

**AIDS in Kenya:
Socioeconomic Impact
and Policy Implications**

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Foreword

Policymakers around the world are beginning to develop a greater awareness about the potentially devastating health aspects of HIV/AIDS. Mathematical models have shown that AIDS is not only likely to affect adult mortality rates, but also child mortality rates, the corresponding spread of tuberculosis and the number of children orphaned by parents dying of AIDS.

Despite this greater understanding about how AIDS is to affect demography, many policymakers still do not have the information needed to understand what AIDS is likely to mean in terms of real human impact. In fact, it is unlikely that HIV/AIDS will be made the priority that it needs to be unless policymakers understand that HIV/AIDS is intricately linked to a country's national development.

In many ways, Kenya is ahead of other countries in being able to understand the epidemic, with a number of studies having already been performed on the socioeconomic impact of HIV/AIDS. Yet up to now, there has been no cohesive document that brought together these various studies, with solid recommendations about what policies might be pursued in order to both prevent the further spread of HIV and to mitigate its impact.

It is the intention of this book to bring together the variety of work that has already been completed, along with a number of new areas of analysis, to develop a more complete picture of the social and economic aspects of HIV/AIDS in Kenya.

This book has been completed through the joint collaboration of a number of governmental and nongovernmental organizations, including the National AIDS/STD Control Program, the Ministry of Planning, the Office of the Presi-

dent, the National Council for Population and Development, the University of Nairobi, Health Economics and Development Research Associates, MAP International, Oraro and Rachier Advocates, Kenya Institute of Stress Management, the University of Manitoba, the University of Northern British Columbia, the International Development Research Centre, UNICEF, Abt Associates, Futures Group International, Georgetown University, Research Triangle Institute, the University of Pennsylvania and AIDSCAP/Family Health International.

Dr. Martin Kayo/SDDMS
Programme Manager
National AIDS/STD Control Programme
May 1996

List of Abbreviations

AIDSCAP	AIDS Control and Prevention Project
AIM	AIDS Impact Model
ANC	Antenatal Clinic
BEAD Group	Business Exchange on AIDS and Development Group
CHAK	Christian Health Association of Kenya
DEMPROJ	Demographic Projection Model
FKE	Federation of Kenyan Employers
GDP	Gross Domestic Product
GOK	Government of Kenya
HEDRA	Health Economics and Development Research Associates
HIV	Human Immunodeficiency Virus
IDRC	International Development Research Centre
KCS	Kenya Catholic Secretariat
KDHS	Kenya Demographic and Health Surveys
Kenya CAN	Kenya Christian AIDS Network
KISIMA	Kenyan Institute of Stress Management
KSh ¹	Kenyan Shillings
MOH	Ministry of Health
NAC	National AIDS Council
NASCP	National AIDS/STD Control Programme
NCA	Norwegian Church Aid
NCKK	National Council of Churches in Kenya

¹ At the time of this publication, 50 Kenyan Shillings was equal to approximately 1 U.S. dollar.

NCPD	National Council for Population and Development
NGO	Non-Governmental Organisation
PMH	Pumwani Maternity Hospital
PSAPP	Private Sector AIDS Policy Presentation
PVO	Private Voluntary Organisations
RTI	Research Triangle Institute
SDD	Social Dimension of Development Programme
STC	Special Treatment Centre
STD	Sexually Transmitted Disease
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WHO/GPA	World Health Organisation/Global Programme on AIDS

Chapter 1

An Introduction to Kenya's Epidemic

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I. HIV/AIDS in Kenya: An Introduction to the Epidemic

AIDS has become a tragedy of devastating proportions in Kenya. The lives of infected individuals, their families and communities, the companies they work for, and the country as a whole have been affected by the HIV/AIDS epidemic.

By the end of 1995, the National AIDS/STD Control Programme (NASCP) reported over 63,000 cumulative cases of Acquired Immunodeficiency Syndrome (AIDS). The NASCP estimates that by mid-1994 there were about one million people infected and living with the Human Immunodeficiency Virus (HIV).

II. An Overview of the Epidemiology

HIV sero-prevalence levels among women attending antenatal clinics at urban and semi-urban sentinel sites have

Since 1984 when the first case of AIDS was

identified in Kenya, the policy environment has gone through three broad phases. Between 1984 and 1987, there was a general sense that HIV/AIDS was not a serious problem for the country. During the second phase, 1988-1991, there was a period of more realistic appraisal of HIV/AIDS as a potentially harmful health issue, but there was still a widespread belief that AIDS was no more serious than other diseases. The third phase (1992-1995) marked some significant changes in Kenya's policy environment. The government released its surveillance data and hosted the first National Conference on AIDS. The Ministry of Health declared that AIDS had become a national crisis.² Despite these important developments, a strong need remains for more aggressive action on HIV/AIDS prevention and care.

risen from less than 2 percent in 1985 to 14 percent in 1994. Sentinel surveillance data gathered from attenders at sexually transmitted disease (STD) clinics revealed an increase in HIV-infected individuals from 31.0 percent in 1989 to 58.6 percent in 1993. Data from 1994 indicate that national HIV prevalence among all adults had increased to nearly 7 percent. Urban adult prevalence was 12 to 13 percent and rural adult prevalence was 5 to 6 percent, although rates differ significantly by location. By the year 2000, national prevalence rates may reach 10 percent. In other words, it is projected that one in ten adult Kenyans will be infected with HIV.

The prevalence data show the steady increase in infection rates. The high rates among pregnant women attending antenatal clinics is an indicator of national prevalence rates, but includes a bias toward urban populations with ready access to clinic services. Overall, the NASCP estimated for 1994 close to 300,000 urban adults and 600,000 rural adults infected with HIV. In addition, an estimated 60,000 children were infected. Median estimates indicate that, without the

² "Kenya: Hagglng over Aid for AIDS," *Africa Confidential*, Vol 34, No. 11, May 1993.

immediate and successful implementation of new efforts to prevent further transmission of HIV, 230,000 additional people will become infected during 1996.

The major mode of transmission of HIV in Kenya is through heterosexual relations. The epidemic primarily affects young, working age, sexually active adults—people between the ages of 15 and 50. Both women and men become infected in similar numbers, but women tend to become infected at a younger age than men, reflecting the biological and social vulnerability of teenage women.

III. Historical Review of Policy Responses

Since 1984 when the first case of AIDS was identified in Kenya, the policy environment has gone through three broad phases. Each phase was unique to Kenya, but has reflected the experiences of other countries which have had to confront the disease.

During the first phase, from 1984 through 1987, there was a general sense that HIV/AIDS was not a serious problem for the country. AIDS was described in the press and by policymakers as “a disease of Westerners”, especially gay men. Since similar risk groups presumably did not exist in Kenya, it was assumed that HIV would only spread within a small population. When AIDS was discussed in the press, it was often sensationalised. For example, in January 1985, the *Standard* headlines referred to the “Killer Disease in Kenya” and the “Horror Sex Disease in Kakamenga.”³

In 1985, the government created a National AIDS Council (NAC). However, the NAC lacked authority and resources to develop awareness or prevention efforts. Two years passed before the NAC formally met. In 1987 the National AIDS/STD Control Programme (originally the National AIDS Control Programme) was established and the Kenyan Red Cross and Red Crescent Society, on behalf of the Ministry of Health, initiated an HIV/AIDS awareness campaign.

³ *Standard*, January 15 and 18, 1985.

Early in 1987, the British army prohibited its soldiers from taking leave in Mombasa, citing the threat of HIV among the commercial sex workers in the city. Business, press and government in Kenya responded swiftly. The Minister of Health at the time said, "There is no scientific evidence that Mombasa and Malindi constitute a source of AIDS in Kenya," and added, "The Ministry of Health is satisfied that the known facts about AIDS in Kenya show that there is no need for panic." The Minister blamed the foreign press for distorting the issue and "creating panic."⁴ It was within this environment that a few NGOs and the NASCP—with support from select international donors—began constructing the infrastructure to confront HIV/AIDS. With limited resources, an attempt was made to reach out to a public that was confused by incomplete information and inflammatory comments.

The second phase, 1988-1991, saw a somewhat more realistic appraisal of HIV/AIDS as a potentially harmful health issue, but there was still a widespread belief that AIDS was no more serious than other diseases. Responsibility for managing the response remained with the Ministry of Health, which became increasingly assertive in raising warnings about the consequences of the disease in Kenya. Nevertheless, the public was not responding to HIV/AIDS by changing their own personal behaviour. In March of 1989, the *Kenya Times* argued that people were not changing their behaviour in response to the "low key public education campaign conducted through the media." Meanwhile, influential religious leaders spoke out against the use of condoms for disease prevention. While they admitted that AIDS had become a Kenyan problem, they also argued that condoms were a "Western solution" that did not fit Kenya's situation. Policymakers hesitated to discuss AIDS because of the potentially harmful impact that such discussions might have on tourism⁵. Efforts by the Ministry of Health to involve provincial and district-level policymakers in HIV/AIDS aware-

⁴ *Daily Nation*, January 16, 1987.

⁵ Lorch, D. "After Years of Ignoring AIDS Epidemic, Kenya has begun Facing up to It," *New York Times*, International. Dec 12, 1993.

ness and prevention activities frequently were ignored. Government as a whole relied on the Ministry of Health to address the issue, and relied on public education as the means to control the epidemic—which, in fact, was not seen as an epidemic at the time. Surveillance data were not released by the government and almost all resources for HIV/AIDS prevention continued to come through the international donor community.

The third phase (1992-1995) marked another significant change in Kenya's policy environment. The government released its surveillance data and in April 1993 hosted the first National Conference on AIDS. The Minister of Health declared that AIDS had become a national crisis.⁶ Socio-economic impact assessments were initiated by both the government⁷ and international donors⁸. The NASCP assumed a stronger coordinating role, especially of the field activities of NGOs and religious groups.

The rising number of illnesses and deaths from AIDS across all population groups provoked pressure from businesses, the media, NGOs and professional societies for clear policy directions from the government. The 1994-96 National Development Plan (and individual district plans) included a chapter on the economic impact of HIV/AIDS and set out general statements to guide future action. In 1994, work began on producing a *Parliamentary Sessional Paper on AIDS* that would address a broad range of policies. Also in 1994, the government signed an agreement with the World Bank for a loan for STD and HIV prevention and control programmes, constituting a significant financial commitment.

Despite these important developments, there remains a strong undercurrent of skepticism or downright opposition

⁶ "Kenya: Hagglng over Aid for AIDS," *Africa Confidential*, Vol 34, No. 11, May 1993.

⁷ Nalo, David and Monica Aoko, "Economic Impact of AIDS in Kenya," Ministry of Planning and Development, Long Range Planning Division, Nairobi 1993.

⁸ Forsythe, S; Sokal, D; Lux, L; King, T; Johnston, A. "An Assessment of the Economic Impact of AIDS in Kenya," October 1992 (revised in August 1993).

“Gender inequity of all kinds increases women’s vulnerability to HIV infection in three closely linked ways. First, lack of economic opportunity for women, enshrined in social-cultural practices and reinforced by the legal system, leads to dependence on men, whose interests do not always coincide with women’s need to protect themselves. Second, depriving women of the right to autonomy and control over their own bodies also deprives them of their right to refuse sex and to demand safer sex practices by men. Third, some cultural practices, many either protected by or ignored by the law, are directly and immediately dangerous and can lead to HIV infection. The solution is to empower women through legal reform to take advantage of economic opportunity, to determine when and with whom they will have sex, and to refuse cultural practices that endanger them.”

Jane Kiragu, “HIV Prevention and Women’s Rights: Working for One Means Working for Both.” *AIDScriptions*, November 1995.

to more aggressive positions on HIV/AIDS prevention and care. Many religious groups oppose efforts to introduce sex education into schools, despite the importance of this target audience and the clear need for concise information. Condom promotion exists at a programme level, but is opposed by some senior government policymakers and influential religious leaders. A variety of legal, ethical and cultural issues related to HIV/AIDS prevention and the well-being of families affected by HIV/AIDS remain to be actively debated and acted upon.

IV. The Current Impact of HIV/AIDS

The current status of the HIV/AIDS epidemic in Kenya is characterised by a high rate of HIV infection and a growing number of illnesses and deaths among the country’s citizens. While in the past HIV infection may have been an abstraction, the impact from more than 63,000 Kenyan cases of AIDS has brought the reality of the epidemic fully to the forefront in the country—for families, businesses, religious groups and

the national leadership. There is a growing consciousness that the one million Kenyans estimated to be currently infected with HIV will eventually die of AIDS or AIDS-related illnesses, that thousands of others will become infected in the coming years, and that a set of inter-related social, economic and social crises for communities and the nation will develop, unless swift and appropriate actions are pursued immediately.

