The Implications of HIV/AIDS for Household Food Security in Africa

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"The Implications of HIV/AIDS for Household Food Security in Africa"[1]

by Daphne Topouzis[2]

1. Introduction

1.1 Purpose and Scope

The purpose of this paper is to analyse some of the linkages between HIV/AIDS, gender and household food security in rural Africa. To date, the majority of extant studies on rural HIV/AIDS have focused on the socio-economic impact of the epidemic on the family and household economy as a whole, without distinguishing in detail *how* men and women are affected and how male/female morbidity and mortality affect food and livelihood security. The paper puts into sharp focus some of the effects of HIV/AIDS on rural women as food producers, custodians of household food security and heads of household. The objective is to help identify key areas of research, particularly in terms of needs, gaps and priorities so as to address the HIV/AIDS dimension of the interface between women's reproductive health and household food security.

It is argued that the adverse effects of HIV/AIDS morbidity and mortality on rural households may disrupt the interface between productive and domestic labour. Rural women, as food producers, custodians of food security and caregivers are at the center of this interface. The disruption of the domestic-productive labour interface, coupled with other socio-economic factors, may inflict a shock to the livelihood system of the household, thus undermining food security. Gender may play a key role in determining both the impact of HIV/AIDS on household food security and the ability of a household to cope with it.

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[1] Paper prepared for the regional workshop on "Women's Reproductive Health and Household Food Security in Rural Africa," organized by the United Nations Economic Commission for Africa, Food Security and Sustainable Development Division, Addis Abeba, 11-13 October 1999.

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Table 1: ESTIMATES OF ADULT HIV INFECTION IN AFRICA, End 1997[3]

Country	Adults (15-49) living with HIV/AIDS	Percentage of adult population	Country	Adults (15-49) living with HIV/AIDS	Percentage of adult population
Zimbabwe	1,400,000	25.84	Congo Rep.	95,000	7.78
Botswana	190,000	25.10	Burkina Faso	350,000	7.17
Namibia	150,000	19.94	Cameroon	310,000	4.89
Zambia	730,000	19.07	D.R. of Congo	900,000	4.35
Swaziland	81,000	18.50	Gabon	22,000	4.25
Malawi	670,000	14.92	Nigeria	2,200,000	4.12
Mozambique	1,200,000	14.17	Liberia	42,000	3.65
South Africa	2,800,000	12,91	Eritrea*	49,000	3.17
Rwanda	350,000	12,75	Sierra Leone	64,000	3.17
Kenya	1,600,000	11,64	Chad	83,000	2.72
Central African Republic	170,000	10.77	Ghana	200,000	2.38
Djibouti	32,000	10.30	Guinea-Bissau	11,000	2.25
Côte d'Ivoire	670,000	10.06	Gambia	13,000	2.24
Uganda	870,000	9.51	Angola	100,000	2.12
Tanzania	1,400,000	9.42	Guinea	70,000	2.09
Ethiopia	2,500,000	9,31	Benin	52,000	2.06
Togo	160,000	8.52	Senegal	72,000	1.77
Lesotho	82,000	8,35	Mali	84,000	1.67
Burundi	240,000	8.30	Niger	61,000	1.45
			Equatorial Guinea	2,300	1.21

Source: UNAIDS/WHO. Report on the Global HIV/AIDS Epidemic, June 1998.
Epidemiological fact sheets on HIV/AIDS and sexually transmitted diseases by country, Geneva, 23 June 1998.

[3] The estimates at left include all adults aged 15-49 with HIV infection (whether or not they had developed symptoms of AIDS) who were alive at the end of 1997. For countries marked with an asterisk (*), not enough data were available to produce an estimate of HIV prevalence for end-1997. For each of these countries, the 1994 prevalence rate was applied to the country's adult population to produce the estimates given in the table. Mauritania, Somalia, Comoros, Madagascar, Mauritius and Reunion have adult HIV prevalence rates below 1%.

1.2 HIV Epidemiological Update

Africa is the hardest hit continent in the world in terms of the HIV epidemic. **In nine countries south of the Sahara, adult HIV prevalence rates exceed 10%**.[4] The southern part of the continent holds the majority of the world's hardest hit countries: in **Botswana, Namibia, Swaziland and Zimbabwe, between 20% and 26% of the population aged 15-49 is living with HIV or AIDS**.[5] In West Africa, **Côte d'Ivoire and Nigeria** are particularly affected: in the former, 10% of the adult population is HIV positive while in the latter 2.2 million people are living with HIV.[6]

In most of these countries, HIV/AIDS is not just an "urban" problem. Despite the fact that HIV prevalence rates are generally lower in rural than in urban areas, **the number of people living with HIV may, in absolute numbers, predominate in rural areas**. Moreover, in some Southern African countries like Swaziland, South Africa, Zimbabwe and Botswana, there is little difference in HIV infection rates between rural and urban areas.[7] HIV infection rates in rural areas are hard to measure and are prone to under-reporting or misdiagnosis, as a result of poor health infrastructure, restricted access to health facilities and inadequate surveillance mechanisms. For this reason, **rural HIV remains, to some extent, silent and invisible—in other words, an unknown entity for policy-makers and development planners.**[8]

Close to four-fifths of all infected women in the world today live in Africa. **In sub-Saharan Africa, the ratio of men to women living with HIV is 5 to 6.** In the younger age bracket (15-25 years), the HIV risk for African girls is even more disproportionate. In countries where youth accounts for 60% of new infections, young women outnumber their male peers by a ratio of 2 to 1.[9]

Box 1: African Girls Become Infected with HIV at a Younger Age than Boys

A recent community-based study in one area of Kenya showed that 22% of 15-19 year-old girls in the general population were already infected with HIV, compared with just 4% of boys of the same age. In the next higher age bracket, 20-14 years, a study in Ethiopia found that more than 35% of young women were infected—three times higher than the 11% rate among the men.

Source: UNAIDS Fact Sheet, AIDS in Africa, November 1998, p. 3.

Studies show that between 60% and 80% of African women in steady relationships who become infected with HIV have one sexual partner—their husband or regular companion.[10] In other words, most **married women** in Africa get

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[4] Botswana, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Zambia and Zimbabwe.

[5] UNAIDS/WHO, AIDS Epidemic Update: December 1998, p. 3.

[6] UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, Geneva, p. 10.

[7] An important determinant of the differential levels of HIV infection is the amount of movement and linkages between urban and rural areas. See Lieve Fransen and Alan Whiteside, "HIV and Rural Development: An Action Plan," Considering HIV/AIDS in Development Assistance: A Toolkit, The European Community, 1997.

[8] D. Topouzis, The Implications of HIV/AIDS for Rural Development Policy and Programming, op. cit., p. 3.

[9] UNAIDS, Reducing Women's Vulnerability to HIV Infection, Best Practice Collection, October 1997, p. 1.

infected as a consequence of sexual relations with their husbands. Thus, paradoxically, being married is a major risk factor for women who tend to have little control over abstinence or condom use at home or their husband's sexual activity outside the home.[11] This is particularly significant given that married women are generally considered to be a "low-risk" group in terms of vulnerability to HIV infection.

