairy goat farming project,' *OMNI research report series No. 4*, Washington, DC: International Center for Research on Women.
3. Baro M and Deubel TF (2006) 'Persistent hunger: Perspectives on vulnerability, famine and food security in sub-Saharan Africa,' *The Annual Review of Anthropology* 35:521-38.
4. Binswanger HP, Gillespie S and Kadiyala S (2006) 'Scaling up multi-sectoral approaches,' in Gillespie (Ed). *AIDS, Poverty and Hunger: Challenges and Responses*, Highlights of the International Conference on HIV and AIDS and Food and nutrition security, Durban, South Africa April 14-16, 2005. Washington DC: International Food Policy Research Institute (IFPRI).
5. Block SA, Kiess L, Webb P, Kosen S, Moench-Pfanner R, Bloem MW, Timmer CP (2004) 'Macro shocks and micro outcomes: child nutrition during Indonesia's crisis,' *Economics and Human Biology* 2 (1):21-44.
6. Bloem MW, de Pee S and Darnton-Hill I (2005) 'Micronutrient deficiencies and maternal thinness: First chain in the sequence of nutritional and health events in economic crisis,' in Bendich A and Deckelbaum RJ (eds) *Primary and Secondary Preventive Nutrition* (2nd edition). Totowa, New Jersey: Humana Press Inc.
7. BuaNews (2006) 'Nutritional supplements are provided as part of the comprehensive response to HIV and AIDS.' (19 May 2006) Tshwane: BuaNews, available at: <http://www.pronutrition.org/archive/200605/msg00059.php>
8. Byron E, Gillespie S and Nangami M (2006) 'Linking nutritional support with treatment of people living with HIV: Lessons being learned from Kenya,' *RENEWAL Working Paper*. Washington DC: International Food Policy Research Institute.
9. Central Statistics Office (CSO) [Zimbabwe] and Macro International Inc. (2007) *Zimbabwe Demographic and Health Survey 2005-06, Preliminary Report*. Maryland: Government of Zimbabwe and Macro International Inc.
10. Chopra M (2003) 'Equity issues in HIV and AIDS, nutrition and food security in southern Africa,' *EQUINET Discussion Paper 11*. EQUINET: Harare.
11. Clemens M and Pettersson G (2006) 'A new database of health professional emigration from Africa,' *Center for Global Development Working Paper 95*. Washington DC: Center for Global Development.
12. Cohen N, Jalil MA, Rahman H, Matin MA, Sprague J, Islam J, Davidson J, Leemhuis de Regt E, Mitra M (1985) 'Landholding, wealth and risk of blinding malnutrition in rural Bangladeshi households,' *Social Science and Medicine* 21(11):1269-1272.
13. Conselho Nacional de Combate ao HIV/SIDA, (2004), *Plano Estratégico Nacional de Combate ao HIV/SIDA 2005-2009, Livro I: Análise da Situação & Livro II: Objectivos e Estratégias*, Maputo, Mozambique, Conselho Nacional de Combate ao HIV/AIDS
14. de Klerk M, Drimie S, Aliber M, Mini S, Mokoena R, Randela R, Modiselle S, Roberts B, Vogel C, de Swardt C, Kirsten J (2004). 'Food security in South Africa: Key policy issues for the medium term,' *Human Sciences Research Council Integrated Rural and Regional Development Position Paper*. Pretoria: Human Sciences Research Council.
15. de Pee S, Bloem MW, Gorstein J, Sari M, Satoto, Yip R, Shrimpton R, Muhilal (1998a) 'Reappraisal of the role of vegetables for vitamin A status of mothers in Central-Java, Indonesia,' *American Journal of Clinical Nutrition* 68:1068-1074.
16. de Pee S, Bloem MW, Satoto (1998b) 'Impact of social marketing campaign promoting dark-green leafy vegetables and eggs in Central Java, Indonesia,' *International Journal of Vitamin and Nutrition Research* 68: 389-398.
17. Department of Health (2000) *HIV/AIDS/STD Strategic Plan for South Africa: 2000 – 2005*. Pretoria: Government of South Africa, available at: <http://www.doh.gov.za/docs/index.html>