The essays in this book illuminate many aspects of the current and pending crises arising from the HIV/AIDS epidemic. The extensive surveillance and epidemiologic modelling which have been performed in Kenya provide a picture of the future course of the epidemic and its potential impact (see Chapter 2).

While the epidemiologic impact is likely to be significant, the corresponding impact on the social welfare of the family that is described in Chapter 3 could be even more devastating. Decades of improvements in social welfare are likely to be undermined by the uninhibited progression of the epidemic. The imbalance in household structure, with women and children forming the majority of rural dwellers, is likely to worsen. Children will increasingly be pulled into the informal economy to supplement income lost when parents become sick with AIDS or related illnesses. Economic, legal and social inequalities will place women in a more vulnerable position in preventing HIV transmission, while at the same time making them more responsible and less able to respond to family illnesses and losses due to AIDS. Families and communities are likely to feel the greatest burden of AIDS and will need assistance as they try to cope with its impact.

Chapter 4 illustrates how the impact of HIV/AIDS on the family will result in a rising number of orphans. By the close of 1996, an estimated 300,000 children will have been orphaned by the epidemic; that number may double by the year 2000. Some of those children will be absorbed into the extended family and cared for by relatives, including grandparents. Others will be cared for by siblings. Still others will find a home on the street (see Chapter 4).

Chapter 5 describes the role that HIV/AIDS is likely to play in further decimating existing health care facilities. As

early as 1992 it was estimated that 15 percent of all hospital beds were occupied by patients with AIDS.⁹ Some health institutions, already heavily overburdened by an increasing demand for services and decreasing resources, currently report having more than half of their beds occupied by patients with opportunistic illnesses brought on by HIV or by full-blown AIDS. While home-based care is being promoted by some policymakers, the existing health system lacks the resources to provide training and follow-up to the thousands of families trying to care for ill family members at home. These pressures are occurring in a climate where neither national nor household resources are readily available to meet the health care demands caused by HIV/AIDS.

Furthermore, in an already difficult economic situation, HIV/AIDS in the workforce will cut into the productivity and profitability of commercial firms (see Chapter 6). A 1994 survey of several formal sector businesses in Kenya found that HIV/AIDS costs companies nearly 4 percent of annual profits. Meanwhile the skill base of companies is being eroded, as workers fall ill or take time off to care for sick relatives. Less is known about the impact of HIV/AIDS on the informal sector of the economy, but workers will certainly be lost in this area as well. Petty traders and other lower income workers will earn less as HIV/AIDS undermines the informal economy, further impoverishing those they support.

As for the national economy, Chapter 7 describes projections which estimate that Kenya's Gross Domestic Product will be nearly 15 percent smaller in the year 2005 relative to an economy without HIV/AIDS. Per capita income is projected to be reduced by 10 percent as a result of HIV/AIDS.

As individuals, families, businesses and national policymakers deal with HIV/AIDS, a variety of legal and religious issues are beginning to be openly discussed. Such issues include: family life education, the rights of inheritance for widows, the right to know if one's partner(s) is HIV-positive versus the confidentiality of the infected individual, among others (see Chapters 8 and 9).

⁹ National AIDS/STD Control Programme and National Council for Population and Development, "AIDS in Kenya", February 1996.

V. The Current Policy Climate

How will Kenya cope with the impact of HIV/AIDS? There are no ready or easy answers. Several indicators, however, offer hope for the future. A rising level of commitment can be seen at the programme level in communities and among government health workers, NGOs and religious agencies. Mid-level policymakers are beginning to demonstrate an openness to identifying and defining new policy directions and options to frame the public response to the epidemic. Issues related to programme implementation, human welfare, policy and legal reform are now openly discussed in a variety of fora. The *Parliamentary Sessional Paper on AIDS*—slated to be published late in 1996—is expected to clarify the roles and responsibilities of all key players, at all levels, in an effort to prevent HIV/AIDS and provide care and support for people infected with and affected by HIV/AIDS.

Yet there remains an element of the unknown about the epidemic which contributes to anxiety and indecision. How many people are actually HIV infected? What will be the losses incurred as a result of illness and death from AIDS? Are the social and economic institutions sufficiently strong to cope with the growing number of illnesses and deaths? Are the policy and legal structures able to respond to the changing needs of society? How can resources be generated and allocated to cope with HIV/AIDS and the other needs of society?

There is no single path by which policy issues will be illuminated and resolved. The pressure of events will be the strongest impetus, but structures exist for managing policy development around HIV/AIDS. For example, the Kenya AIDS NGOs Consortium is using its networks to raise, debate and analyse policy issues. The business community is taking a more active role in policy discussions about HIV/AIDS in the workplace. Religious organizations are debating issues that reflect the impact of HIV/AIDS on the lives of their followers.

Finally, the essays in this book provide policymakers, programme planners and managers, and the public with some information needed for decision making. Economic

impact assessments of the HIV/AIDS epidemic can continue to play an important role in identifying areas of particular concern and need, thereby providing guidelines in the planning process and assisting in the development of policy responses. The reviews of impact on women, children, and businesses are examples of priority areas. The discussions on legal and religious dimensions of the epidemic outline options for action. In short, this book is one of a variety of tools available to policymakers and policy influencers to prevent and mitigate the impact of HIV/AIDS in Kenya.

Chapter 2

Epidemiological Aspects of HIV/AIDS in Kenya

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I. Introduction

The World Health Organisation's Global Programme on AIDS (WHO/GPA) estimates that by mid-1995 there were more than 20 million people infected worldwide by the virus which causes AIDS. Of those infected, 11 million were in Sub-Saharan Africa. Of this 11 million, approximately 1 million infected individuals live in Kenya.

In Kenya, the first indigenous AIDS case was described in 1984 and by the end of that year, seven cases had been identified. The Kenyan government responded by forming the National AIDS Council (NAC) in 1985 to control the spread of the virus. Despite this and other efforts, the epidemic continued unabated and by the end of 1995, 63,179 AIDS cases had been reported to the National AIDS/STD Control Programme (NASCP). The NASCP estimates that by the end

Between 1990 and 1994, the number of people in Kenya infected with the virus that causes AIDS has doubled, with current projections suggesting a continuation of the rapid spread of the disease. Without dramatic additional HIV/AIDS control measures, the epidemic is likely to result in significantly more AIDS deaths concentrated in young adults, a reversal in Kenya's childhood mortality rate, and a corresponding rise in cases of tuberculosis.

of 1994, approximately one million Kenyans were infected with the virus that causes AIDS.

II. Current Epidemiological Status

A. Estimates of Current Prevalence

HIV infection probably started to spread in Kenya in the late 1970s or early 1980s. Individual studies have documented the increase in infection levels in a number of sites throughout the country. Since 1990 the NASCP has been conducting sentinel surveillance in some of the hospitals for antenatal clinic (ANC) attendees and sexually transmitted disease (STD) patients, as well as collecting data on serostatus from blood donors and certain hospital patients. The data is analysed at the NASCP and the information used to design and evaluate AIDS control programme interventions as well as to estimate the impact of the epidemic.

1. Sentinel Surveillance

The sentinel surveillance system for HIV is designed to provide policymakers and programme planners with information on trends of the disease. The data are useful for understanding the magnitude of the HIV/AIDS problem in certain areas and monitoring the impact of interventions. With suitable adjustments, these data can also be used to estimate the national prevalence.

Data are collected for both ANC attendees and for patients with STDs. The STD data are primarily designed to repre-

sent high-risk populations while the ANC data represent the general population. Therefore, only the ANC data are used to estimate the national HIV prevalence.

The sentinel surveillance system originally began with 18 sites, but because of logistic problems it included only 13 sites between 1990 and 1993: Mombasa, Nairobi, Nyeri, Thika, Kisumu, Kitui, Garissa, Meru, Kakamega, Busia, Nakuru, Kitale and Kisii. All of these sites were antenatal clinics in district hospitals located in the district headquarters' town or city. During the sentinel surveillance for 1994, six rural sites were added to the existing sites, which provided the first data regarding prevalence rates in rural Kenya. The six rural sites are in Chulaimbo (Kisumu District), Mbale (Kakamega District), Mosoriot (Uasin Gishu District), Karurumo (Embu District), Muragua (Muranga District) and Tiwi (Kwale District).

Beginning in the third quarter of each year, 300 to 400 women who are making their first visit to the antenatal clinic for the current pregnancy are tested for HIV. The testing is unlinked and anonymous. The results are reported to the NASCP where the data are compiled and analysed.

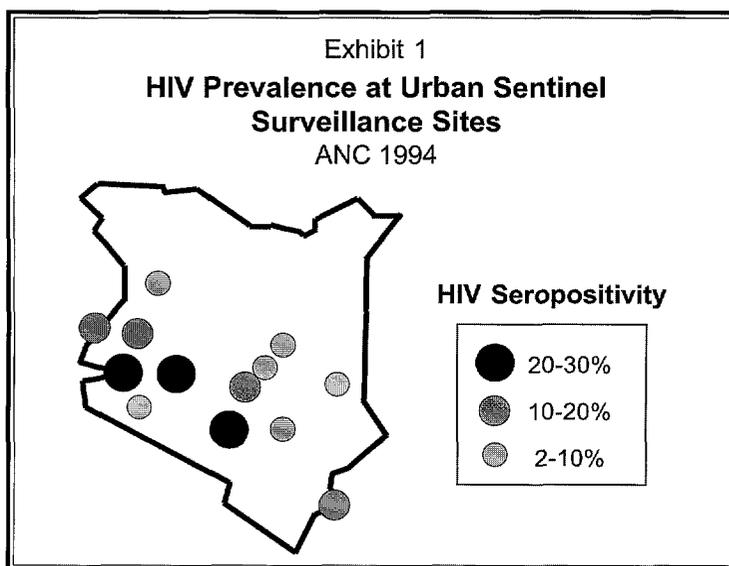


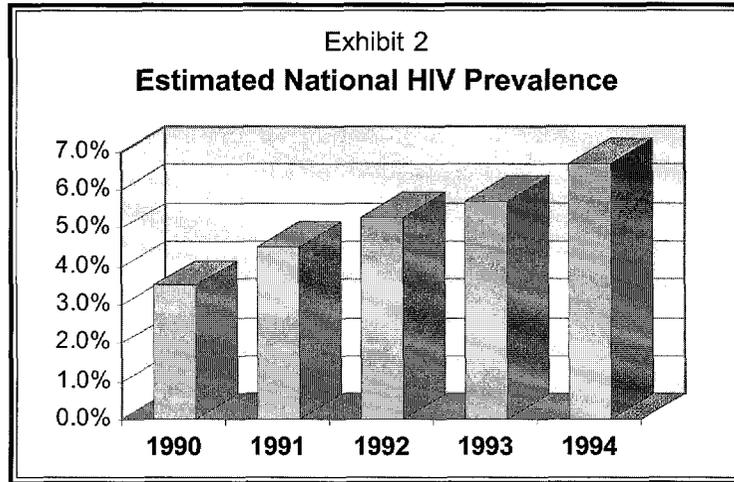
Exhibit 1 illustrates results from the urban sites of the 1994 sentinel surveillance. There were several places in Kenya (Kisumu, Nakuru, Nairobi) where the proportion of pregnant women who are infected with HIV had already reached an alarming 20 to 30 percent. In several other sites (Mombasa, Kakamega, and Thika), 10 to 20 per cent of pregnant women were infected. In Kisii, Nyeri and Kitui, infection rates are 2 to 10 percent.

Although the ANC clients are generally representative of the general population, there are differences between the two groups. Thus, the ANC data are adjusted to produce an estimate of the prevalence for the entire country. The adjustments are:

- 1) Pregnant women are generally between the ages of 15 and 49. The data are adjusted to include all adults over the age of 15.
- 2) Pregnant women are all sexually active. The data are adjusted for women who have never been sexually active and therefore have not been exposed to HIV through sexual transmission.
- 3) Sentinel sites were located in only 13 urban locations. In 1994, six rural locations were added. To produce an estimate for the entire country the sentinel surveillance results were weighted by the size of the adult population in the geographic areas represented by each sentinel site.