Young unmarried mothers are also vulnerable to HIV/AIDS. In many parts of rural Africa, the numbers of young unmarried mothers are swelling due to changes in the social fabric of African societies, migration, the economic crisis or inability to pay the bride price, etc. These young mothers are not only in a precarious position financially and socially, but they have the added disadvantage of not always being able to benefit from the protection of the extended family safety net. AIDS-related mortality appears to be disproportionately concentrated among single women. A recent study in a farming area of Zimbabwe shows that single mothers were twice as likely to be HIV infected as married women.[12] The ramifications of this finding are particularly alarming, given that the death of these women may leave a child without any parent.

Box 2: Marriage : A Factor of Women's Vulnerability to HIV Infection?

I told my husband that it was better to use condoms, the doctor said so. The doctor had also given me some to use at home. My husband became very angry and asked who gave me permission to bring those condoms home.

Woman in Kenya

Source: UNAIDS, Reducing Women's Vulnerability to HIV Infection, p. 1.

1.3 The Gender Dimension of Vulnerability to HIV/AIDS

Women are biologically more vulnerable to HIV infection than men. In fact, the risk of becoming infected with HIV during unprotected vaginal intercourse is between two and four times higher for women than for men.[13] Women are also more vulnerable to other sexually transmitted diseases (STDs) and an untreated STD in either partner multiplies the risk of HIV transmission by 300-400%.[14]

Women's biological vulnerability to HIV infection renders their reproductive health status even more precarious than it already is: pregnancy and child-bearing now involve considerably greater risks not only to the women but to their future offspring, while STDs can be potentially life-threatening. HIV prevalence rates among women attending antenatal clinics in many parts of East, Central and Southern Africa are as high as 20-40% and in some cases considerably higher.

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[10] Desmond Cohen and Elisabeth Reid, "The Vulnerability of Women: Is this a Useful Construct for Policy and Programming?, UNDP HIV and Development Programme Issues Paper # 28, 1996.

[11] UNAIDS, Reducing Women's Vulnerability to HIV Infection, p. 1.

[12] UNAIDS, AIDS Epidemic Update, December 1998, p. 8.

[13] As compared to men, women have a bigger surface area of mucosa (in women the genital mucosa is the thin lining of the vagina and cervix) exposed during intercourse to their partner's sexual secretions. Semen infected with HIV usually contains a higher concentration of virus than a woman's sexual secretions. This makes male-to-female transmission more efficient than female-to-male. Younger women are at even greater biological risk. Their physiologically immature cervix and scant vaginal secretions are less of a barrier to HIV. See UNAIDS, Reducing Women's Vulnerability to HIV Infection, 1997, p. 2.

[14] Ibid.

HIV/AIDS also exacerbates social, economic and cultural inequalities (such as economic need, lack of employment opportunities, poor access to education and information, etc.) **which define women's status in society. These inequalities make women more vulnerable to HIV infection and AIDS impact than men**. "Low income, income inequality, and low status of women are all fairly highly associated with high levels of HIV infection," according to Martha Ainsworth of the World Bank.[15] In rural areas, women tend to be even more disadvantaged due to reduced access to productive resources and services. A combination of these factors prevent women from having choices and from making decisions about their lives, and especially about sexual risk, reproductive and family health.[16]

Cultural norms are important factors of women's vulnerability to HIV infection. For example, among the Shona people in Zimbabwe, as in many other societies of sub-Saharan Africa, a woman is considered a "minor." As long as she is unmarried, her father has full rights over her. When she marries, these rights are transferred to her husband through the bride price. This payment is meant to compensate for the loss of labour the woman's father sustains when she marries. What is significant about the bride price is that it also gives the husband full rights over all the children from the marriage. In the age of HIV/AIDS, this may translate into a devastating scenario: once a woman becomes a wife and mother, she is reluctant to divorce her husband--even if he is unfaithful to her and she runs the risk of contracting HIV--as this could mean losing her children.[17]

Sexual and cultural practices can similarly increase women's vulnerability to HIV infection as seen in the examples below:

- In many parts of Africa, men prefer **sex** when herbs are inserted to dry and tighten the vagina before intercourse. Such substances can damage the delicate vaginal lining

Box 3: Wife Inheritance Spurs AIDS Rise in Kenya

It was the summer of 1990, and Mildred Auma faced a deadly scenario. Her husband had just succumbed to AIDS. She knew he had infected her. Now her in-laws clamored for her to allow one of her husband's brothers to inherit her., as tradition in Kenya has long dictated. Auma, then 28, could scorn tradition, be driven from her community and face starvation with her 3 children. Or she could marry a brother-in-law, feed her offspring, protect her property – and pass on the virus. She chose the brother-in-law. He died of AIDS two years later, but not before infecting two other women. Then they both died. Another man has since inherited Auma, and when she was recently interviewed, she was 9 months pregnant with his child. She says she knows the child may have HIV. And she knows the disease will likely kill her inheritor just as it will soon kill her. "Because of the customs…I had to be inherited," Auma says. "They would have forced me. I would have been alone, homeless."

Most widows possess little education, have no property, do not hold jobs and do not have the skills to easily find one. They must choose, one AIDS activist says, "to [be inherited] and be infected and have food, or starve."

The practice of wife inheritance is one reason Kenya's Busia district is reeling from AIDS. The infection rate in its towns runs about 30%. The rate in Busia's villages is 14-16%.

Source: Stephen Buckley, "Wife Inheritance Spurs AIDS Rise in Kenya," Washington Post Foreign Service, November 8, 1997.

[15] World Bank Newsletter, November 6, 1997.

[16] Facing the Challenges of HIV/AIDS/STDs: A Gender-based Response, Royal Tropical Institute/Southern Africa AIDS Information Dissemination Service/WHO, 1995, p. 10.

[17] Sam L.J. Page, "Towards a New Agricultural Research Agenda: The Need for a Paradigm Shift toward Farmer Participatory Research and Training in the Interest of Zimbabwe's AIDS Survivors," presented at the International Conference: AIDS, Livelihoods and Social change in Africa," Wageningen Agricultural University, 15-16 April 1999, p. 3.

and facilitate HIV transmission. Tearing and bleeding during intercourse resulting from genital cutting, rough sex or rape also multiply the risk of HIV infection.

- **ritual cleansing[18] and the inheritance of a widow by the late husband's brother** or close male relative (see Box 3) may result in the spread of HIV infection in the extended family (co-wives and some of the children they may bear). Widow inheritance was traditionally a social safety net for women. In the face of HIV/AIDS, however, it has become a conduit for the spread of HIV infection;
- **heirship for chieftaincy**, where each household in the community supports the sexual union of a female member with the chief to ensure that each family has the opportunity to produce an heir to the chief may similarly facilitate HIV transmission;[19] and
- the use of non-sterile equipment during male circumcision and female genital cutting may help to spread the HIV virus.

In brief, more women than men in Africa are directly affected by HIV/AIDS. Women are biologically and socio-economically/socio-culturally more at risk of HIV infection than men regardless of their marital status, age and socio-economic background, even when they are sexually monogamous. The gender dimension of vulnerability to HIV/AIDS infection and impact has important implications for household food security as will be seen below.