18. Department of Health (2001) South African National Guidelines on Nutrition for People Living with TB, HIV and AIDS and Other Chronic Debilitating Conditions. Pretoria: Government of South Africa, available at: <http://webhost.sun.ac.za/nicus/HIV/HIVguidelines.pdf>
19. Department of Health (2006) Republic of South Africa: Progress Report on Declaration of Commitment on HIV and AIDS 2005, Prepared for United Nations Special Session on HIV and AIDS. Pretoria: Government of South Africa, available at: www.doh.gov.za/docs/reports/2006/ungass/part1.pdf
20. Deveraux S and Maxwell S (eds) (2001) *Food Security in Sub-Saharan Africa*. London: ITDG Publishing.
21. Djeddah C, Mavanga R, and Hendrickx L (2006) *Junior Farmer Field and Life Schools; Experience from Mozambique*, in Stuart Gillespie, ed. (2006) *AIDS Poverty and Hunger Challenges and Responses*. International Food And Research Center.
22. Drimmie S and Mullins D (2006) 'Mainstreaming HIV and AIDS into livelihoods and food security programs: The experience of CARE Malawi,' in Gillespie (ed) *AIDS, Poverty and Hunger: Challenges and Responses, Highlights of the International Conference on HIV and AIDS and Food and nutrition security, Durban, South Africa April 14-16, 2005*. Washington DC: IFPRI.
23. El Beitune P, Duarte G and dos Santos JE (2006) 'Effect of antiretroviral agents on triglyceride levels in HIV-1-infected pregnant women,' *Lipids* 41(4).
24. Family Health International (FHI) (2007) *Nutrition in Comprehensive HIV Care, Treatment and Support Programs*. Dar Es Salaam: FHI Tanzania.
25. Food and Nutrition Technical Assistance (FANTA) Project (2004) *HIV/AIDS: A Guide for Nutritional Care and Support*. 2nd Edition. Washington DC: FANTA, Academy for Educational Development.
26. FANTA Project (2005) *Nutrition and HIV Resources*. Washington DC: FANTA, available at www.fantaproject.org
27. FAO (1996) Rome Declaration on World Food Security and World Food Summit Plan of Action. Rome: FAO
28. FAO (2004) *FAO Statistical Year Book 2004*. Rome: FAO.
29. FAO (n.d) *Representation in Mozambique and Swaziland: Food Security and Nutrition*. Rome: FAO, available from: <http://www.fao.org/world/mozambique/FAOfoodsecurity.htm>
30. FAO (2005) *Schools for life: training for HIV/AIDS orphans in Sub-Saharan Africa*, <http://www.fao.org/newsroom/en/news/2005/1000169/index.html>, Rome: FAO
31. FAO (2006) *Best Practices, Gender and Equity in rural societies: Junior Farmer Field and Life Schools*, http://www.fao.org/bestpractices/content/11/11_04_en.htm. Rome: FAO.
32. Food and Nutrition Council (2005) *Pilot Food and Nutrition Sentinel Site Surveillance Report* Harare: Government of Zimbabwe
33. Gilborn L, Nyonyintono R, Kabumbuli R and Jagwe-Wadda G (2001) *Making a Difference for Children affected by AIDS: Baseline findings from Operations Research in Uganda*. New York: Population Council.
34. Gillespie S, Haddad L and Jackson R (2001) 'HIV and AIDS, food and nutrition security: Impacts and actions,' in *Nutrition and HIV AND AIDS, Nutrition Policy Discussion Paper 20*. Geneva: United Nations SCN.
35. Gillespie S and Kadiyala S (2005) 'HIV and AIDS and food and nutrition security: From evidence to action,' *Food Policy Review* 7. Washington DC: IFPRI.
36. Government of Kenya (GoK) National AIDS Control Council, Office of the President (2000) *Kenya National AIDS Strategic Plan*. Nairobi: Government of Kenya.
37. Government of South Africa (2006) *HIV and AIDS in South Africa*. Pretoria: Government of South Africa, available from: http://www.southafrica.info/ess_info/sa_glance/health/aids.htm (accessed October 24, 2006).
38. Government of Zimbabwe (GoZ) (2006) *4th Food and Nutrition Surveillance Report, November 2006 (Draft)*. Harare: Government of Zimbabwe.