Prior to the 1994 sentinel surveillance analysis, little information was available on HIV prevalence in rural areas. Based on a review of studies in other countries, NASCP estimated that the rural HIV prevalence rates were between one-half and two-thirds of the urban HIV prevalence rates in each district. The 1994 sentinel surveillance data for rural sites demonstrated that in some densely populated districts, rural prevalence rates may approach or even exceed the urban prevalence rates. In other less densely populated districts, the rural prevalence rate may be only one-third or less of the urban rates. The estimates for each district were adjusted accordingly.

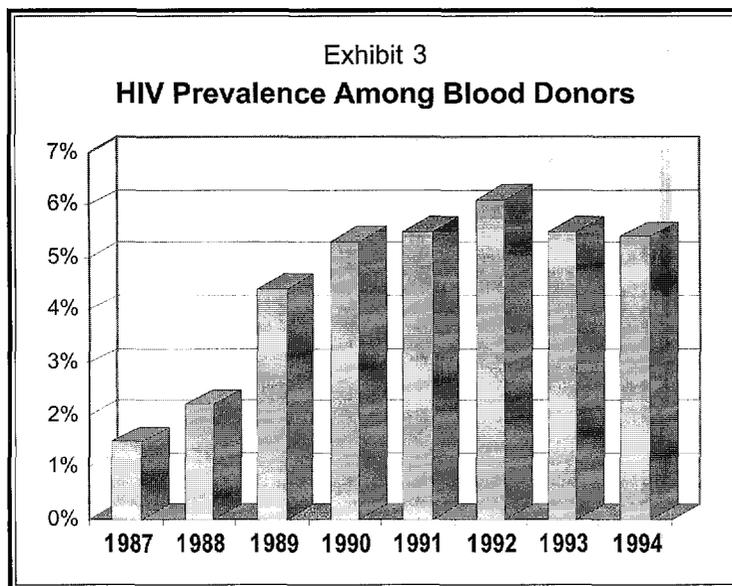
The results for 1990 to 1994 are shown in Exhibit 2. This graphic shows that national prevalence had risen from 3.5



percent in 1990 to 6.7 percent in 1994. In urban areas prevalence was estimated to be, on average, about 12 to 13 percent, although increasing at an alarming rate in certain places. Nakuru, for example, had prevalence rates that increased from 9.9% in 1990 to 30% by 1994, while rates in Thika increased from 2.5% in 1990 to 19.6% in 1994. On average, the rural prevalence is estimated to be about 5 to 6 percent, with rates much higher in certain areas. Using the sentinel surveillance data and adjusting it to be representative of the general population, the NASCP estimates that there are about one million HIV-infected people in Kenya.

2. Blood Donors

An assessment of HIV among blood donors had demonstrated a steady rise from 1.5 percent in 1987 to 6.1 percent in 1992. However, in recent years blood donors have been prescreened through interviews prior to donating blood. The rejection of blood donations from donors suspected of high-risk behaviours is assumed to have slightly reduced the prevalence rate of HIV in donated blood from 6.1% in 1992 to 5.4% in 1994 (Exhibit 3).



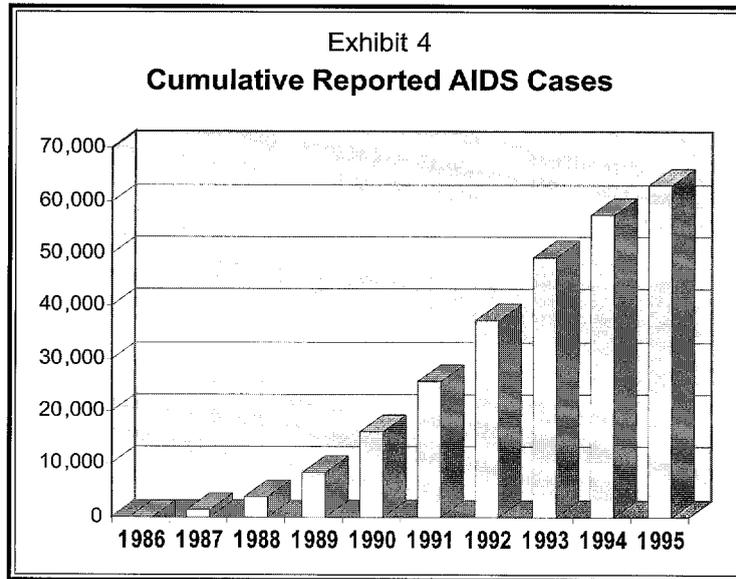
B. Reported AIDS Cases

All the major hospitals in Kenya (government and private) are required to report the number of AIDS cases diagnosed in their hospitals to the NASCP monthly. As seen in Exhibit 4, by the end of 1995, a cumulative total of 63,179 AIDS cases had been reported to the NASCP. The true number of AIDS cases in Kenya is not known, but the NASCP estimates that the number of actual AIDS cases is probably well over 190,000. Thus it is assumed that only about 30 percent of AIDS cases are actually reported.¹⁰

It is known that gross underreporting of HIV and AIDS cases exists for a number of reasons, including:

- some people never seek hospital care for AIDS;
- doctors and other health workers may not want to record a diagnosis of AIDS because of the stigma attached to the disease;

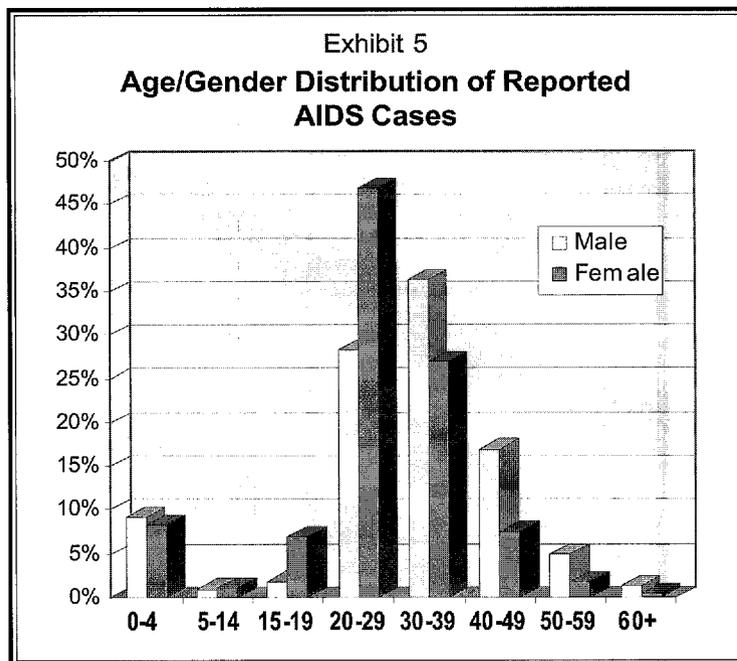
¹⁰ The NASCP uses the WHO definition of AIDS (1985, Bangui) requiring HIV antibody positive results.



- people with HIV infection may die of other infections before they are ever diagnosed as having AIDS; and,
- some health care facilities, especially in rural areas, may not have the capability to test for HIV infection.

Stratifying reported AIDS cases into age group and gender, several observations can be made:

- About 75 percent of the AIDS cases occur among adults between the ages of 20 and 45. Since this is the most economically productive part of the population, these deaths constitute an important economic burden, in addition to the obvious health impact. This is also the age when earlier investments in education are beginning to pay off. Furthermore, these deaths have important consequences for children, since most people in this age group are raising young children.
- There are roughly an equal number of male and female reported AIDS cases. This equal ratio of men and women can be attributed to the fact that most transmission is through heterosexual contact. Due to the higher rate of transmissibility from men to women (as



opposed to women to men), there may actually be more women infected than men.

- Women are becoming infected at a younger age than men. The peak ages for AIDS cases are 20 to 29 for females and 30 to 39 for males, as indicated in Exhibit 5.
- A significant number of AIDS cases have been reported among young children. Most of these received the infection from their mothers either during pregnancy, during birth or through breast-feeding.¹¹

¹¹ "Based on the various studies conducted to date, roughly one-third of the babies born worldwide to HIV-infected women become infected themselves, with this rate varying widely in different populations. Much of this mother-to-infant transmission occurs during pregnancy and delivery, and recent data confirm that some occurs through breast-feeding". —Consensus Statement from the WHO/UNICEF Consultation on HIV Transmission and Breast-Feeding, May 1992.

III. HIV/AIDS Projections

A. Projected HIV Prevalence

The prevalence level at which the HIV infection is going to stabilise is not known. However it has been observed that the prevalence is increasing very rapidly in most areas of Kenya. Therefore it is likely that the prevalence may continue to increase for at least the next six to seven years.

Using conservative projections, the NASCP has attempted to estimate the future HIV prevalence. The projections are based on the assumption that adult prevalence rates all over Kenya will increase from 6.7 percent of the adult population in 1994 to 10 percent by the year 2000 and then stabilise at that level. This is generally believed to be a conservative estimate, with the possibility that the eventual rate could go higher.

B. Number of Future HIV Infections and AIDS Cases

If HIV prevalence does increase to 10 per cent by the year 2000, then the number of infected people would increase from about 1 million HIV infections in 1995 to more than 1.8 million by the year 2000 and to 2 million by the year 2005. The number of new AIDS cases *each year* resulting from these infections would increase to about 240,000 in the year 2000. This equates to nearly 4,600 new AIDS cases per week. The cumulative number of AIDS deaths would increase to about 1 million by the year 2000 and to more than 2 million by the year 2005.

C. Adult Deaths

AIDS will increase the death rate at all ages, but the impact will be most severe among young adults and children under the age of five. Even in the absence of AIDS, the annual number of deaths among young adults (15-49) would increase from 90,000 to 100,000 by the year 2005. However, AIDS will dramatically increase that number, more than doubling it to 220,000 a year by 2000 and increasing to almost

300,000 a year by 2005. This rapid increase in young adult deaths is likely to have serious consequences for economic and social development.

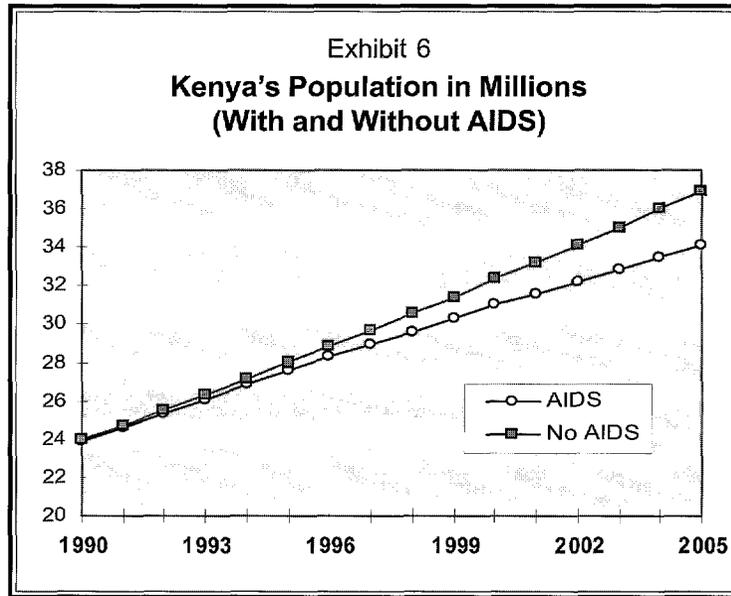
D. Population Size and Growth

The first census held in Kenya in 1948 revealed a total population size of 5.4 million with an annual growth rate of 2.5 per cent. By 1962 and 1969, the country's total population had risen to 8.6 million and 10.9 million, respectively. By 1979 the population had risen to 15.4 million and to 21.4 million in 1989, with an intercensal growth rate of 3.3 percent per annum. In 1995, Kenya's population was approximately 27.6 million. This increase in population was mainly attributed to a decline in mortality and sustained high fertility, the latter of which has recently shown some signs of decline.

With the emergence of the AIDS epidemic in the mid-1980s, when little was known of its impact, speculation arose that AIDS would cause populations in various African countries to stop or become negative altogether. These fears were further propounded by some who suggested that population growth rates were likely to become negative in some African countries within a few decades¹². However, use of various AIDS models such as the AIDS Impact Model (AIM) have shown that this is not likely to happen in Kenya. Extensive research with such models has shown that unless the HIV prevalence rates rose to almost 60%, a negative or zero population growth rate is unlikely, particularly in a high-birth rate society such as Kenya. In Kenya, AIDS will not lead to a zero or a negative growth rate.