2. The Impact of HIV/AIDS on Household Food Security

Access to an adequate amount of food is the most basic of human needs and rights. **Food security**, as defined by the Food and Agriculture Organisation of the United Nations (FAO), is "**enough nutritious and safe food being available and accessible for a healthy and active life by all people at all times**." Food security is dependent on four factors:

- food **availability** ("food supply security");
- **access** to available food ("food consumption security");
- the appropriate **use and physiological conversion** of available food (conditions that allow for the conversion of food into an adequate nutritional status); and
- **stability** of food availability, access and conversion over time.[20]

At the household level, food security is "the capacity of a household to procure a stable and sustainable basket of adequate food," according to the United Nations International Fund for Agricultural Development. Households must have sufficient income to purchase the food they are unable to grow for themselves.

The main causes of food insecurity are low productivity in agriculture combined with fluctuations in food supply, low incomes, insecure livelihoods and shocks, such as asset loss (for example the death of livestock), war, theft and civil

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[18] The spouse of a deceased person has sexual intercourse with a family member of the deceased to be "cleansed" and to free the dead person's spirit.

[19] World Bank, AIDS Prevention and Mitigation in sub-Saharan Africa: An Updated World Bank Strategy, 1996, p. 6.

[20] These four factors combine elements of the food security concepts used by FAO and the German Technical Cooperation (GTZ).

conflict, and, more recently, HIV/AIDS.[21] To arrive at a systematic analysis of how the HIV epidemic affects the food system in rural households, the impact of HIV/AIDS, as it affects women, must be examined on three types of food insecurity:

a) **chronic food insecurity** which refers to households (as well as regions) with inadequate access to food on a day-to-day basis, regardless of the season or time of year. This type of food insecurity is almost always associated with poverty, requiring targeted programmes at household level;

b) **seasonal and cyclical food insecurity**: transitory food insecurity which appears at regular and broadly predictable times of the year, or on a year-to-year basis. Ways to alleviate seasonal/cyclical food insecurity at household level include the promotion of better storage, crop diversification to stagger harvest periods and mixed farming; and

c) **transitory or temporary food insecurity** resulting from shocks, such as drought, flooding or pest attacks.[22]

Such an analysis has not been undertaken to date. Thus, it is not known how the impact of HIV on women influences each of the three types of food insecurity and vice versa. It is unlikely that this impact is simple and straightforward. For example, the impact of HIV/AIDS may not necessarily be more acute for households suffering from chronic food insecurity just as chronic food insecurity may not necessarily render rural men and women more vulnerable to HIV/AIDS than seasonal or temporary food insecurity. While these inter-relationships merit investigation, what is perhaps even more significant is that given the considerable body of extant knowledge and experience on the responses to food insecurity, strategies aimed at reducing vulnerability to HIV/AIDS impact must be sought within existing frameworks. In other words, **the response to HIV/AIDS impact and vulnerability needs to be integrated into the broader response to food insecurity**.[23]

The effects of AIDS-related young adult morbidity and mortality on household food security vary, depending on socio-economic status and size of the family, the number and ages of dependent children, and the number and **gender of persons suffering from HIV/AIDS**.

The illness and/or death of a woman is likely to threaten household food security, especially when households depend primarily on women's labour for food production, animal tending, crop planting and harvesting. In fact, it has been argued that **female morbidity and mortality has "a particularly dramatic impact on the family.**"[24] If women fall ill while their husbands are working in urban areas, the overall socialisation and education of the children and the management of the household may be seriously affected.[25] Moreover, studies have shown that children's

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[21] Anne Thomson and Manfred Metz, Implications of Economic Policy for Food Security: A Training Manual, FAO Training Materials for Agricultural Planning No. 40, 1997.

[22] Anne Thomson and Manfred Metz, Implications of Economic Policy for Food Security: A Training Manual, FAO Training Materials for Agricultural Planning No. 40, 1997, pp. 91-96.

[23] D. Topouzis with J. du Guerny, Sustainable Agriculture/Rural Development and Vulnerability to HIV/AIDS, FAO/UNAIDS, UNAIDS Best Practice Paper, forthcoming.

[24] Steven Forsythe and Bill Rau (eds.), AIDS in Kenya: Socio-Economic Impact and Policy Implications, USAID/AIDSCAP, 1996, p. 29.

[25] Ibid.

nutritional status is more closely related to the mother's work and income than to the father's.[26]

Food insecurity is also the main impact of the HIV epidemic on AIDS widows and their families, according to a study undertaken by the Food and Agriculture Organization in Uganda.[27] In fact, it was found that the most immediate problem for many AIDS-affected households was **food insecurity and malnutrition** (see Box 4). The study also found that more AIDS-affected households were found to be headed by AIDS widows than by widowers in the districts visited. Young widows with several small children faced severe hardship, much of it stemming from the prevailing stereotype that women transmit the HIV virus.[28] In particular, widows tended to become poorer as they lost access to land, inputs, credit and some of the support services their husbands benefited from.

AIDS widowers, however, who were found to be considerably less affected by stigmatisation, tended to remarry soon after the death of their spouse. Thus, the impact of AIDS appears to be less severe and devastating on the widowers than on the widows.

The inter-relationships between HIV/AIDS and household food security are clearly delineated in Figure 1 below:

Box 4: HIV/AIDS, Gender and Food Insecurity

Josephine, a widow in her late 30s, has seven children. Her husband has died of AIDS. She also has AIDS and is bedridden and incoherent at times. Josephine, who lives with her 19-year-old daughter and 12-year old son in a village in Eastern Uganda, is severely malnourished. Her biggest problem is that she does not grow enough food. The family diet consists of cassava, millet and a few greens. Josephine's daughter tries to prepare two meals a day but they often have only one. Eating the same food—boiled cassava without sauce (there is no money to buy oil with which to prepare the sauce)—has made Josephine loose her appetite, she said. She had not eaten fruit for a month.

Josephine has not received moral or material support from her late husband's family or from the community. No one ever comes to see her. Attitudes toward her and her family were very negative, she said. She does not want to ask for help from her husband's male relatives because she fears that their wives will suspect that she is sexually involved with them.

When she is not bedridden, Josephine works as a casual labourer from 5:00 am to 9:00 pm for about 1,000 Ugandan Shillings (about US$ .80 in 1994). This long workday exhausts her, but she cannot afford to rest because then she and her daughter would not have enough food. She described this as a vicious circle: on the one hand, she cannot grow enough food to feed herself and her family because she is too weak and hungry, while on the other hand she needs to eat properly in order to be strong enough to work.

Source: Topouzis & Hemrich, "The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda," UNDP Discussion Paper, op. cit., p. 15.