39. International Committee of the Red Cross (2004) *Case Study: Community Home-Based Care for People Living with HIV and AIDS in Zimbabwe*. Harare: ICRC
40. International Crops Research Institute for the Semi-Arid Tropics (2005) *Junior Farmer Field Schools in Zimbabwe: Proceedings of a Review and Planning Workshop, November 2004*. Andhra Pradesh, India: International Crops Research Institute for the Semi-Arid Tropics.
41. International Fund for Agricultural Development (IFAD) (2006) *Rural Poverty Portal*. New York: IFAD, available at: <http://www.ruralpovertyportal.org/english/regions/africa/uga/index.htm>
42. Inter Press Service (2006) 'Medical brain drain puts Southern African in a Quandary.' (7 April 2006). Johannesburg: IPS, available at: <http://ipsnews.net/news.asp?idnews=32808>
43. IRIN (2006a) 'Tanzania: HIV linked to injected drugs in Zanzibar – New study.' (15 September 2006), New York: PlusNews, available at: <http://www.plusnews.org/AIDSreport.asp?ReportID=6380andSelectRegion=Africa>
44. IRIN (2006b) 'Tanzania: Free food programme to complement free ARVs.' (8 August 2006). New York: PlusNews, available at: <http://www.plusnews.org/AIDSreport.asp?ReportID=6239>
45. Jayne TS (2007) 'AIDS, poverty and food security: Challenges for the next 25 years,' A Presentation at the RENEWAL 3 Workshop in Johannesburg, South Africa, 12th to 14th March 2007.
46. Kapinga R, Lemaga B, Well P, Zhang D, Tumwegamire S, Agili S and Nsumba J (2003) 'Increased promotion and utilisation of orange-fleshed sweet potato as part of the food-based approaches to combat Vitamin A deficiency in sub-Saharan Africa,' Accepted Abstract for *Food Africa 5-9 May 2003, Cameroon*.
47. Kenya Ministry of Health (1997) *Sessional Paper No 4 of 1997 on AIDS in Kenya*. Nairobi: Government of Kenya.
48. Kiess L, Bloem MW, de Pee S, Hye A, Khan TA, Huq N, Talukder Z (1999) *Bangladesh – Xerophthalmia Free: Combined effect of Vitamin A Capsule Distribution and Home Gardening*. Washington DC: APHA Abstract 361.
49. Kiess L, Moench-Pfanner R, Bloem MW (2001) 'Food-based strategies: Can they play a role in poverty alleviation?' in Helen Keller International Asia-Pacific *Homestead Food Production – A Strategy to Combat Malnutrition and Poverty*. Jakarta: Helen Keller International.
50. Labadarios D (Ed) (2000) *The National Food Consumption Survey (NFCS): Children aged 1 – 9 years, South Africa, 1999*. Directorate: Nutrition, Department of Health; NFCS.
51. Lathrop R (2005) 'Capacity building for organisations and rural communities in HIV/AIDS, food and nutrition security,' A PowerPoint Presentation at the International Food Policy Research Institute (IFPRI) International Conference on HIV/AIDS and Food and Nutrition Security, 14-16 April 2005, Durban, South Africa. Durban: IFPRI.
52. Linkages Project, Regional Centre for Quality Health Care (RCQHC), UNICEF (2002) *Successful Community Nutrition Programming: Lessons from Kenya, Tanzania and Uganda*. New York: Linkages Project, Regional Centre for Quality Health Care, UNICEF.
53. Low J, Walker T and Hijmans R (2001) *The Potential Impact of Orange Flesh Sweetpotatoes on Vitamin A Intake in Sub-Saharan Africa*. Lima, Peru: International Potato Center.
54. Marsh R (1998) 'Building on traditional gardening to improve household food security,' *Food, Nutrition and Agriculture* 22:4.
55. Martorell R (1996) 'The role of nutrition in economic development,' *Nutrition Review* 54(4):S66-71.
56. MediLexicon International Ltd (2007) 'Advancing HIV/AIDS care in Tanzania,' *Medical News Today*. East Sussex, UK: Medical News Today, available at: <http://www.medicalnewstoday.com/medicalnews.php?newsid=16638>
57. Ministério da Saúde, Direcção Nacional de Saúde, Departamento de Saúde da Comunidade, Repartição de Nutrição (April 2006) *Orientação para introdução do pacote Nutricional Básico ao nível das Unidades Sanitárias Urbanas e Rurais*. Maputo: Ministério da Saúde, Direcção Nacional de Saúde, Departamento de Saúde da Comunidade, Repartição de Nutrição.

58. Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) (1998) National Agriculture Advisory Services. Entebbe: MAAIF, Republic of Uganda.
59. Ministry of Finance, Planning and National Development Kenya (2003) *Economic Recovery Strategy for Wealth and Employment Creation*. Nairobi: Government of Kenya.
60. Ministry of Finance, Planning and National Development (2001) *Poverty Eradication Strategy Paper (2001-2004)*. Nairobi: Government of Kenya.
61. Ministry of Health (2004) *National Health Sector Strategic Plan to Combat Sexually Transmitted Infections and HIV/AIDS for 2004–2008*, Maputo, Mozambique, Ministry of Health.
62. Ministry of Health (1994) *Kenya Health Policy Framework*. Nairobi: Government of Kenya.
63. Ministry of Health (MoH) Uganda and ORC Macro (2006) *Uganda HIV and AIDS Sero-Behavioural Survey 2004/05*. Calverton, Maryland, USA: Ministry of Health and ORC Macro.
64. Ministry of Health and Child Welfare (MoHCW), Zimbabwe National Nutrition Unit (2004a) *Guidelines on Dietary Management for People Living with HIV and AIDS*. Harare: Government of Zimbabwe.
65. MoHCW (2004b) *National Community Home-based Care Standards*. Harare: Government of Zimbabwe.
66. Ministry of Lands (2004) *Land Policy*. Nairobi: Government of Kenya.
67. Mooney G (1996) 'And now for vertical equity? Some concerns arising from Aboriginal health in Australia,' *Health Economics* 5: 99–103.
68. Mutagandura G, Mukurazita D and Jackson H (1999) 'A review of household and community responses to HIV and AIDS epidemic in rural areas of sub-Saharan Africa,' *UNAIDS Best Practice Collection*. Geneva: UNAIDS.
69. Muzoora HW, Coutinho AG, Mugume A (2004) Mitigation of HIV and AIDS through nutrition: The TASO-Uganda experience. Kampala: TASO
70. NAADS (2003) The impact of HIV and AIDS on the Agricultural Sector and Rural Livelihoods in Uganda. Rome: FAO.
71. National AIDS Council (1999) Strategic Framework for a National Response to HIV/AIDS (2000-2004). Harare: Government of Zimbabwe
72. National Department of Health, Directorate Nutrition, Republic of South Africa (n.d.) *The Integrated Nutrition Programme (Nutritional Status)*. Pretoria: Government of South Africa, available from: <http://www.doh.gov.za/programmes/>
73. Nyoro JK and KK Muiruri (2001) *Policies for Agricultural Sustainability in Kenya*. London: SARL Publications.
74. Odongo B, Mwanga ROM, Owori C, Niringiye C, Opio F, Ewell P, Lemaga B, Agwaro G, Serunjogi L, Abidin E, Kikafunda J and Mayanja R (2002) *Development and Promotion of Orange-Fleshed Sweet Potato to Reduce Vitamin A Deficiency in Uganda*. Lima, Peru: International Potato Centre, available at: <http://www.cipotato.org/vitaa/Proceedings/VITAA-paper-Uganda-FINAL%20BY%20CDYER-8Apr2002.pdf> (Downloaded on 30/04/2007)
75. Plus News (2006) 'Uganda: Criminal probe recommended in AIDS fund scam' (6 June 2006). New York: PlusNews, available at: <http://www.aidsmap.com/en/news/2C9CD5A3-55AD-4DA1-940C-782D569B9BD6.asp>
76. Regional Centre for Quality of Health Care (RCQHC) and FANTA (2003) Developing and Applying National Guidelines on Nutrition and HIV/AIDS). Kampala: Makerere. Available from www.RCQHC.org or www.fantaproject.org
77. Republic of Kenya (ROK) Food and Planning Unit (1994) *National Action Plan on Nutrition (NPAN)*. Nairobi: Government of Kenya.
78. Republic of Kenya (ROK) (2000) *National Development Plan (2000-2008)*. Nairobi: Government of Kenya.
79. Republic of Kenya (ROK) Ministry of Health (2001) AIDS in Kenya: Background, Projections, Impact, Interventions and Policy (6th Edition). Nairobi: Government of Kenya.