In the "No AIDS" scenario as depicted in Exhibit 6, the total population would increase from 29 million in 1996 to about 32 million by the year 2000 and 37 million by the year 2005. When the "No AIDS" scenario is compared to one in which the impact from HIV/AIDS is taken into account, the situation emerging is quite different. "With AIDS" the popu-

¹² Anderson, R.M., R.M. May, M.C. Boily, G.P. Garnett and J.T. Rowley (1991). "The Spread of HIV-1 in Africa: Sexual Contact Patterns and the Predicted Demographic Impact of AIDS," *Nature*, Vol. 352, 15 August, 1991, 581-589.



lation is expected to rise to 31 million in 2000. By the year 2005, the total population is expected to rise to 34 million, thereby resulting in almost 3 million fewer people when compared to the "No AIDS" scenario.

Although the growth rate of the population will be reduced due to death from AIDS, the population will still be growing at 1.7 per cent by the year 2005. It is important to note that changes in the total fertility rate will have much more impact on the population growth rate than will AIDS deaths.

E. Infant and Child Mortality

During the 1970s and early 1980s, infant and child mortality were dropping rapidly in Kenya. Recent evidence from the Kenya Demographic and Health Survey (KDHS)¹³, however, indicates that child survival has not improved signifi-

¹³ National Council for Population and Development, Central Bureau of Statistics, and Macro International, Inc. *Kenya Demographic and Health Survey, 1989, 1993.*

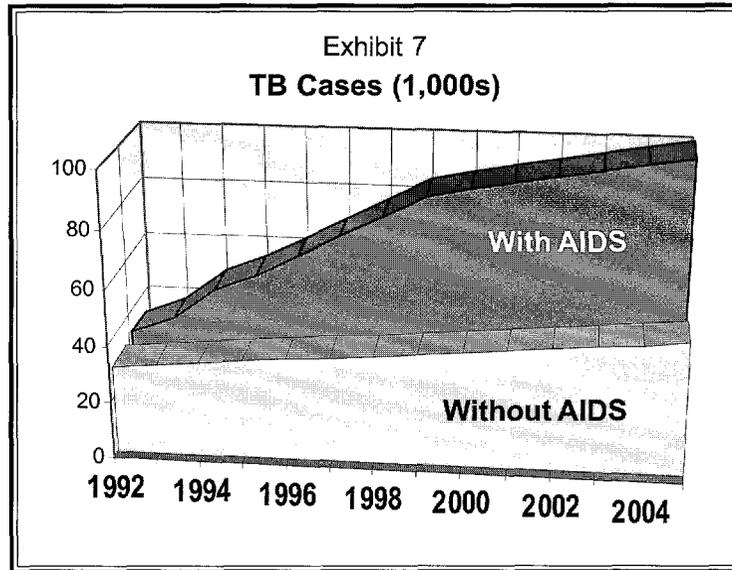
cantly since the mid-1980s. Estimates from the 1989 KDHS for the period 1984 to 1989 indicate an infant mortality rate of 60 per 1,000 live births and a child mortality rate of 92 per 1,000 births¹⁴. These estimates are only slightly lower compared to those for the period 1988 to 1993, which recorded an infant mortality rate of 62 per 1,000 live births and a childhood mortality rate of 99 per 1,000 live births. When the impact of the AIDS epidemic is incorporated in these estimates and projections made up to the year 2005, the picture becomes even gloomier. About 30 to 40 percent of infants born to HIV-infected mothers will be infected with HIV and subsequently develop AIDS and die. Almost 25% of the infected infants will die before their first birthday, and most will develop AIDS and die within two years. Very few infected children survive to their fifth birthday.

Without AIDS, infant mortality is projected to decline from 72 per 1,000 live births in 1995 to 45-50 by the year 2005. However, in the presence of AIDS these gains are expected to be lessened, with infant mortality rates only reaching 55-60 per 1,000 live births in 2005.

A worse situation would occur with the child mortality rate. In the absence of AIDS, the child mortality rate would decline from 115 in 1995 to about 70 by the year 2005. However, in the presence of HIV/AIDS this downward trend is expected to be completely reversed, with child mortality rates rising to 120-125 by the year 2005. In other words, over the next 10 years, infant mortality is projected to be 20 percent higher and child mortality is projected to be 75 percent higher as a result of HIV/AIDS. Therefore, whatever little gains have been achieved in child survival programmes in the last decade are likely to be severely affected if the current trends in HIV prevalence continue without major intervention programmes.

While other diseases that affect children, such as malaria and measles, will continue to be more common than AIDS,

¹⁴ The infant mortality rate is defined as the number of infants who die before their first birthday per 1,000 live births. Childhood mortality rates are the number of children who die before reaching their fifth birthday, per 1,000 live births.



AIDS is projected to be the leading cause of death among children over the next 10 years. For example, the annual number of child deaths attributable to measles and malaria is expected to range between 5,000 and 10,000 through the year 2005. Childhood deaths due to AIDS are projected to reach between 45,000 and 50,000 annually over the same period.

F. Tuberculosis

Most Kenyans carry the mycobacterium which causes tuberculosis, but do not develop symptoms of TB because it is suppressed by the healthy immune system. HIV infection weakens the immune system of otherwise healthy adults. Thus, the body is no longer able to suppress the bacteria leading to the development of overt tuberculosis. Therefore, with HIV/AIDS the number of new tuberculosis cases will increase. The impact of HIV cases on tuberculosis is serious because TB is infectious through casual contact. It therefore threatens to vastly increase the risk of tuberculosis for the entire population, as shown in Exhibit 7. Also, drug resistant strains of TB are appearing, making it much more difficult and expensive to treat.

IV. Conclusions and Recommendations

The epidemic continues unabated with prevalence rates nearly doubling and the number of reported AIDS cases more than tripling between 1990 and 1994. All areas of Kenya show an upward trend in prevalence rates. In some parts of the country, one in every three adults is infected with the virus that causes AIDS. The epidemiologic impacts will be felt above and beyond the number of adult AIDS deaths, with increases in infant and child mortality and tuberculosis cases.

The current surveillance sites need continued support, in terms of increasing the number of urban and rural sites, assuring the quality of the data from existing sites, and assuring that sites have adequate supplies of HIV testing kits and other commodities, which in the past have been irregular and inadequate.

The possibility of making voluntary counselling and testing sites available needs to be reviewed. These sites would allow individuals to obtain their HIV status while receiving adequate counselling regarding prevention and their own status. Whether the sites are in public or private clinics, regulations will be necessary to assure the reliability of the test kits and processes and to assure the confidentiality of those who are tested. Both pre- and post-test counselling needs to be in place to assure that individuals' emotional and behavioural needs are addressed.

Finally, other sources of surveillance data should be explored, including unlinked anonymous HIV screening for recruits in the armed forces, police, national youth services and colleges. These sources could be useful in gaining more information on the status of the epidemic among various groups, including Kenyan men.

Case Study **Mutio**

At 34, Mutio, a single mother, is still living with her parents. When interviewed, Mutio was already quite sick and had developed symptoms of full-blown AIDS. Mutio's mother has accepted the responsibility of caring for Mutio and her children, now and after Mutio's death.

Mutio first became sexually active at the age of 15. By age 17, she was a teenage parent and continued to have sexual relationships with the father, conceiving three of her four children (now 17, 14, and 13). It was after this relationship broke up that Mutio started a relationship with a second man whom she believes was the source of her HIV infection. Mutio had a child with this man, although the child died from symptoms that indicated AIDS. Although she had a steady relationship, her parents disapproved of a marriage to the suitor as he had another woman.

After 12 years of formal education, Mutio failed to qualify for higher education and stayed home for three years, taking care of her children. She later secured employment with a firm earning KSh3,000 per month. After three years, however, her position was terminated and Mutio again returned home to take care of her children.

Mutio now recalls noticing symptoms related to HIV in 1985 when she developed pneumonia and semi-paralysis of her body, requiring inpatient admission in a Nairobi hospital for nine days. Three years later, during her last pregnancy, she suffered a swelling on her right upper arm and sought treatment at a Nairobi City Council dispensary. She was referred to the Special Treatment Center (STC) where her blood was tested and HIV seropositivity confirmed. Not able to anticipate the reaction from Mutio's father, Mutio and her mother decided to keep this information to themselves.

During the following years, Mutio developed frequent colds and coughs, was treated for tuberculosis, and her entire body developed swelling accompanied by severe headaches. Her parents paid for treatment for these ailments, a cost amounting to well over KSh50,000.

Throughout her illness, Mutio received support from her

mother who assumed her total care. Her father, who later learned of her illness during one of Mutio's hospital visits early in 1994, was also sympathetic. He continued to meet Mutio's medical costs without hesitation. The rest of the family members living in the household were not informed of the illness for fear that Mutio might be isolated and rejected. Mutio's children were not informed of the illness, for fear that their sadness would interfere with their school performance.

Built on a very firm Christian foundation, the family worshiped in a local Baptist church. Although the church was actively engaged in supporting people with AIDS, Mutio and her mother decided not to participate. Mutio maintained a very low profile and primarily depended on her mother. She had a few friends from the church community who came to pray with her.

At the time of this interview (August 1994), Mutio expressed her total dependence on God and claimed that she had no fears for her impending death. Her only concerns centered around her children, as she worried that her death would interfere with their education and future. She also worried that her father, who was supporting the family, would be reaching his retirement age soon, but seemed confident that her parents would continue to take care of her children.

During the interview for this case study, Mutio was visibly weak and emaciated. She walked softly and carefully, as if trying to salvage all the energy she had for the next move. Although she complained of a persistent dry cough, she maintained that an earlier diagnosed tuberculosis was now in remission. She denied having lost a significant amount of weight, but appeared very fragile and attested to serious episodes of illness in the past where she had been "reduced to bones."

Mutio died of tuberculosis at a Nairobi hospital in October of 1994, only two months after being interviewed for this case study. Her mother feels relieved that her daughter had prepared herself for this death and is now at peace. The mother reports that the funeral expenses amounted to well over KSh100,000. Fortunately this cost was managed with the help of friends.

Chapter 3

HIV/AIDS Within the Family: Women's Responses and Needs

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I. Introduction

A. AIDS and Kenya's Families

A decade ago AIDS was seen more as an individual rather than a family issue. Today its recognition as a family problem is evidenced by the declaration of the 1994 World AIDS Day theme of "AIDS and the Family." In Kenya, HIV is mainly transmitted through heterosexual intercourse and is equally widespread among males and females of reproductive age. Many families will inevitably be affected.

Regardless of who within the family falls sick, the impact of HIV/AIDS on the socio-economic status of the household will be keenly felt. When AIDS-related illnesses arise within the family, employed household members are forced to take time off to be nursed or to nurse the sick members. Family income is threatened and savings are reduced to pay for

Families are likely to be particularly affected

by this disease, and their needs must be identified and addressed. Because of the stigma attached to AIDS, some HIV-infected individuals and their families have sought to conceal and/or deny their illness. Denial, anger, blame, guilt and shame are common responses of both individuals and families to HIV. In some cases, family members suffer severe psychological trauma, while in others, the infected engage in self-destructive behaviour. Some people turn to suicide to escape from what they fear will be a prolonged and painful illness. However, despite the trauma of HIV infection, many people respond with courage and determination to live full lives. Some have even turned to serving others by publicly acknowledging their HIV status and becoming educators, counsellors and AIDS prevention advocates.

medical expenses. Surviving family members will face a decrease in family income, particularly upon the death of the primary income-earner.

Infected adults occasionally will break away from the family upon learning of their diagnosis. This, too, may result in a reduction in family income. As parents become ill and die, households are restructured, with increasing numbers of children left to care for themselves or to be cared for by aging grandparents or other relatives.¹⁵

As for the children of HIV-infected parents, the impact is often profound. The children's basic health and socialisation needs often are inadequately met. Frequently the children themselves become caregivers for sick parents, rather than attending school and receiving care from their parents. Even when other members of the family are available to care for sick adults, children may be withdrawn from school as the family is unable to pay for school fees and uniforms. After the parents die, children left without supervision and the money for school fees often drop out of school altogether.

¹⁵ Cohen, Monique. "Socio-economic Impact of AIDS: Household Resources and Beyond." Research proposal, 1993.

B. AIDS, Women and Kenya's Household Economy

Many men work in the formal labour market in urban areas, whereas the women, who form the majority of Kenya's rural population, represent the backbone of Kenya's smallholder agricultural and informal sectors. Families, therefore, are often sustained by cash remittances from the male household head and the earnings from the woman working in farming and/or the informal sector. In addition to her contribution within the labour market, the woman also maintains her role as nurturer and often bears the responsibility as the de facto household head in the rural home.