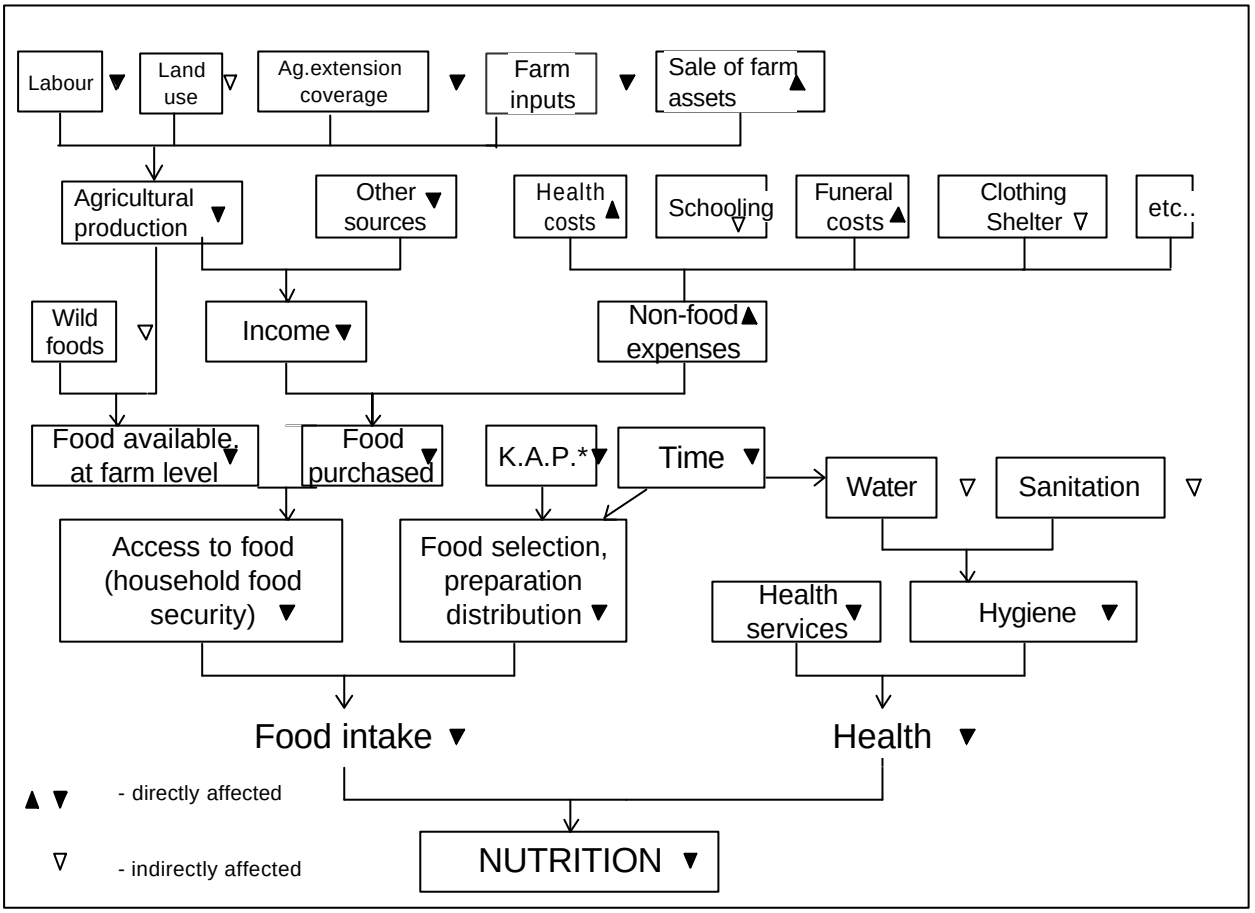
[26] Stephen Devereux and Graham Eele, "The Social and Economic Impact of AIDS in East and Central Africa," International Development Centre, Food Studies Group, May 1991, cited in ibid.

[27] D. Topouzis with G. Hemrich, The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda, op.cit.

[28] HIV/AIDS stigmatisation often meant that assistance from the extended family and the community--their only safety net--was severed.

Figure 1:

The Inter-relationships between HIV/AIDS and Household Food Security



**KAP: Knowledge-Attitude-Practice*

Source: Florence Egal, What has HIV/AIDS to do with Nutrition?, FAO, 1995.

When analysing the inter-relationships between HIV/AIDS and household food security it is important to underscore that the epidemic tends to exacerbate the factors which contribute to food insecurity through its catalytic, **systemic effect**. Thus, HIV does not merely affect certain aspects of food security leaving others unaffected. Rather, it disrupts the entire system food system.

The analysis below refers to the impact of HIV/AIDS on household availability and access to food. AIDS-related morbidity and mortality have a detrimental impact on the **productive capacity of rural households,**[29] which is typically felt on at least three parameters: **labour quality and quantity, income and expenditures, and the dependency ratio.**

[29] Tony Barnett and Piers Blaikie, AIDS in Africa, London, Belhaven Press, 1992, p. 127.

2.1 Labour Quality and Quantity

Household on- and off-farm **labour quality and quantity** may be reduced, first in terms of productivity, when HIV infected persons fall sick, and later, when the supply of household labour declines because of patient care and death. This burden falls mostly on the women who are also the main food producers in sub-Saharan Africa. **The impact of HIV/AIDS morbidity and mortality not only affects labour inputs to farm production but, more importantly, disrupts the household productive-domestic labour interface, which primarily affects women**.[30]

Qualitative studies drawing on field work in Eastern and Western Africa suggest that the **labour shortages** and/or **labour loss** on subsistence farms contribute to food insecurity as a result of one or more of the following:[31]

- **a reduction of land area under cultivation**: fields may be under-utilised or left unattended because a young adult is physically unable to work on the farm and/or a grandparent is chronically ill or too frail to make up for the labour of his son/daughter;
- **a reduction in the ability to control crop pests***:* weeding and other inter-cultivation measures may be neglected as a result of labour/ input shortages;
- **loss of soil fertility**: some families may abandon traditional practices, such as mulching, which replenish the soil, or else sell domestic animals which provide manure, thus reducing soil fertility in their fields;
- **a decline in the range of crops grown per household**: labour shortages and the loss of agricultural knowledge may lead AIDS-afflicted families to reduce the number of crops under cultivation, until only one staple crop is grown. These

Box 5: The Impact of HIV/AIDS on Women Survivors

In a ten-foot square grass hut in a village in Busia District, Western Kenya, a widow is trying to raise her adolescent daughters. Martina's husband, who was based in Mombasa, died of AIDS in 1993, leaving her with six children. The hut in which Martina lives was built as a makeshift ritual hut when her husband's body was brought home from Mombasa for burial.

Martina's brothers-in-law are hostile to her since she refused them access to their brother's property. Though tradition holds that brothers-in-law should inherit her husband's clothes, she knew she would need them for the children. Two of Martina's children have dropped out of school as she cannot afford the school fees. Justus, 10, and Joel, 7, still go to school hungry but will soon have to leave as well. The children sleep on old sacks with nothing to cover them so the girls frequently seek refuge in their boyfriend's homes. Martina's 17-year-old daughter got pregnant only a few months after dropping out of school. Her 14-year-old is also pregnant. Martina attributed their predicament to their lack of bedding in their own home.

Martina anticipates legal problems over land. "At the moment, land has not been demarcated and all of it still belongs to my husband's family," she says. I know that the children's interests will not be taken care of and I cannot do anything about it since I am poor," she concludes.