80. Republic of Kenya (ROK) Ministry of Agriculture, Livestock and Fisheries Department (2004) *Strategy for Revitalising Agriculture in Kenya (2004-2014)*. Nairobi: Government of Kenya.
81. Republic of Kenya (ROK), Central Bureau of Statistics, Ministry of Planning and National Development (CBS) (2003) *Kenya Demographic Health Survey*. Nairobi: Government of Kenya.
82. Republic of Uganda, Ministry of Agriculture, Animal Husbandry and Fisheries, Ministry of Health (2003) *Uganda Food and Nutrition Policy 2003*. Kampala: Government of Uganda.
83. Republic of Uganda, Uganda AIDS Commission (2004) *The National Monitoring and Evaluation Framework for HIV/AIDS Activities in Uganda (2003/04-2005/06)*. Kampala: Government of Uganda.
84. Republic of Zimbabwe (1999) *National Policy on HIV/AIDS for Zimbabwe*. Harare: Government of Zimbabwe.
85. Rudert C (2007); *Plumpy'nut for Malnourished HIV+ Children and for Infants of HIV+ Mothers*, (Oral Presentation for the 2007 HIV/AIDS Implementers Meeting 16-19 June 2007) Kigali Rwanda, Ministério da Saúde, UNICEF
86. Rugalema GHR (1999) *HIV AND AIDS and Commercial Agriculture Sector in Kenya: Impact, Vulnerability, Sustainability and Coping Strategies*. Rome: Extension, Education and Communication Service, FAO Research, Extension and Training Division.
87. Rukuni M (2002) 'Africa: Addressing growing threats to food security,' *J. Nutr.* 132: 3443S–3448S, 2002.
88. Sachs J (2005) *The End of Poverty: Economic Possibilities for Our Time*. New York: Penguin Press.
89. Sahn D and Scrimshaw N (1982) 'Nutrition interventions and the process of economic development,' *Food and Nutrition Bulletin* 5(1):2-15.
90. Sanders D (1998) 'PHC 21: Everybody's business,' Main background paper for the meeting: PHC 21 – Everybody's business, An international meeting to celebrate 20 years after Alma Ata, Almaty, Kazakhstan, 27–28 November 1998. Geneva: WHO.
91. Sanders D (1999) 'Success factors in community-based nutrition programmes,' *Food and Nutrition Bulletin* 20 (3): 307-14.
92. Save the Children and Oxfam (2002) *HIV and AIDS and Food Security in Southern Africa*, December 2002. Oxford: Oxfam.
93. Schmidt K (2005) 'Food security in South Africa: The case of subsistence fishers,' A paper for presentation at Trade and Food Security International Conference Building Civil Society in Southern Africa for Food Security 21-23 March, Mangochi, Malawi. Cape Town: Alternative Information and Development Centre.
94. Semba RD and Tang AM (1999) 'Micronutrients and the pathogenesis of human immunodeficiency virus infection,' *British Journal of Nutrition* 81(3):181–189.
95. Sen A (1981) *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press.
96. Southern African Development Community (SADC), POLICY Project, The Futures Group International (2002) *National and Sector HIV/AIDS Policies in the Member States of the Southern Africa Development Community*. Available from <http://hivinsite.ucsf.edu/global?page=cr09-zi-00#S2X>
97. Southern African Migration Project (SAMP) (2005) 'Medical leave: The exodus of health professionals from Zimbabwe,' in Crush, J *Migration Policy Series 34*. Kingston, Ontario: SAMP, available from: <http://www.queensu.ca/samp/> accessed October 25, 2006. These statistics were compiled by the Organisation for Economic Co-operation and Development (OECD) and the World Health Organisation (WHO).
98. Stiglitz JE (2002) *Globalization and Its Discontents*. New York: WW Norton.
99. Students for International Change (SIC) (2006) *SIC Tanzania: 2006 Annual Report*. Arusha: SIC Tanzania.
100. Sustainable Developments (2004) 'Assuring food and nutrition security in Africa by 2020,' *Highlights* 58 (5).