When a woman in a household dies, family food security is threatened, particularly when families depend primarily on women's labour for food production, animal tending, crop planting, and harvesting.^{16,17} In fact, studies in Africa have shown that children's nutritional status is more closely related to the mother's work and income than that of the father.¹⁸

The illness and death of a female will have a particularly dramatic impact on the family, especially given that women provide the majority of labour and managerial services for smallholdings in rural areas. Moreover, if the woman becomes ill while the husband is working in an urban area, the overall socialisation and education of the children, as well as the management of the household, may be seriously affected. A drastic reduction in male and female income and productivity often occurs just as expenses to care for the sick begin to accumulate.

¹⁶ Kimari, Lilian. "HIV/AIDS Impact on the Family," paper presented at the first Kenya HIV/AIDS Conference, 21-23 April, 1993.

¹⁷ Devereux, Stephen; Graham Eele. "The Social and Economic Impact of AIDS in East and Central Africa," International Development Centre, Food Studies Group, May 1991.

¹⁸ *Ibid.*

II. Quantitative Study of Women Infected by HIV

This chapter discusses the results of interviews with women to assess the impact of HIV/AIDS on households and to clarify how families have responded to HIV infection and coped with the losses accompanying AIDS.

A. Data Collection Tools

A study was initiated in 1986 by the University of Nairobi and the University of Manitoba to assess the probability and mechanisms of HIV transmission between women giving birth and their infants. This study was conducted at Pumwani Maternity Hospital (PMH), which serves a large population of women, principally from urban slums. Mothers who voluntarily enrolled in this study were tested for HIV at the time of giving birth. Women who tested HIV-positive, and a control group of seronegative women, were invited to return to a clinic established in order to provide continuing medical and health care for them and for their children. In 1991, a sub-study was initiated to assess: 1) the impact of HIV/AIDS on the socioeconomic status of these mothers and their families, and 2) the way in which these women coped with their HIV/AIDS status and their social and economic needs as well as their children's needs. This chapter reports on the preliminary findings of this sub-study.

Both HIV-positive and HIV-negative women who had participated in the larger study from 1986 to 1991, and who continued to return to the clinic that had been established for their care, were interviewed. The purpose of the interviews was to obtain detailed data on their socioeconomic status—both at their initial enrollment and at the time of the interview—and to identify ongoing coping strategies adopted by the mothers and their families. This group of seropositive and seronegative mothers was identified as the “retrospective cohort” and, once recruited for the socioeconomic study, was interviewed at each clinic visit to determine changes in the family life and structure.

Ann

Ann is 32 and married to Nicholas, age 38. They had four children together, though two have died. She dropped out of school in her ninth year and is currently employed as a nursery school teacher earning KSh1,000 per month. Her husband completed 12 years of schooling and earns KSh4,600 per month as an accounts clerk.

Ann was diagnosed HIV-positive in 1986 when she gave birth to the first of her babies, a child born prior to Ann's marriage to Nicholas. This child now lives with the maternal grandparents. Although the news of her HIV status was communicated to her at that time, she did not understand her diagnosis until 1991, when the doctor explained it to her. She decided not to tell her husband for fear of his hot temper. He would probably blame her for bringing the disease to the family. She says she has not seen the need to disclose her HIV status to anyone, since she does not expect to need any assistance. She did, however, tell a neighbour friend, whose husband was known to be living with AIDS. Her friend dismissed Ann's diagnosis as untrue since Ann still appeared healthy.

Ann says she has noticed slight changes in her health. She gets boils quite often and sometimes uses herbal treatments. She has lost some weight, but blames this on her worries about her HIV status.

Ann and her husband continue to have unprotected sex and she says she would like to have more children, particularly a son. She does not know the HIV status of her two daughters, ages five and three. She hopes that if she bears her husband many children, he will not abandon her. Her husband drinks heavily and often sleeps away from home. He has threatened to marry another woman. Ann says that she has made no future plans for her children.

In addition, enrollment of mothers in the maternal-child transmission study continued and, beginning in 1991, socio-economic data was gathered from each new mother. As they returned for visits to the clinic, mothers were interviewed in-depth to assess their ongoing response to their HIV results. Subsequently, the mothers were interviewed whenever

they returned to the clinic in order to record the changes that had taken place in their family structure and socioeconomic status and to describe the coping mechanisms that had been developed. This new group of women was characterised as the “prospective cohort.”

B. Socioeconomic Characteristics of the Sample

Up to July 1994, socioeconomic data had been gathered on 396 women of whom 239 were HIV-positive and 157 were seronegative controls. The number included mothers from both the retrospective and prospective cohorts.

The average age of the women at the time of their delivery at PMH was 24, with the women having an average of nine years of education. The differences in the ages and educational attainment of HIV-positive and HIV-negative women were minor and not statistically significant. The average age of reported first sexual encounter among the women was slightly less than 17 years. Four-fifths of the women were married at the time of their interview. As for the fathers of the children, their average age at the time of their partner’s delivery was 31.

Most of the women interviewed at PMH were not employed in the formal sector, with more than three-quarters of the women unemployed, maintaining the home, or working in the informal sector (i.e. self-employed in petty trade, hair-dressing). This contrasts with their male partners, three-quarters of whom were employed in the formal sector, 21 percent being employed in the informal sector, and only 2 percent being unemployed. Most of the women had come to Nairobi from various rural areas, some with their husbands, to become established in the urban economy but returned to their rural homes from time to time. Some had come to visit their husbands who were working in Nairobi, while others had come to seek employment and had met their husband or partner there. The number of Nairobi-born women was less than 10 percent. The average monthly income of all women (employed and unemployed) was KSh865 prior to delivery at which time their HIV status was tested. The fathers had

Melsa

Melsa, age 22, is married to Michael, a government clerk. When Melsa was expecting her son in 1989, she was infected with syphilis and sought treatment along with her husband. They were tested for HIV and both tested positive. Melsa received the news with shock and anger toward her husband, who she felt sure had infected her due to his "promiscuity" and extramarital affairs. For several days she did not speak to him. She considered leaving the marriage but changed her mind. Melsa reports that she and her husband have stayed together, but whenever Michael returns home drunk, he hurls insults at her and blames her for their HIV status.

an average monthly income of KSh3,300, almost four times greater than the women's income.

The income of both the HIV-positive and negative women was observed to change over time, partly due to inflationary changes in earnings. Nevertheless, analysis of the income data for both the mothers and their partners suggested that the income of the HIV-positive mothers had declined in comparison to their HIV-negative counterparts. In some cases this could be due to the loss of a partner from death, separation or divorce, or to a decline in their own earning power, attributable in some cases to their HIV/AIDS status as their ability to work was compromised.

More of the HIV-infected mothers reported having an STD prior to the birth of the child relative to the uninfected women (39 percent vs. 14 percent). This is consistent with differences in the reported number of lifetime sexual partners, which was more than twice the number for the infected women relative to the uninfected women (6.4 vs. 2.6). Nevertheless, when the mothers who reported many partners (i.e., more than 100, reflecting probable employment in the sex industry) were removed from the analysis, the infected and uninfected women were similar in terms of numbers of partners and incidence of STDs.

Precautions taken by women to prevent infection and/or reinfection after being informed of their HIV status appear

Beth

Beth, a 28-year-old mother of two young children, is a petty trader married to a casual worker in a private firm. She was diagnosed HIV-positive after her first delivery in 1989. Beth worries a lot about what will happen to her children when she dies. She and her husband have no savings. They have neither land nor house in her husband's rural home in Kakamega district. Her husband's father is polygamous and has many sons with no land. Each son is therefore expected to take care of himself. During the interviews, Beth repeatedly expressed a need to have enough capital for her trade in order to generate more money for the family.

Dorothy

For Dorothy, a 35-year-old commercial sex worker living with her two children in a Nairobi slum area, her greatest fear is for her 11-year-old epileptic son. Though she is suffering symptoms of fatigue, dizziness and abdominal pain, she is still able at this time to take care of her son and take him to a special school and for treatment. But she was distraught over who would care for a boy with special needs after she dies.

to be minimal. For example, only 18 percent of HIV-infected women reported ever using condoms with their husbands after being informed of their HIV status. Meanwhile, the condom use rate for the HIV-negative control group was only somewhat less (12 percent). Among the HIV-infected women, 7 percent reported having sex with men other than their children's father after being informed of their HIV status, whereas only a slightly greater percentage (9 percent) of the uninfected women did so.

III. Case Studies of Women Infected by HIV

A. Sample Selection and Method

The case studies were taken largely from the retrospective cohort and were selected as mothers returned to the clinic

Immaculate

Immaculate, 27, married her husband as a second wife. She was diagnosed HIV-positive upon her second delivery in 1990, but did not tell the news to her husband. Even though the husband has extramarital relations, she says she is afraid of being blamed for bringing the infection to the family and "causing marital instability".

for follow-up care. Thirty-three women, all HIV-positive, had been interviewed at the time that this report was prepared. The sample, therefore, can be characterised as an accidental sample and may or may not represent all HIV-positive mothers identified in this study. Indeed, to the extent that these mothers are drawn from the sub-sample of mothers who have continued to attend the clinic, they may be different from those mothers who were enrolled at delivery but either did not come for their first appointment or subsequently were lost to follow up. This qualitative component of the study involved in-depth interviews to identify the women's responses to their HIV-positive status, the coping strategies adopted by the women and their families, and the type of support these women need. The case studies were conducted to trace each woman's life history, with particular attention on changes that had occurred in her life after receiving the news about her HIV-positive status, as well as on coping mechanisms adopted by the family. These case studies also were intended to shed light on the perceptions and misperceptions of the family and community regarding HIV and AIDS.

B. Qualitative Responses of Infected Women

Most of the 33 women interviewed reported a variety of feelings toward their HIV status which fit into one or more of the following categories:

- Denial/Doubt
- Anger/Blaming partner

- Worry (especially about the future of their children)/ Fatalism
- Self Blame/Guilt/Shame

1. Denial/Doubt

Most of the women interviewed initially reacted to the news of their HIV-positive status by exhibiting behaviour that could be characterised as denial, though the denial took a number of different forms. Some of the women in more advanced stages of their illness attributed symptoms to sources other than their HIV status. One woman, for example, blamed sorcery for her symptoms. Another observed that she had lost weight, but attributed this to her marital problems.

Ten percent of the women interviewed did not believe that they were HIV-positive, despite being informed of having positive test results. This occurred either because they felt healthy and had no symptoms, or because they had pre-conceived ideas of what an HIV-infected person looked like and did not view themselves as fitting this description. One woman who was interviewed, for example, said she has never told anyone about her HIV status because she was still "fat and healthy," and therefore clearly not infected with HIV. Sometimes the denial is facilitated by friends and family members. In one case, an older brother told his sister that surely she could not be HIV-positive since her infant was still alive, and those who are infected always lose their children.

Among some women, continuing to practice unprotected sex and planning to have more children may have been a way to continue denying their HIV status or to deny that they could infect their children and/or partners (however, some women who were apparently not in denial also indicated that they planned to have additional children). Nearly half of the women said that they wanted to have more children. In one case a woman gave birth to four children after being diagnosed as HIV-positive. While in some cases the women were aware of the risk to their children, most seemed to deny the possibility that they could infect their infants with HIV.

2. Anger/Blaming Partner

Many of the women interviewed described their relationships with their husbands as volatile, especially following the HIV diagnosis. Most of the couples in which at least one member was HIV-positive continued living together, although a few couples were observed to break up, at least partly due to the knowledge of their serostatus. In a number of cases both the husband and the wife, upon learning of their serostatus, would strike out in anger and blame each other for transmitting the virus.

3. Worry/Fatalism

A majority of the women were primarily concerned about what would become of their children, particularly since both their income and savings were low. They were concerned about where the children would live, who would take care of them, and how they would survive. In most cases the women were particularly concerned about the children's future.

Fatalism refers to the response of some of the HIV-infected women in the study sample who comforted themselves with the thought that death is inevitable. One 34-year-old woman had been diagnosed in 1989 upon delivery of her ninth child. She was very surprised by the diagnosis, despite her long history of prostitution. After receiving the news, she stayed indoors by herself for several days awaiting death. When she became convinced that she was not to die immediately, she was able to overcome her sense of fatalism and proceed with her life.