Source: FAO, Fighting AIDS in Rural Areas: Why and How Should Extension Workers Help, 1996.

[30] Subsistence farming is characterised by a close relationship between household domestic activities (childcare, food processing, home maintenance) and production activities.

[31] Tony Barnett, The Effects of HIV/AIDS on Farming Systems and Rural Livelihoods in Eastern Africa, Summary Analysis, FAO, 1994; D. Topouzis with G. Hemrich, The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda, op. cit., Andrée Michaud, Impact du VIH/SIDA sur les systèmes d'exploitations agricoles en Afrique de l'Ouest, FAO, 1997.

staple crops may be high in carbohydrates but low in protein and thus nutritionally inadequate;

- **changes in cropping patterns and shift from cash/food crop production to subsistence production**: some families may switch to less labour-intensive crops and/or from cash crops to subsistence crops due to labour constraints or to lack of cash with which to purchase seeds, tools and other inputs. The author's research in rural Uganda, for instance, indicates that some women abandoned the cultivation of tomatoes, an important cash crop, due to labour shortages.
- **a decline in crop yields**: delays in carrying out certain agricultural activities (seeding, planting and weeding) or neglect of the fields, a reduction of inputs and changes in cropping patterns may result in a decline in crop yields;
- **a decline in livestock production**: labour shortages, the need for cash to treat family members with AIDS or to cover funeral costs, and the loss of knowledge and management skills may result in livestock loss. Some families may also be forced to sell their animals. One study in Tanzania found that HIV/AIDS also contributed to destocking due to disposal of cattle in order to generate income for AIDS treatment and related costs, but also because livestock husbandry is a "male" activity which was often abandoned by female survivors.[32]
- **loss of agricultural knowledge and farm management skills**: the death of one or both parents to AIDS often means that younger members of the family may not have the necessary knowledge, experience and management skills (with regard to farming, livestock production, etc.) to run the farm household. Surviving women and children in particular may lack the requisite skills and experience to undertake certain farming tasks. The loss of a partner's skills in propagating certain crops may thus lead to a decline in household food production.

One important gap in our knowledge of the adverse effects of HIV/AIDS on food security is the **impact of the epidemic on gender roles in agricultural production** at the household level, and in particular the constraints that the epidemic poses on women's ability to cope with food insecurity.

It has been argued that subsistence farm households heavily reliant on **labour** as their sole resource (such as **female-headed households**) are particularly affected by HIV/AIDS as the factors which diminish labour quantity and/or quality **increase the incidence and depth of household food insecurity and poverty**.[33] According to a FAO study on the effects of HIV/AIDS on agricultural production systems in Uganda, in a heavily affected community, a shift was recorded in households consisting of women and children from a *matooke* (banana) and groundnut farming system to a *cassava*/sweet potato farming system, resulting in a less nutritious and varied diet and in a reduction in the area cultivated. [34]

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[32] Gabriel Rugalema, "Consequences of Loss of Labour due to HIV/AIDS in Smallholder Households in a Buhaya Village, Bukoba District, Tanzania," paper presented at the Eastern and Southern Africa Regional Conference "Responding to HIV/AIDS: Development Needs of African Smallholder Agriculture," Harare, June 8-12 1998, pp. 8-11.

[33] Lynn R. Brown, Patrick Webb and Lawrence Haddad, "The Role of Labour in Household Food Security: Implications of AIDS in Africa," Food Policy, 1994, Vol. 19, No. 6, p. 569.

[34] Tony Barnett, The Effects of HIV/AIDS on Farming Systems and Rural Livelihoods in Eastern Africa, Summary Analysis, FAO, 1994; see also Uganda country report by Joseph Tumushabe.

2.2 Income and Expenditures

HIV/AIDS has a marked impact on **on- and off-farm household income** (loss of assets, savings, remittances, etc.) and particularly on **the availability of disposable cash, while it also increases household expenditures** (for medical treatment and transport, funeral costs, special foods for the infirm, etc.). One simulation study in Kenya, which has compared the impact of AIDS on urban and rural household income, shows that rural households are the most severely affected, with AIDS costs representing 78% of household income the first year and 167% the second year of AIDS impact.[35] In the rural Rakai district of Uganda, households can spend up to a third of their *annual* cash income on *monthly* medical care or on a *single* funeral. [36]

A forthcoming study argues that for many widow-headed households in Tanzania, the main constraint to food security following the death of the spouse is not labour shortage but **cash income** (given that men are often the main cash income earners). The most immediate need reported by widows was credit to establish small projects that could be combined with farm and domestic work.[37]

Shortage of labour and cash, and a lack of financial and farm management skills were the key constraints to food and livelihood security of AIDS widows in Zimbabwe (see box 6), according to an AIDS impact assessment in Zambezi Valley conducted by the local NGO African Farmers' Organic Research and Training (AFFOREST).[38] AFFOREST is currently operating a low-input, low-risk organic cotton project which is particularly appropriate for women affected by the impact of AIDS as it requires no external input costs and has lower labour requirements than conventional cotton farming.

Even though we know that HIV/AIDS affects rural women disproportionately and that food insecurity is among the main impacts of the epidemic, little is known about the **gender-differentiated effects of HIV on household income and expenditure**. In particular, it is not known how household expenditures change under the impact of HIV/AIDS male/female morbidity and mortality and what the implications of changes in household expenditure patterns are for the nutrition of young children and women.

2.3 Dependency Ratio

AIDS morbidity and mortality usually result in a **rise in the number of dependents relying on a smaller number of productive family members**.[39] Young adult mortality affects food access by increasing the number of orphans[40] (given that most women complete their childbearing before falling ill), thus raising the

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[35] This effect occurs even without considering funeral costs (which can be substantial) and does not include any household expenses other than the cost of AIDS treatment. Forsythe and Rau (eds.), AIDS in Kenya, op. cit., p. 77.

[36] UNAIDS, "HIV/AIDS Epidemiology in sub-Saharan Africa," Fact Sheet 1, 1996.

[37] Personal communication, Gabriel Rugalema, ISS, 2 May 1998.

[38] Sam L.J. Page, Sam Page and Meg Davies. "Farmer Field Schools as Support Groups for AIDS Widows and Other Marginalised Smallholder Farmers in Zimbabwe," paper presented at the East and Southern Africa Regional Conference on: Responding to HIV/AIDS: Development Needs of African Smallholder Agriculture, Harare, Zimbabwe, June 8-12, 1998.

[39] D. Topouzis, "The Impact of HIV/AIDS on Rural Food Security," SCN News, No. 17, December 1998, p. 20.

[40] An orphan is defined as a child under the age of 15 who had lost his/her mother to AIDS.

dependency ratio within a household (fewer working-age adults and more dependent children). This undermines household food security and necessitates adjustments in the roles, responsibilities as well as relations among household members. For instance, elderly women are being forced to resume the role of custodians of food security in addition to parenting their grandchildren instead of being supported by their children. At the other extreme, young girls are finding themselves having to provide and care for their younger siblings.

Box 6: The Impact of HIV/AIDS on Widows in Zimbabwe.