101. Talukder A, Kiess L, Huq N, de Pee S, Darnton-Hill I, Bloem MW (2000) 'Increasing production and consumption of vitamin A-rich fruits and vegetables: Lessons learned in taking the Bangladesh homestead gardening programme to national scale,' *Food and Nutrition Bulletin* 21(2):165-172.
102. Tanzania Commission for AIDS (2003) National Multi-Sectoral Strategic Framework on HIV/AIDS 2003-2007. Dar es Salaam: Office of the Prime Minister.
103. Tanzania Commission for AIDS (TACAIDS), National Bureau of Statistics (NBS), National AIDS Programme (NACP) and ORC Macro (2006) *Tanzania: Atlas of HIV/AIDS Indicators*. Dar es Salaam: TACAIDS, NBS, NACP and ORC Macro.
104. Thaczuk D (2006) *ARV Update: Micronutrient Deficiencies Less Common in People on ART*. New York: The Body, available at: http://www.thebody.com/iapac/dec06/arv_update.html
105. The United Republic of Tanzania (2001) *National Policy on HIV and AIDS*. Dar es Salaam: Prime Minister's Office.
106. Topouzis D (2001) IFAD HIV and AIDS Strategy for East and Southern Africa. New York: IFAD.
107. Topouzis D (2003) Addressing the Impact of HIV and AIDS on Ministries of Agriculture: Focus on Eastern and Southern Africa. Rome: FAO/UNAIDS.
108. Torlesse H, Kiess L, Bloem MW (2003) 'Association of household rice expenditure with child nutritional status indicates a role for macroeconomic food policy in combating malnutrition,' *Journal of Nutrition* 133 (5): 1320-5.
109. Uganda AIDS Commission (2004) *Uganda National HIV and AIDS Policy 2004/5 (Draft)*. Kampala: Government of Uganda.
110. Uganda AIDS Commission (2005) Follow-up to the Declaration of Commitment on HIV/AIDS (UNGASS): Uganda Country Report (January 2003-December 2005). Kampala: Government of Uganda.
111. Uganda AIDS Commission (2006) 'Preparation of the National Strategic Plan (NSP) 2007/08 – 2011/12: Strategy Paper,' *Strategy towards Universal Access to Prevention, Care and Support in Uganda*. Kampala: Government of Uganda.
112. UNAIDS (2006) Report on the Global AIDS Epidemic 2006. Geneva: UNAIDS.
113. UNAIDS (2005) Report of the Global AIDS Epidemic 2005. Geneva: UNAIDS.
114. UNDP (2001) Kenya Human Development Report: Addressing the Social and Economic Disparities. Nairobi, Kenya: UNDP
115. UNICEF (1990) Strategy for Improved Nutrition of Children and Women in Developing Countries. New York: UNICEF.
116. UNICEF (2005) "Helping Young People in Zimbabwe," *Hope Lives Here: An Update on UNICEF's Campaign against AIDS*. New York: UNICEF.
117. UNICEF (2006) Nutrition ATLAS Zimbabwe: Who is doing What, Where in Nutrition (2005-2006)? Harare: UNICEF.
118. UNICEF (no date) 'Impact on children: safe infant feeding and child survival,' *Real Lives*. New York: UNICEF, available at http://www.unicef.org/southafrica/reallives_2799.html
119. van Jaarsveld PJ, Faber M, Tanumihardjo SA, Nestel P, Lombard CJ and Spinnler Benadé AJ (2005) 'Beta-Carotene-rich orange-fleshed sweet potato improves the vitamin A status of primary school children assessed with the modified-relative-dose-response test,' *American Journal of Clinical Nutrition* 81:1080 –7.
120. Wagah MA (2005) Background Paper on HIV and AIDS and food and nutrition security in Kenya. Nairobi: RENEWAL Coordination Office.
121. WHO (2003) Scaling Up Antiretroviral Therapy in Resource-Limited Settings. Geneva: WHO.
122. WHO (2005) "3 by 5" Progress Report. Geneva: WHO.
123. World Bank (n.d.) *Mainstreaming Indigenous Knowledge: Africa Region*. New York: World Bank, available at: <http://www.worldbank.org/afr/ik/default.htm>