4. Self Blame/Guilt/Shame

In some cases the women blame themselves for bringing the infection into the family and are often afraid to tell the husband the news for fear of recrimination and marital breakdown.

Mira, 22, who was diagnosed in 1989, never revealed her status to anyone until five years later, fearing that people would isolate her by refusing to mix with her, to visit her or

share meals with her. In another case a husband and wife, both HIV-positive, decided not to disclose their status to anyone, except the pastor of their church, for fear of gossip and isolation. They confided in their pastor, hoping to get his support. Instead, the news spread among the congregation and the couple was rejected and isolated. The other church members feared them, refused to shake hands with them or share meals with them at church. The couple finally withdrew their church membership.

Some women would hide their shame by blaming their infection on causes that were less stigmatising. In some cases the women blamed other sources, rather than sexual transmission, for their infection. In one case a woman attributed her infection to a tooth extraction, despite having had nine different male sexual partners.

IV. Categories of Support

From the surveys and case studies, it was possible not only to identify the women's reactions to their HIV status, but also the kind of support that is critical to the women and their families in order to cope with HIV/AIDS. The categories of support needed by these women, while not mutually exclusive, can be characterised as follows:

- Psychological support
- Social support
- Economic support
- Health education and information

A. Psychological Support

Psychological support in this context refers to help needed for a mother to cope psychologically with her HIV status. The in-depth interviews revealed that not all mothers understood clearly what being HIV-positive meant, indicating a need for enhanced pre-test and post-test HIV counselling. In some cases, women had not received adequate HIV counselling and were confused when told the results. Other women feared discussing their status with their spouse or

partner, and thus continued to have unprotected sex. The ability of families to provide a loving and supportive environment for the mother with HIV/AIDS could be enhanced by providing counselling and support to the family members.

B. Social Support

For some of the mothers, feelings of rejection and withdrawal indicated a need for social support. Those women who indicated that they had a support group, whether formed by family or friends, were better able to handle their status than those who reported that they felt isolated. Women who had confided in understanding and sympathetic family members felt that they could cope with their status and their future, as well as their children's future. The clinic at Pumwani Hospital provided a support function for some of the women who travelled from rural areas as well as from within Nairobi to visit the clinic, which provided counselling and advice and some very limited treatment.

C. Economic Support

The already low incomes of families in this sample were observed to be further compromised by the presence of their

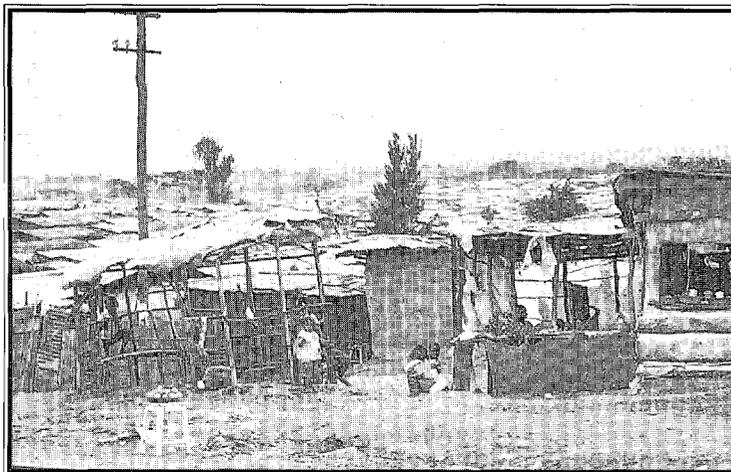


Photo: UNICEF

illness. Most women said that the basic needs for food, housing, children's education and medical expenses for themselves and their families were not being met. Since few mothers reported that they had any savings, a prevalent concern was their children's future. A number of women wanted to begin income-generating activities, but lacked the initial capital to do so. In many cases, members of the extended family (e.g., grandparents) were also affected by the illness because they depended on the primary caretakers of the family for economic support. Economic support is also a critical need for children whose parents are ill or deceased. The children's basic needs—school fees, uniforms, books, food and clothing—were not being met.

D. Health Education and Information

Lack of reliable information and the presence of misinformation explain some of the denial and doubt expressed by some of the women. Most women diagnosed as HIV-positive continued engaging in unprotected sex and having children. Some claimed not to have been told of their positive status and, unaware of the risks, continued their existing sexual patterns. Other women, while aware of their HIV status, did not fully understand that the infection could be transmitted to any children that might result from continued unprotected sexual activity. Still other women did not know how to obtain condoms, and were unaware how best to negotiate with their partners regarding condom use. While health education and information will not, in all cases, eliminate high-risk behaviour, it does appear that better information could positively affect some of these women.

V. Recommendations

The in-depth interviews with those women living with an HIV-positive diagnosis revealed that there needs to be improvements in the level and type of counselling offered within settings such as those in which the women were recruited, diagnosed, and given test results. The need for pre-

test and post-test counselling is significant as testing becomes more available for the purpose of screening and surveillance. The extensive experience of Kenya's Red Cross Society can be drawn upon to provide counselling, training and refresher courses. Such training could be extended to clergy and others involved mental organisations could be developed through existing structures such as churches, community groups, women's associations, agricultural extension groups and cooperatives.

The study also revealed the unique needs of rural women who have migrated to an urban centre. Whether these women choose to make their chief residence in the city or to move back and forth from their rural home, it appears that they do not have access to HIV/AIDS information, counselling services, or prevention programmes. Rural women could be targeted by governmental and nongovernmental organisations with AIDS information. Such a campaign could be achieved through peer education, appropriate media programs and existing community networks such as cooperatives, church groups, and women's associations.

To maintain the economic viability of the women and their families, it is proposed that programmes be instituted by governmental and non-governmental organisations offering income-generating activities for HIV-infected women. This would allow these women to support themselves and their children.

Finally, it is proposed that further research be conducted to identify more effective strategies for meeting family needs, including specifics on how the objectives outlined in this chapter could be met.

Case Study **Amina**

At the time of this interview, Amina, a 41-year-old divorced mother of three, was living on the outskirts of Nairobi. Her young adult children have been in her custody since 1975.

The first of two daughters in a female-headed household, Amina completed seven years of formal education and continued to pursue skills as a copy typist after her mother was unable to meet her education expenses. Amina's father was estranged from the marriage and did not offer any financial support, despite having a lucrative job. Amina then met her husband and almost immediately afterwards got married. The marriage was short-lived and marked by much turbulence and emotional abuse. The husband never showed any interest in child care, leaving Amina to take care of their three children with no formal employment.

Amina was quick to mention that she has lived a difficult life as the head of a household, not knowing where the next meal for her children would come. She survived on petty trade and sold sex in an effort to raise money for the rent and food along with their other necessities. As a result of these sexual encounters, Amina had three pregnancies that resulted in three abortions sought from a local female abortionist who charged KSh200 for the service.

As she reflects on her personal history in an effort to establish the source of her HIV infection, Amina was able to identify three possible sources. One possible source involved a history of multiple sexual partners and sexually transmitted diseases. The other two possible sources she identified were: 1) a blood transfusion in 1991 following a tubal ligation or 2) the three "backdoor" abortions from the local female abortionist, sometimes with unsterilised instruments. Amina recalls that the female abortionist recently died of an unknown illness that closely resembled AIDS, as she was very emaciated during her last days. However, from the above possibilities, Amina concluded that unprotected sex with multiple partners was the most plausible source of infection.

It was not until 1992 that Amina was tested and confirmed to be HIV-positive after presenting with frequent

body ailments, including a recurrent STD. Soon after being diagnosed, Amina received information and counselling from an AIDS hospice. Following this counselling, she refrained from further sexual activity to avoid infecting others.

Amina was a regular client in the AIDS hospice day care facility where she was able to receive treatment for the relief of her symptoms. At the time of her interview, Amina was seeking relief from persistent coughs that were accompanied by chest pains, vomiting and headaches. She also suffered from constant headaches and vaginal itchiness.

She depended on her children, especially her eldest daughter, who had a regular well-paying job to pay for her bus fare to and from the hospice. She had no alternative arrangements for treatment as she could not afford fees for service in any other medical facility.

Amina was not able to engage her relatives, including her only sister, in her struggle with AIDS. She feared the stigma associated with this illness, especially the idea that they might shun and despise her. She never disclosed the nature of the illness to her children either. They only knew that she was suffering from a devastating illness that caused her much grief. Although she was a regular worshiper in a local church community, she never discussed her agony with any of the clergy for fear of being branded an "evil" person. The common understanding among her church community is that AIDS is contracted by people with "loose morals."

Amina depended heavily on the hospice day care facility, where she could drop in any time without an appointment. Even when medication was not available, she still felt better spending time at the hospice rather than suffering alone at home. Although she felt that counselling alone was not sufficient since it could not help her meet her basic needs of purchasing food and paying rent, she still appreciated interacting with the counsellors, many of whom were also living with HIV/AIDS.

Amina struggled with her ailing health on a daily basis. She could not remember when she did not have to seek relief from symptoms in the last two years. She worried about her children, who she felt sympathised a lot with her when she was unwell. She often prayed that death would come soon in order to remove this burden from her children.

Amina died at home in early September 1994. Her daughter reported her death to the hospice facility.

Chapter 4

Another Song Begins: Children Orphaned by AIDS¹⁹

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I. Introduction

Leah's children are among the rapidly growing number of Kenyan children who will be orphaned by AIDS. UNICEF estimates that there will be 300,000 children under the age of 15 left orphaned by AIDS by the year 1996 in Kenya. If present trends continue, the number of AIDS orphans will increase to 600,000 by the year 2000 and reach nearly 1 million by the year 2005. Meanwhile AIDS is projected to raise child mortality by 75 percent over the next 10 years (see Chapter 2).

While the extended family in Kenya has traditionally taken in orphaned children, the traditional care structures are in-

¹⁹ This study was conducted with funding from the UNICEF Kenya Country Office. The Association of Physicians and Medical Workers for Social Responsibility (APMS), an affiliate of International Physicians for Prevention of Nuclear War (IPPNW), provided technical and administrative support. Logistical support was provided by the National AIDS/STD Control Programme.

Leah was diagnosed HIV-positive the year her

husband died. Today she is bed-ridden due to AIDS and confined within the four walls of her rented single room in Mombasa, which she shares with her five children. She fears for the future of her family.

"I could only plan for the children if I had property or someone to look after them...as you see I have no family and it is only me they have. Once I'm gone, another song begins for them."

creasingly burdened by the growing number of children needing care as the incidence of HIV infection and AIDS grows. In many cases, grandparents are caring for young children. In some cases, Kenyan families are headed by children as young as 10 to 12 years old. In yet other cases, the children are living completely outside of any family structure, either in orphanages or on the street.

The death of one or both parents from AIDS triggers a host of sociological, economic and psychological effects on the orphaned child. Orphans are vulnerable to a number of problems such as malnutrition due to scarcity of food or the weak position they occupy in the household distribution process. Their education inevitably suffers as they may be faced with heavy domestic responsibilities or lack the resources for school fees or to buy books and uniforms. They suffer the loss of physical and social security, as well as the lack of parental attention and supervision. Female orphans are particularly vulnerable to sexual exploitation and are at risk of contracting HIV and continuing the spread of infection. In some cases, male orphans are rejected by their kin while their sisters are viewed as more useful household resources.

The situation worsens when orphans are forced to live on the streets, where they are particularly vulnerable to being exploited. In a small study, the Undungu Society randomly tested for HIV 22 female street children in their early teens. More than a quarter of these teenagers tested HIV-positive. Furthermore, it was found that 21 of the 22 girls had more

than one STD, including gonorrhoea, syphilis, and candida. There were corresponding findings for boys.²⁰

While the social orientation of any orphaned child is always difficult and can have lasting and traumatic effects, the situation of the AIDS orphan presents its own unique set of problems. Given the stigma associated with AIDS, as well as the number of orphans likely to be affected, it is important to assess the particular needs of these children so that practical, effective intervention programmes can be developed and targeted toward the children.

II. Methodology

A four-month study, which included interviews with 128 orphans and 32 of their caretakers, was conducted in 1994 in: Kisumu, Busia, Kitui, and Mombasa²¹. These areas were selected based on their high seroprevalence levels, diversity of culture and their urban-rural balance. Kisumu has the highest rate of HIV/AIDS infection in the country, suggesting a high number of orphans in the province. Busia District, on the Kenya/Uganda border, also has high infection rates, with HIV transmission occurring predominantly within the rural environment (as opposed to other parts of the country, where the transmission pattern is still largely from urban to rural). The third site, Kitui, is a remote district in the Eastern province—a region periodically plagued by drought, hunger and famine. Finally, Mombasa, a tourist town in Coast province, is one of the enclaves of high HIV/AIDS infection, with the largest number of commercial sex workers in the country.