The most elderly widow, Dorothy,* aged 61, was the sole carer of her 66-year-old husband, who, at the time of the interview, was completely incapacitated due to full-blown AIDS. Dorothy still had three children living at home. The two other widows were both aged 42. Catherine's husband died in September 1995, aged 41, leaving her with three children. Angelina's husband died in August 1996, aged 48, leaving her with three pre-school and four school-age children.

An HIV/AIDS impact assessment conducted by the Zimbabwean NGO African Farmer's Organic Research & Training revealed the following adverse effects on household food security:

✍✍ Shortage of Labour

Dorothy said: "It's impossible for me to go to the field, and won't be possible next season either, or until the illness goes. No one has relieved me since he got ill."

Catherine argued: "There's only me and my 12-year-old son and my mother-in-law (who only helps for a short time) that work on the land now." When her husband was alive, they would plough one acre in a day, but now she and her son can only manage to plough half an acre per day.

All three women found weeding to be the activity that suffered most from labour shortage, and this will probably result in lower yields. Dorothy said: "The farm activity most affected is weeding and we were delayed in picking cotton." Angelina said: "I was used to stay with the children, but now it's a problem. There's a demand for labour in the field and the children need someone to look after them." Angelina's yields of cotton, maize and groundnuts were reduced this season compared to last, due to late planting, smaller areas planted and poor management.

✍✍ Shortage of Cash

This is usually the result of the loss of income from either full-time employment in town or sources supplementary to farming, such as ploughing, thatching, carpentry, building or mechanical work.

Catherine said: "When my husband was alive, I had to do some projects making doilies (crocheted place mats), but now I can't afford the money to buy the threads. When I returned to the valley it was only a problem of (cotton) seeds, and I had difficulty in finding the money to buy seed and pesticides. So, I milked my cattle and sold the milk to buy seeds." In the 1997-98 season, Catherine planted five acres of cotton, whereas in 1994-95—the last season she farmed in the Valley--she and her husband grew seven acres of conventional cotton.

Angelina has suffered increasingly from a lack of money to hire labour: "Last season (1996-97), I had more money to hire labour, so the crops got weeded more often, whereas this season I had to do more myself." She had to sell an ox worth Z$4,000 to buy cotton seeds, but mostly to pay for her children's school fees and to buy food.

Dorothy had paid Z$1,007.50 for five visits to two spirit mediums and for traditional medicine.

✍✍ Lack of Financial and Management Skills

This is a particularly acute problem in households where the deceased husband traditionally made all the important financial and farm management decisions.

Dorothy was sitting on her veranda, sorting through a plastic carrier bag full of her husband's bills and receipts prior to the interview. She was looking for a receipt which would prove that they were owed the Z$1,080 deposit for 18 cotton packs they had never received but for which they had been charged. A cheque they had received form the Cotton Company of Zimbabwe was made payable to her husband, who was unable to travel in order to cash it.

Catherine said: "It was a problem making decisions, but I did it by myself. There was nothing to do about it. Me and my eldest son worked very hard because we had to plant in time for the rains. I have little know-how of time and money management."

* All names have been changed.

Source: Sam Page and Meg Davies. "Farmer Field Schools as Support Groups for AIDS Widows and Other Marginalised Smallholder Farmers in Zimbabwe," paper presented at the East and Southern Africa Regional Conference on: Responding to HIV/AIDS: Development Needs of African Smallholder Agriculture, Harare, Zimbabwe, June 8-12, 1998.

In Mutare, Zimbabwe, 15% of the children are **orphans**. The number of children in need of care is rising just as AIDS is cutting into the number of non-affected families able to provide such care. Some 45% of those caring for orphans are grandparents who may have no income of their own.[41] A study of households headed by adolescents and children in Zimbabwe shows that while the overwhelming majority had lost both parents, most did have surviving relatives. But in 88% of those cases, the relatives reported that they did not want to care for the orphans.[42] When orphans are cared for, there have been reports of orphans receiving less food or food of poorer nutritional quality than non-orphans.

3. Household Coping Mechanisms to HIV/AIDS

Households adopt certain response mechanisms to cope with shocks and stresses.[43] But unlike sudden shocks (such as drought, pest attacks, etc) which can be transitory in the sense that households survive the shock and eventually recover from it, in the case of HIV/AIDS, asset loss, war, theft etc., the situation may not revert to normal and households may not be able to recover from the shock.[44]

According to the World Bank, households respond to the impact of AIDS (and other shocks) using three main coping strategies: **Altering household composition** (for example, by sending one or more children to live with relatives, or inviting a relative to join the household in exchange for assistance with farming, household and childrearing tasks); **drawing down savings or selling assets** (durable goods, livestock, etc.); and **utilising assistance from other households and from informal rural institutions.**[45]

The range of household coping mechanisms to HIV/AIDS and their degree of reversibility is shown in Figure 2 below:

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[41] UNAIDS/WHO, AIDS Epidemic Update-December 1998, p. 8.

[42] Ibid.

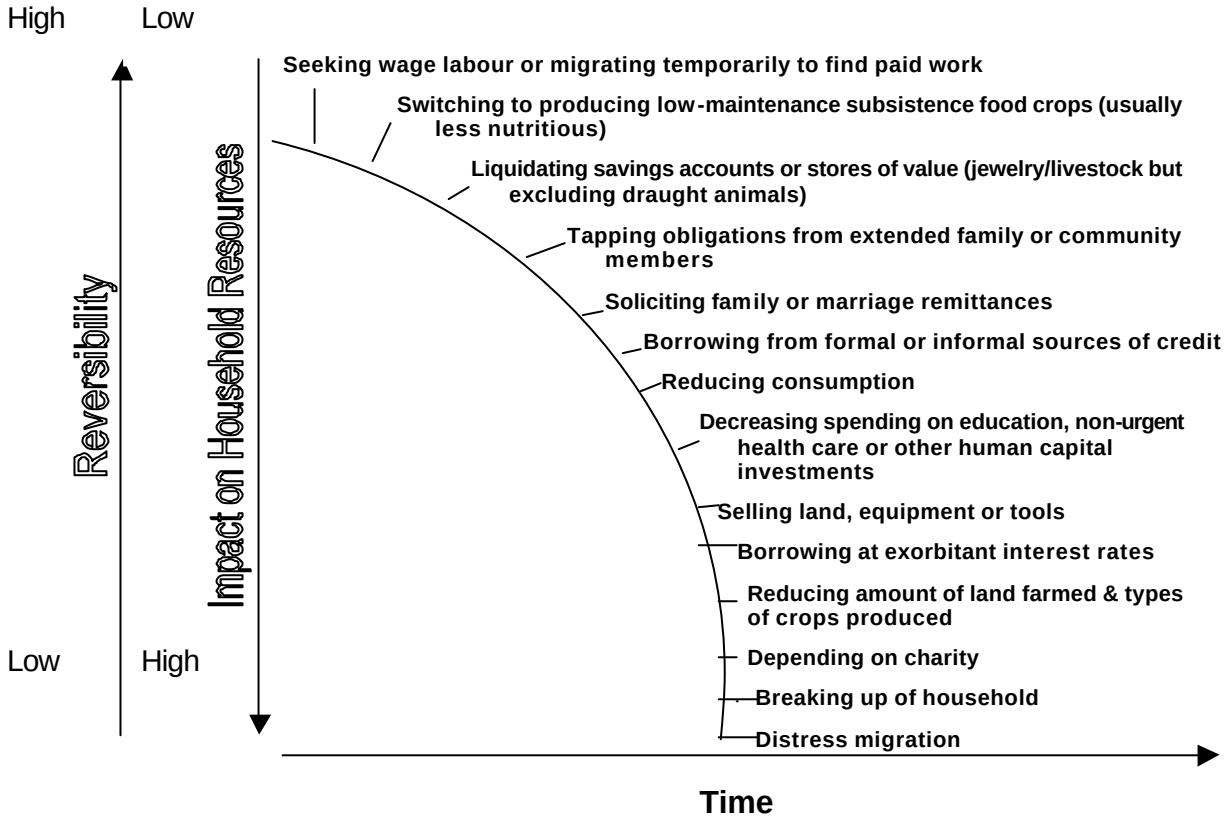
[43] The term "coping strategies" can be misleading as it implies that households are coping, whereas it is often the case that the strategies employed are not sustainable. Anne Thomson and Manfred Metz, Implications of Economic Policy for Food Security: A Training Manual, FAO Training Materials for Agricultural Planning No. 40, p. 96.