124. World Food Programme (2004) *HIV and AIDS Documentary Video*. New York: UN World Food Programme/FDC.
125. World Food Programme and Stanford University Press (2006) *World Hunger Series 2006: Hunger and Learning*. Rome: World Food Programme.
126. World Health Organization (2003) *Global strategy for infant and young child feeding*. Geneva: World Health Organization.

Acknowledgements

The authors gratefully acknowledge the assistance and comments of the following individuals: at Helen Keller International Saskia de Pee, Diane Bosch, Carina Ismael, Victoria Quinn and Caroline Amakobe Sande; Percy Chipepera of the MOHCW/Zimbabwe and from the Medical Research Council/South Africa Mark Tomlinson for editing and Rina Swart for peer reviewing.

Acronyms

| | |
|---------|---|
| AFASS | Acceptable Feasible Affordable Sustainable and Safe |
| AIDS | Acquired Immune Deficiency Syndrome |
| AMPATH | Academic Model for Prevention and Treatment of HIV/AIDS |
| ART | Antiretroviral Therapy |
| ARV | Antiretrovirals |
| CARE | Carry American Relief Everywhere |
| CBO | Community Based Organisations |
| COSAMO | Community Savings Mobilisation |
| CSB | Corn Soy Blend |
| EQUINET | Regional Network for Equity in Health in East and Southern Africa |
| FANTA | Food and Nutrition Technical Assistance Project |
| FAO | Food and Agriculture Organisation |
| FBO | Faith-based organisation |
| FHI | Family Health International |
| GoK | Government of Kenya |
| GoZ | Government of Zombabwe |
| GSC | Global Service Corps |
| HBC | Home-Based Care |
| HCT | HIV Counseling and Testing |
| HFP | Homestead Food Production |
| HIV | Human Immunodeficiency Virus |
| HIV+ | Human Immunodeficiency Virus positive |
| HKI | Helen Keller International |
| IFAD | International Fund for Agricultural Development |
| INP | Integrated Nutrition Programme |
| IRIN | Integrated Regional Information Networks |
| JFFS | Junior Farmer Field and Life Schools |
| LIME | Livestock Marketing Enterprise |
| MoH | Ministry of Health |
| MoHCW | Ministry of Health and Child Welfare |
| MRC | Medical Research Council |
| MSF | Medicins Sans Frontiers |
| MTCT | Mother-to-Child Transmission (of HIV) |
| NAADS | National Agricultural Advisory Services |
| NACC | National AIDS Control Council |
| NACOSA | National AIDS Coordinating Committee of South Africa |
| NACWOLA | National Community of Women Living with AIDS |
| NBS | National Bureau of Statistics |
| NEFP | National Emergency Food Programme |
| NGO | Non-Governmental Organisation |
| NSP | National Strategic Plan |
| OI | Opportunistic Infection |
| OVC | Orphans and Vulnerable Children |
| PLWHA | Persons Living with HIV/AIDS |
| PMTCT | Prevention of Mother-to-Child Transmission |
| RCQHS | Regional Centre of Quality Health Care |
| RENEWAL | Regional Network on HIV and AIDS, Livelihoods and Food Security |
| RoK | Republic of Kenya |
| SAMP | South African Migration Project |
| SANAC | South Africa National AIDS Council |
| SIC | Students for International Change |
| SIDA | Swedish International Development Agency |
| SOS | Seeds of Sustenance |