²⁰ Whiteside, Alan. "Kenya's Vulnerable Children," *AIDS Analysis Africa*, May/June 1993.

²¹ For a more detailed description of this study, see "Needs Assessment of Children Orphaned by AIDS," by Paul Saoko and Roselyn Mutemi, UNICEF, 1995.

III. Results

Though there were some socioeconomic differences among the orphans, most of the children studied lived in extreme poverty. AIDS, especially when combined with poverty, places great stress on traditional care structures, causing extreme adjustments in the households. The desire to assure the survival of the family is observed to be a major priority for the orphans, although economic factors are weighted heavily against this.²² The long-term effects of the pandemic are yet to be experienced, but the adaptability and strength of Kenya's families are a critical element in the survival of social networks.

A. Types of Orphans Caused by AIDS

This study identified 608 orphans in 152 households. These orphans were divided into three broad categories:

- Children who have lost their fathers (288 orphans)
- Children who have lost their mothers (240 orphans)
- Children who have no parents (80 orphans)

1. Children Who Have Lost Their Fathers to AIDS

HIV-infected fathers tend to become infected and die earlier than their spouses. When the father dies, the sense of social and physical security associated with male authority is gone. A female head-of-household often lacks the right to inherit property, and has only tenuous ties within the paternal kinship system. The mother has to divide her time and attention between meeting the family's basic needs and parenting. The orphans are frequently called upon to provide additional assistance in meeting household needs. In the rural areas, for example, the children work on other families' farms in order to meet their own household needs.

²² A similar conclusion was reached among families experiencing the stress of famine in Western Sudan. See Alex de Waal, *Famine that Kills*, 1989.

These households have already faced the burden of paying for medical treatment and care for the father, and must now deal with the loss of income that he provided. Following the father's death, new sources of income are needed, but any choice a woman and her children make carries a social and economic cost. Children who drop out of school are usually deprived of the long-term opportunity for wage employment. Households whose members work on the land of others usually receive a minimal income—in cash or in kind—which only covers immediate needs, with little or nothing for savings or investment. Thus, a spiral of poverty is established or reinforced.

In 13 of the 25 households where the father died, the widows came to the rural areas to bury their husbands and then returned to the urban areas when the funeral rites were over. These widows, if they were not previously formally employed, often engaged in petty trade and other services to sustain their households. In these cases they usually took all the children with them. Those children enrolled in school were still required to help with the trade and work in the house in the evening to make up for the loss of the father. For those not attending school, they worked full-time both inside and outside the home.

In some cases, the mothers most lacking in resources had to resort to socially unacceptable strategies—such as exchanging sex for money, brewing *changaa*²³ or trafficking smuggled goods—to survive and raise their children. In these cases, the children are left with their maternal grandparents while their mothers seek a livelihood in the urban areas.

In 12 of these 25 households where the father died, a widow left the family, primarily for economic reasons. When the mother comes from a monogamous relationship, the children who are left behind are, in most cases, left in the care of paternal grandparents. If the widow comes from a polygamous relationship, the children are often left in the care of the first wife, who is very likely to stay after her husband's death since she becomes the head of household.

²³ A locally brewed, potent and illegal alcoholic beverage.

The interviews with the children and their caretakers showed that when the mother leaves the children in the care of their grandparents, the quality of care deteriorates rapidly. Most of the third generation caretakers in the study were grandmothers who tended to live longer than their husbands. These women themselves often are extremely poor. When the orphans deem that the care from paternal grandparents is deficient, they will often attempt to seek refuge within their maternal kinship network, beginning with their maternal grandparents, if they are still alive, or their maternal uncles. The study interviews indicated that, in some cases, as these orphans grow up, their maternal uncles resent them since they view them as competitors for property rights (though the orphans are not traditionally entitled to their grandfathers' property).

2. Children Who Have Lost Their Mothers to AIDS

Of the 44 fathers who lost their wives to AIDS, 15 had already remarried at the time of the interview. Those fathers who did remarry did so almost immediately after burying their wives, explaining their decision as "care for the orphans." The orphaned children in these circumstances indicated that the household dynamics in their new families did not favour them, and they lacked their fathers' protection from their new stepmothers. The interviews revealed tense relationships in these households where the attention the children formerly obtained from their mothers was not replaced by their stepmothers. Sometimes the stepmothers were as young as the children they were supposed to care for, which often aggravated the household conflicts.

Most of the orphans affected by this relationship reported frequent beatings and "unbearable punishment." Some claimed that they were denied food or discriminated against in the eating arrangements, with the stepmother's own children receiving preferential treatment to the father's children in food distribution. Lack of protection by the father in such confrontations forced some of the orphans to seek refuge in the deceased mother's family.

Among the 44 fathers interviewed, 29 did not remarry. Most of the widowers who were not yet remarried were only recently bereaved and were still observing the period of mourning.²⁴ There are very few cases in which fathers decided to care for their children without ever remarrying. As the epidemic spreads, however, it may become more difficult for widowers to find partners, thus leaving the men to care for their children singlehandedly. If this occurs, it would represent a new phenomenon emerging and would be a significant departure from the traditional family life for most Kenyan men.

3. Children Who Have No Parents due to AIDS

Double orphans were found to face increasing difficulty in locating a secure place within the extended family network. The study findings indicate that even when the orphans have been fostered (within or outside of the extended family network), the household dynamics do not favour them. The decision by the extended family to foster orphans is not necessarily a matter of economics. In fact, the study found that most of the families that agreed to foster a child were living below the poverty line, whereas the wealthier relatives tended to maintain minimal links with the orphans. When these wealthier families offered help, it was from a distance.

The distribution of household resources largely excludes orphans who lose both parents, while at the same time many households rely on the labour of the orphans to generate income. Most of the children in this category reported that they ate less than the rest of the family members or ate in the kitchen after everybody else had finished.

The study found that a majority of the orphans who could not be fostered by the extended family preferred to remain in their own household, even without any adult supervision. In these cases, the oldest child tends to assume the role

²⁴ In Western Kenya, remarriage of a widow or widower takes place between six months and one year, when all the cultural rites due to the departed have been observed. However, sexual activity can go on despite the cultural restraints against marriage.

Judith

Judith, age 17, lost her mother to AIDS four years ago. Her father died two years later leaving Judith and five siblings behind. During the period of mourning after her father's death, relatives seized their household property, including bedding, utensils, furniture and other household goods. The children then moved into their paternal grandmother's house. Life with the grandmother was difficult and Judith's brother, Ben, 16, decided to go to his maternal grandmother where life proved to be just as harsh. Food was scarce. He worked on the farm from 6 am to 4 pm eating only boiled cassava and water at night. Ben also found employment as a herdsman earning KSh100 per month, which he shared with the two grandmothers.

Judith had left school in Form 3, the year her mother died. She left for Mombasa to look for ways of survival when she realised that the family was faced with starvation. She stayed briefly with a female friend who threw her out, and then served as a "maid" in a *changaa* brewing and drinking den, providing sex to the *changaa*-drinking customers. There she met a man and moved in with him for a while. But when she got pregnant he threw her out. Since Judith's father had worked for a government ministry in Mombasa, she was able to move into their former house in the government quarters. Here Judith brewed *changaa* and began saving money to bring her siblings to Mombasa.

Judith's 11-year-old sister, Caroline, was taken away by her uncle to Kisumu to be "pawned" as a house girl for KSh350/month. Her pay was remitted to the uncle for eight months. Her employer mistreated her, beating her for minor mistakes. She would eat only leftovers after everyone else had eaten. Her clothes were sewn from discarded rags. One day she was sent to the kiosk with KSh500 to buy goods. Instead she took off to Mombasa to look for Judith.

Today Judith no longer brews *changaa*, but retails it when times are bad. She cares for her two-year-old baby girl in addition to her five siblings. With a small loan from the Kenya Catholic Secretariat (KCS) in Mombasa, she runs a small food kiosk. She would like her siblings to resume their schooling and has asked the secretariat for help. Her biggest challenge is bringing up her adolescent younger sisters in

Mombasa. She doesn't feel adequately prepared for that role.

The sisters sleep on pieces of carton spread on the bedroom floor while the two boys sleep on a tattered reed mat in the sitting room. They use a kerosene lamp for light and cook with firewood and charcoal, eating mostly leftovers from the food kiosk.

Judith hopes to receive her father's terminal benefits, but processing the paper work is taking a long time and requires money to bribe the registry clerks. She was recently served with an eviction notice as their house has been allocated to another government employee. They have no land since what they could have inherited has been taken by their father's brother.

Though Judith understands that her parents died from AIDS, her brother is convinced that their father died from *chira*—a disease befalling those who break a taboo—since he did not fulfill the last rituals for his dead wife. Ben worries that catastrophe might befall them.

of the head of household, regardless of gender. Female children tended to assume their mothers' role of nurturing the other children from a very early age. When there is little food to go around, they are the last ones to eat, just as their mothers would have done. The running of the household was often left to the young girls.

These young girls grow up without parental assistance and gain most of their sexual education from their peers, who usually are themselves uninformed. Most of the orphaned girls who head households also have children of their own. With the loss of paternal attention, they seek emotional support from men and are particularly vulnerable to sexual exploitation. They tend to initiate sexual activity earlier than girls who have parental guidance and support. While some of them would like to be married, they face greater obstacles than their peers since it is difficult to find a husband willing to assume responsibility for their orphaned siblings.

In the situation where the male child becomes the head of the household, he usually views his role as authoritarian and

often seeks to enforce his leadership physically. He engages in income-generating activities to sustain the household, but generally avoids any "female" duties, such as household food processing, if his sisters are old enough to assume these responsibilities.

Among the hardest hit of these parentless orphans are children born to single mothers, especially those born to commercial sex workers. When the mother dies, the

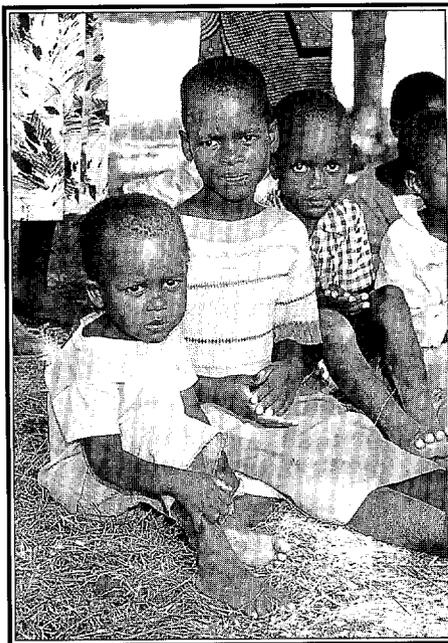


Photo: UNICEF

children suffer even greater psychological trauma. Most of these orphans born to single mothers were living with their grandparents in extreme poverty and were not attending school. What happens to these children when the grandparents die is unknown, but it is clear that they are at great risk of being neglected and will probably face hostility. They are not entitled to inherit land since this is determined through marriage. A girl child might be taken in by other family members due to the value of her labour in the household and also in the hope that she will eventually marry, thus providing resources in terms of a bride price.

In one of the study sites it was observed that orphaned daughters of single mothers were going to the nearest trading centers where they were picked up by older men for a fee. Most of these girls were between 12 and 16 years of age. In some of the observed cases, the grandparents and the entire family depended on this income for daily subsistence.

B. Types of Caretakers Fostering Orphans

In most Kenyan communities, the concept of “adoption” does not exist in the Western sense. Orphans are fostered to prevent the complete dissolution of their father’s household—the basic unit of the kinship network system. In Kenya, each household is invaluable to the clan system and must therefore be preserved. Although the desire to survive as a family is strong, prevailing economic and social circumstances have led to separation of some orphans.