[44] FAO, Implications of Economic Policy for Food Security: A Training Manual, FAO Training Materials for Agricultural Planning, op. cit., pp. 95-96.

[45] World Bank, Confronting AIDS, op.cit.

Figure 2:

Household Coping Strategies to HIV/AIDS



Source: D. Topouzis, Sustainable Agriculture/Rural Development and Vulnerability to HIV/AIDS, UNAIDS Best Practice Paper, FAO/UNAIDS, forthcoming. Based on Jill Donahue, Community-based Economic Support for Households Affected by HIV/AIDS, Discussion Paper on HIV/AIDS Care and Support #6, USAID, June 1998, pp. 6-7; and Anne Thomson and Manfred Metz, Implications of Economic Policy for Food Security, Figure 3.4: Responses to Household Food Shortage, FAO Training Materials for Agricultural Planning No. 40, 1997, p. 97.

It appears that **when a household has been affected by male adult mortality**, surviving widows and their families often have few, if any, assets to dispose of in their time of need. This is largely because in many societies, the husband's relatives claim all of the household's possessions upon his death, leaving the widow without shelter or the means to earn a living. Thus, **food security coping strategies may disintegrate quite soon after male adult death and food consumption may decline sharply.**

Migration is a critical coping mechanism to food insecurity, but it can also be an important factor in the spread of HIV. Migration tends to be accompanied by a disruption of family life (separation from family and from socio-cultural norms and a sense of anonymity that offers more sexual freedom). For this reason, it can promote the demand and supply of sexual services, and, more generally, it can make migrants more vulnerable to adopting high risk behaviours. Migration does not only render the migrants vulnerable to HIV but their wives as well, as households that resort to migration do so because of dire need. Coping mechanisms to food insecurity include two types of migration: **temporary migration** to find paid work and **distress migration,** a last resort mechanism to cope with impoverishment (see Figure 2). A third type of migration specifically related to the HIV epidemic can be

added to these two types of migration: **reverse migration** of persons living with AIDS from urban centers back to their rural villages of origin. This last type of migration places a heavy burden on rural households in terms of time, money and labour, particularly on the women.[46]

One coping mechanism to food insecurity (irrespective of whether this is a consequence of HIV/AIDS, drought, etc.) which is not included in Figure 2, as it is rarely acknowledged, is sex. Yet, many poor rural women whose main preoccupation is the day-to-day survival of their children may engage in sexual services to support their families either temporarily (i.e. during transient food insecurity) or long-term (see Box 7). For these women, HIV is hardly a pressing issue, as AIDS remains asymptomatic for many years. In Mwingi District in Kenya, one district government official argued: "When there is drought, you can have a girl for a loaf of bread."[47]

Box 7: Sex as a Coping Mechanism to Food Insecurity

Nhlungwane, South Africa: "A woman may go to look for employment all day and fail. On her way back home, she might meet a man who wants to have sex with her. She will accept any amount of money in exchange for sex in order to purchase meals for herself and her children. She could get AIDS from that person."

Source: Karim, Q.A. et al. "Women and AIDS in Natal/SwaZulu,," cited in Facing the Challenges of HIV/AIDS/STDs: A Gender-Based Response, Royal Tropical Institute (KIT), SAfAIDS, and WHO, 1995, p. 13,

However, it should be underscored that what is being referred to here is not "commercial sex work" as such. In the rural context in particular, **the boundaries of sex work are usually blurred:**[48] intimacy may be rewarded in money, kind (food, clothing, school fees, toiletries, jewelry, etc.) or favours, and the relationship can be informal, casual or long-standing.

Sexual services may be a coping mechanism of the last resort to food insecurity in some cases or it may be among the first coping mechanisms adopted by some households in others. The fact is, very little is known about this type of exchange as a coping mechanism to food insecurity. Undoubtedly, this mechanism may be prevalent in some societies and not at all prevalent in others, depending on cultural norms and a host of other socio-economic factors and personal circumstances. Nevertheless, it is an important area to investigate as it is central to women's reproductive health and may be relevant to food-insecure households.[49]

Small differences in gender roles and in resources among households and communities can have a positive impact on food security in households affected by the HIV epidemic. Given that the burden of caring for HIV/AIDS patients usually falls on women, a detail such as whether women are allowed to ride bicycles and whether bicycles are available can be an important determinant of the marketing capacity of an affected household or community. Gender roles also influence the continuation or adoption of labour-saving responses, such as the use of oxen or access to land

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[46] D. Topouzis with J. du Guerny, Sustainable Agriculture/Rural Development and Vulnerability to HIV/AIDS, op. cit.

[47] Personal communication, Guenter Hemrich, 10 August 1999.

[48] Facing the Challenges of HIV/AIDS/STDs: A Gender-based Response, Royal Tropical Institute/Southern Africa AIDS Information Dissemination Service/WHO, 1995, p. 13.

[49] Daphne Topouzis with Jacques du Guerny, Sustainable Agriculture/Rural Development and Vulnerability to HIV, op. cit.

and/or credit.[50] Further **research into these differences in gender roles and resources among households and communities** can help strengthen household coping mechanisms.

Households affected by HIV/AIDS receive assistance from the extended family and kinship system, neighbours, community groups (savings clubs, burial societies, etc.) and local informal organizations. Community coping responses are set up by social support groups, informal associations, self-help groups, community-based organizations supported by external development agencies and AIDS-specific organizations. **Community support and mitigation activities** of relevance to food insecurity may include:

- Communal fields for agricultural production for income or food;
- community-based child care: cooperative day care and nutrition centres to free women to work in or outside the home;
- orphan support in the form of nutritional and educational support;
- repair of deteriorating houses;
- home-based care and visiting to HIV/AIDS patients and orphans;
- preparation and distribution of school uniforms;
- apprenticeship and training in marketable skills for orphaned adolescents;
- agricultural projects at various levels to increase output;
- labour-sharing arrangements; and
- community-run micro-enterprises and income-generating projects to produce food and cash.[51]

Many of these community coping mechanisms to HIV/AIDS are organized and run by women. Given that in most cases, such community coping mechanisms are the only viable and sustainable response to AIDS impact, research into ways of strengthening household- and community-based coping mechanisms should be allocated top priority.