| | |
|----------|--|
| STI | Sexually Transmitted Infections |
| TACAIDS | Tanzania Commission for AIDS |
| TASO | The AIDS Support Organization |
| TAWG | Tanga AIDS working group |
| TB | Tuberculosis |
| UAC | Uganda AIDS Commission |
| UN | United Nations |
| UNAIDS | United Nations Joint Program on HIV/AIDS |
| UNICEF | United Nations Children's Fund |
| USAID | United States Agency for International Development |
| UWESO | Uganda Women's Efforts to Save Orphans |
| VCT | Voluntary Counseling and Testing |
| WFP | World Food Programme |
| WHO/AFRO | World Health Organisation/Africa Regional Office |

Equity in health implies addressing differences in health status that are unnecessary, avoidable and unfair. In southern Africa, these typically relate to disparities across racial groups, rural/urban status, socio-economic status, gender, age and geographical region. EQUINET is primarily concerned with equity motivated interventions that seek to allocate resources preferentially to those with the worst health status (vertical equity). EQUINET seeks to understand and influence the redistribution of social and economic resources for equity oriented interventions, EQUINET also seeks to understand and inform the power and ability people (and social groups) have to make choices over health inputs and their capacity to use these choices towards health.

EQUINET implements work in a number of areas identified as central to health equity in the region:

- Public health impacts of macroeconomic and trade policies
- Poverty, deprivation and health equity and household resources for health
- Health rights as a driving force for health equity
- Health financing and integration of deprivation into health resource allocation
- Public-private mix and subsidies in health systems
- Distribution and migration of health personnel
- Equity oriented health systems responses to HIV/AIDS and treatment access
- Governance and participation in health systems
- Monitoring health equity and supporting evidence led policy

EQUINET is governed by a steering committee involving institutions and individuals co-ordinating theme, country or process work in EQUINET:
Rene Loewenson, Rebecca Pointer, Fortunate Machingura TARSC; Mickey Chopra, Mark Tomlinson MRC South Africa, Mwajumah Masaiganah, Peoples Health Movement, Tanzania; Itai Rusike, CWGH, Zimbabwe; Godfrey Woelk, University of Zimbabwe; TJ Ngulube, CHESSORE, Zambia; Lucy Gilson, Centre for Health Policy, South Africa; Moses Kachima SATUCC, Di McIntyre, Vimbai Mutyambizi, Health Economics Unit, Cape Town, South Africa; Gabriel Mwaluko, Tanzania; MHEN Malawi; A Ntuli, Health Systems Trust; Scholastika lipinge, University of Namibia; Leslie London, UCT; Noma French Mbombo, UWC Cape Town, South Africa; Percy Makombe SEATINI, Zimbabwe; Ireen Makwiza, REACH Trust Malawi. Selemani Mbuyita, Ifakara Tanzania

For further information on EQUINET please contact the secretariat:
Training and Research Support Centre (TARSC)
Box CY2720, Causeway, Harare, Zimbabwe
Tel + 263 4 705108/708835 Fax + 737220
Email: admin@equinetafrica.org
Website: www.equinetafrica.org

Series Editor: Rene Loewenson

Issue Editors: Pierre Norden, Mickey Chopra, Rebecca Pointer