4. Focus Areas for Future Research: Needs, Gaps and Priorities

The key research priority to establishing the linkages between HIV/AIDS, gender and household food security is the **interface between productive and domestic labour**. As the entry point of AIDS impact in the rural household, the disruption of this interface raises the following research questions that need to be addressed:[52]

- How can labour availability in female- and orphan-headed households be preserved or enhanced to maintain food/cash crop production?

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[50] Tony Barnett, The Effects of HIV/AIDS on Farming Systems and Rural Livelihoods in Uganda, Tanzania and Zambia, FAO, 1994.

[51] Draft report by SafAids to UNAIDS, "A review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa," February 1999.

[52] Many of the research themes mentioned below were raised at the Workshop on The Impact of AIDS on Food Security, organised by the Royal Tropical Institute, Amsterdam and others, in Bukoba, Tanzania, June 16-18 1999, see workshop report, pp. 7-9

- How can appropriate, gender-responsive technologies be generated in order to increase food and cash crop production in HIV/AIDS-affected households?
- To what degree do low-input agricultural production systems offer solutions to constraints facing households affected by HIV/AIDS?
- How can gender-responsive post-harvest technologies be made available to HIV/AIDS-affected households?
- How do on- and off-farm roles and responsibilities of household members change as a result of AIDS and how does this affect the utilisation of resources? What is the impact of HIV/AIDS on gender roles in agricultural production at the household level, and more specifically, the constraints that the epidemic poses on the ability of affected families to cope?[53] How is it possible to gain acceptance of new gender roles and tasks? What formal and informal ways of ensuring that requisite skills are passed on to women and children can be devised?
- What are the main coping mechanisms to food insecurity adopted by male- versus female-headed households?
- How does migration alter the productive-domestic interface and the roles of women and men within this interface?
- How can caretaking be managed more efficiently so that other productive and domestic functions of the household can be maintained given the impact of AIDS?
- How can caretaking be adjusted to reduce the heavy workload of women in AIDS-affected households?
- How can the property rights of HIV/AIDS-affected families be preserved given the changes in household structure?

The use of certain participatory methodological tools, such as the **24-hour activity charts** can help establish the productive-domestic labour interface while the **time line** can indicate changes over time, to mention just two of the instruments that can be used.

A second research priority is the assessment of **the impact of HIV/AIDS on the various types of food insecurity (in terms of how this affects women and their reproductive health): chronic food insecurity**; **seasonal and cyclical food insecurity; and transitory or temporary food insecurity**. Research into the interface between HIV/AIDS and the three types of food insecurity is needed to determine: who is most at risk; how socio-economic circumstances place women in particular, at risk; which coping strategies women adopt; and how women can be reached most effectively.

A third important area of concern is **culture.** Food security and poverty alleviation projects and programmes which aim to improve the well-being of rural men, women and their families may not, in themselves, help prevent HIV infection in women. This is because changing the "contextual factors" surrounding HIV/AIDS may not fundamentally alter the position that women find themselves in. In other words, even education and economic independence may leave largely unchanged the relationship within a marriage and many of the external factors which affect the

[53] In particular, the gender context of households which are able to cope with the impact of HIV/AIDS and recover from food insecurity need to be better understood.

functioning of it.[54] Thus, **research into the linkages between HIV/AIDS, women and household food security should include the cultural parameters through which these linkages are defined.** This does not refer to cultural practices as described in section 1.2 of this paper. Rather, it refers to the social perceptions and beliefs that shape culture and which are responsible for male and female attitudes to a wide range of issues from reproductive health to decision-making rights within a marriage.

One "cultural" issue that merits investigation is the use of **sexual services as a coping mechanism to food insecurity (regardless of whether it is related to HIV/AIDS).** Understanding the dynamics behind this coping strategy will contribute to a more complex understanding of women's responses to food insecurity but also of the determinants of women's reproductive health.

In terms of methodology, the following point should be borne in mind when researching the impact of HIV/AIDS on women and household food security. **Women are not a homogeneous group, particularly when it comes to how they are affected by the HIV epidemic.** In other words, HIV/AIDS does not affect all women in the same manner: married women, single women with children, widows, adolescent girls, elderly women, etc., are affected differently and this impacts on household food security and on reproductive health. Depending on the age, family status and structure, and the number of household dependents, women will have different needs, interests and opportunities as seen in the examples below:

- a young HIV positive woman with several children and with/without a surviving husband may be sent away from her husband's home and land and be unable to support her family;
- a young woman with an HIV positive husband to care for may also have to take over many of his tasks (on- and off-farm) in addition to childcare and domestic work;
- a woman unaffected by the HIV epidemic may be entrusted with caring for the orphans of a deceased brother, sister or member of the extended family;
- a grandmother may be entrusted with the care of several young children following the death of a daughter/son; and
- an adolescent girl may have to look after her younger siblings and become head of household following the death of her parents.

The key question here is: How can research create differentiated options for the various categories of women?

Two priority areas in terms of methodology are highlighted:

Firstly, there is a **dearth of reliable household data on the impact of HIV/AIDS in general and on women in particular—data which would help identify household coping mechanisms and their cost-effectiveness** (for men, women, children, the elders and the family as a whole). Information on this area would greatly assist policy-makers design programmes that mitigate the impact of the epidemic. One way to obtain this data is by including specific questions on the impact of young adult mortality and morbidity on household income, expenditure and other welfare indicators in current household surveys (poverty surveys, demographic health surveys or censuses) and in all major research undertaken in the area of

[54] Cohen, Desmond and Elizabeth Reid, The Vulnerability of Women: Is this a Useful Construct for Policy and Programming? UNDP HIV and Development Programme, Issues Paper # 28, 1996.

reproductive health and household food security. At present, censuses and poverty surveys do not probe into the inter-relationships between disease prevalence and the socio-economic status of the household.[55]

More importantly, research on the impact of HIV/AIDS on rural households should only be undertaken in the context of **process-oriented action research** that combines data collection with raising awareness of HIV/AIDS. Extraction of information needs to be accompanied by substantial inputs in terms of raising knowledge of HIV/AIDS-related issues (modes of transmission, caring for persons living with AIDS, the impact of AIDS, effective household and community coping mechanisms, gender issues related to HIV/AIDS, etc.) among the rural men *and* women interviewed and providing them with the appropriate skills to help them apply this knowledge. These may include life skills to help parents discuss HIV openly with their children, negotiation skills to enable sexual partners or spouses to introduce safe sex, and other related skills.

[55] Gladys Mutangadura, Duduzile Mukurazita and Helen Jackson, "A Review of Household and Community Responses to the HIV/AIDS Epidemic in the Rural Areas of sub-Saharan Africa," Final report submitted by SAfAIDS to UNAIDS, February 1999, p. 14.

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