Of the 152 households studied, four broad categories of households with orphans were defined:

1. Foster families: Children who are fostered generally remain within the extended family network, and are fostered by a paternal aunt or uncle. (98 households)
2. Third generation caretakers: This refers to grandparents who take care of primarily parentless orphans and children who have lost their mothers. (41 households)
3. Orphan-headed households: When fostering is not possible, orphans are often left to survive on their own. This forces the young prematurely into an adult life, full of responsibilities. The study revealed that 13 percent of female orphans were themselves teen-age mothers. In this subcategory of orphan-headed households, the female orphan becomes responsible not only for her siblings, but also for her own children (see case study of Judith). (11 households)
4. Households employing orphans: Some of the households in the study had employed “pawned” orphans as house girls. Pawning is a practice whereby the relatives of female orphans receive remunerations for these girls from those employing them as house girls. (2 households)

C. Needs of the Orphans

It is clear that most children orphaned by AIDS are vulnerable to physical and emotional deprivation. Frequently they are without adult caretakers to provide nurturing, social education, and access to social services.

1. Physical Needs

Food was the most important need for orphans mentioned by both the children and their caretakers during the interviews for this study. Orphans were found to be vulnerable to malnutrition due to either scarcity of food or the weak position they occupy in the household. The problem was exacerbated by the drought and famine in 1993, during which these children were among those least able to meet their food needs.

The second need observed by the orphans was shelter. Most of the orphans in the urban areas lived in slum-like dwellings. A number of the urban children were homeless and living on the streets. For the rural dwellers, shelter was in some cases a makeshift hut constructed for cultural purposes (such as for placing corpses before burial). Often the children have neither the resources, the skills, nor the cultural authority within the family network required to rehabilitate these huts. Some of the children were living in half-finished houses which their parents had not been able to complete before they died.

Next, most of the children observed in the study needed a change of clothes. For some the only change of clothes they had were school uniforms, though these often had holes in them. Some children were unable to go to school because they did not have shorts or shirts to adequately cover their bodies. In one case, a seven-year-old boy living with his elderly grandmother was excused from paying the school fees by the headmaster, but still could not go to school because he had no clothes to wear.

Finally, most of the children needed proper bedding. Some slept on cartons and reed mats. Blankets were inadequate, with as many as three children sharing one thin blanket in some cases. Most of the blankets observed were old and tattered, and the children did not know where they could find another one. Some children used clothes as bedding, usually left from their dead parents. There was one case of two male children, ages 10 and 12, sharing a bed with their octogenarian grandmother, a culturally unacceptable practice under normal circumstances.

Nduku

Nduku (15 years old) sits on the mortar with a hand on each cheek, her head almost on her lap. Though she occasionally assists her grandmother with weaving *Kiondos*—a traditional basket used for domestic packaging and for sale as beauty handbags—she is disturbed but tries to deny it. “I’m not worried of anything, but sometimes I miss my mother very much.” Later she confesses that she is worried about the next meal for her family.

Nduku’s mother—a primary school teacher and a single mother of nine children—died in 1993. Nduku bitterly denies the rumours that her mother died of AIDS, and admits to having fought with other children to defend her mother’s dignity.

The children were left in the custody of their elderly grandparents (70 and 78 years old). The grandfather is blind and has to be led everywhere. The grandmother admits that she is unable to effectively supervise the development of the children. Although they cultivate the small piece of land in the absence of their maternal uncle, they are worried about his return as the land belongs to him.

Nduku, her sisters Mukulu (10 years old) and Leah (12 years old) go to Kitui town in the evenings where they are picked up by men for sex and paid in cash or in-kind. “This is survival,” says Nduku. “When one of us is picked, at least there might be something for the family to eat. At times some bad people refuse to pay.”

Nduku’s grandmother feels powerless to control events surrounding their lives. They all sleep in a small, grass-thatched hut. A mat on the rough soil floor serves as bedding. The elder three girls are hardly ever there at night.

Rumours about their mother’s death made the church members refrain from visiting the children. Their grandfather is worried that the priest might not come to bury him because of the rumours.

2. Legal, Social, and Emotional Needs

Land and property rights were found to be a major issue for both widows and orphans. The study found that some

widows and orphans have been deprived of household property. In some cases the husband's family members were involved in disputes with the bereaved family over the property of the deceased. Some of the families in the study reported they were already having land problems or were anticipating being denied their rightful share. Some relatives were taking in orphans to entitle them to land claims. These self-appointed trustees ended up either taking the children's land or manipulating land boundaries to favour themselves.

Land and property are often used to pay off debts incurred during AIDS-related illness and death. By the time both of the parents die, most of the family resources are depleted and the family might be heavily in debt for hospital bills and funeral costs. In the rural areas, any animals or land will go to pay these debts. In the urban areas, houses are at risk of being auctioned due to default on the mortgage payment.

Frequently children who become ill do not receive medical attention, since they cannot afford the fees in dispensaries or for consultations. Prescription medicines often are unavailable, either because they were not in stock or were too costly through the private sector. Malaria and typhoid were found to be endemic in the study population. The treatment for these diseases was beyond the reach of the orphans.

Most of the orphaned children interviewed lacked time for their personal friendships, with many orphans having lost their friends due to the demands on their time. The study did show, however, that the orphans' peers appeared to be accepting of the orphans and did not stigmatise them due to their parents illness and death.

Most of the orphaned children needed to come to terms with the new reality of being orphans. They strongly felt the loss of parental emotional attention, as well as the loss of physical and social security. Acceptability within the fostering household was also noted to be a significant problem, exemplified by the biased distribution of household resources. Also mentioned was an unfavourable division of labour within the fostering households and preferential treatment for biological children.

Where the children lost both parents, the orphan-headed households were ill-equipped to provide proper guidance

Martina

In a ten-foot square grass hut in a village in Busia, a widow is trying to raise her adolescent girls. Martina's husband died of AIDS in 1993 leaving her with six children. Her husband, the sole breadwinner in the family, was based in Mombasa. The hut in which Martina is living 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 the brothers-in-law should inherit her husband's clothes, she knew she would need them for her children.

Two of Martina's children have dropped out of school as she cannot afford the school fees. Justus, age ten, and Joel, age seven, still go to school but will soon have to leave as well. Sometimes the children go to school hungry and their uniforms are falling apart. The children sleep on old sacks with nothing to cover them so they frequently seek refuge in their boyfriends' 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 her daughters' predicament to their lack of proper 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 entire family," she says. "I know that the children's interest will not be taken care of and I cannot do anything about it since I'm poor."

for the younger siblings and some complained of having difficulties disciplining their siblings. They are expected to provide love and care which they themselves still need. The adolescent girls are particularly in need of parental guidance and tend to use sex as a psychological coping mechanism.

The death of one or both parents resulted in a range of emotional problems, including low self-esteem and self-pity. Some children were still grieving secretly and consequently had socialisation problems. Some of the girls preferred not to marry because of their heavy responsibilities in the house-

hold and the fear that men would not accept a bride who would move in with her siblings.

Educational needs expressed by the children and others interviewed in the study include books, school fees, uniforms, shoes, writing pens, building funds and school trip funds. Some of the children who are burdened with heavy domestic responsibilities indicated that they need relief from these activities so that they can concentrate on their studies. Of the 441 orphans of school-going age identified in this study, 54 percent had already dropped out. Interviews with caretakers indicated that only 5 percent of orphans were expected to complete Form four.

IV. Conclusions

“I would rather die of AIDS five to ten years from now than starve today.”

This statement by a 16-year-old child orphaned by AIDS who has turned to commercial sex work illustrates the dire situation of most orphans and their desperate coping mechanisms. Although close to one million children may be orphaned by AIDS in Kenya by the year 2005, significant intervention programmes are yet to be mounted to address the growing problem. Janet Odoul of the Society of Child Welfare of Kenya stated that neither orphanages nor foster homes were willing to accept Kenyan children orphaned by AIDS, whether or not they were HIV-positive.²⁵

Those currently involved in orphan care—both within and outside the extended family network—have severely limited resources and are currently overwhelmed by the numbers of children in need. Traditional orphan care structures within the extended family network are already showing signs of being stretched too thin. Numerous studies of orphans in

²⁵ UNICEF. *AIDS and Orphans in Africa*. Report on a Meeting about AIDS and Orphans in Africa, Florence, June 14/15, 1991.

East Africa have similarly concluded that the extended families are the best caretakers, yet are at the same time under extreme stress and are greatly in need of outside assistance^{26,27,28,29}. Combined efforts and resources from the Kenyan government, non-governmental organisations and donors are urgently required to provide long-term solutions to this looming problem.

Access to health care for the orphans in this study was shown to be minimal or nonexistent. As was shown in Chapter 2, the recent achievements in bringing down the country's under five mortality rate are expected to be reversed by AIDS, with child mortality being 75 percent higher in the presence of AIDS relative to a scenario where AIDS was not present.

Education is another significant problem. Only about 5 percent of the orphans had hopes of completing a minimal level of education. The implication is that within 10 years, AIDS will leave one million orphans in its wake, many of whom will be uneducated, poor, unsocialised, and in some cases, homeless. Thus, while Kenya is losing skilled labour through AIDS-related deaths, the formal education system is not providing education to hundreds of thousands of children who could provide the skills for the future.

In some parts of the study areas, fostering families were incapable of coping with their own needs. Most of the caretakers spent 90 percent of their time generating food, which was hardly enough for their own families. The extended family was, therefore, incapable of meeting the health needs of the orphans, as they competed with the needs of the caretakers and the immediate families.

²⁶ Preble, E.A. "Impact of HIV/AIDS on African Children," *Social Science Medicine*, Vol. 31, No. 6, pp. 671-680, 1990.

²⁷ Hunter, Susan. "Orphans as a Window on the AIDS Epidemic in Sub-Saharan Africa: Initial Results and Implications of a Study in Uganda," *Social Science Medicine*, 31, No 6, pp. 681-690, 1990.

²⁸ Valleroy, L., Jeffrey Harris, Peter O. Way. "The Consequence of HIV/AIDS in Eastern Africa on Mothers, Children, and Orphans," *Population and Environment*, Vol. 14, Number 3, January 1993.

²⁹ Rutayuga, John. "Assistance to AIDS Orphans with the Family/Kinship System and Local Institutions: A Program for East Africa," *AIDS Education and Prevention*, Supplement, 57-68, Fall, 1992.

The care of orphans is likely to generate debate in terms of the quality of care in the existing institutional and non-institutional care structures. The extended family network generally has responded to the best of its ability while under severe economic pressures. But if the extended family network is to provide adequate care for the orphans, its economic and psychological capacity must be strengthened. Any interventions in orphan care must take into account the cultural environment of the extended family. In the case where the extended family network has virtually ceased to exist, institutional care such as orphanages may also be necessary.

Some communities have recognised the need and responded by forming their own support groups, such as the Samia Community Project for Orphans and Patients in Busia district. Initiated by seven women who "as mothers, noticed the suffering of children having been left behind by their parents who fell victims of the deadly virus," this group is using its own resources to help meet the domestic and educational needs of orphans in the community. Groups like this require financial support and would be effective entry points for broad-based interventions to address the needs of orphans. In addition, some existing women's groups are attempting to incorporate the needs of orphans into their programmes.

IV. Recommendations

Orphans in Kenya need both immediate and long-term assistance. The high HIV infection rates already existing in the country will result in hundreds of thousands of orphans over the next several years. HIV/AIDS prevention remains the most critical recommendation in reducing the potential number of orphans. Efforts need to be taken to assure that individuals within the family can avoid infection.

A number of programme and policy responses can help mitigate the impact of AIDS on these children and the social and institutional networks in which they live. Assuring the basic necessities of life is the most immediately compelling problem. Kenya's long history of community and social service support provides a basis for considering options for

addressing the food, housing and medical needs of orphans. Primary school feeding programmes, for example, can be targeted to orphans. Other pupils can be asked to sponsor orphaned children in difficult circumstances, thereby subsidising some of the costs. The Ministry of Education subsidies for low-income students might be expanded and targeted to include children orphaned by AIDS. Peer support within the educational system is another option for reducing discrimination and strengthening the emotional needs of orphans. Likewise, means to assure easy and ready access to medical facilities for AIDS orphans can be considered.

A national task force needs to be formed immediately to design and implement intervention programmes for orphans. This task force would include organisations that are involved with the orphans at the grass-roots level (e.g., NGOs or church-related groups), government agencies (e.g., Office of the President and Central Bureau of Statistics), and various multilateral and bilateral donor agencies.

Property rights of widows and orphans need to be strengthened. Females need to be able to inherit wealth like their male counterparts. Women's advocacy groups need to work closely in reviewing laws relating to women in Kenya to assure that the death of the father does not result in the impoverishment and disintegration of the family.

An enumeration survey of all orphans needs to be carried out to quantify the number of orphans in Kenya, as well as to determine the amount of resources needed to assist them and the most appropriate mechanisms for obtaining these resources. Community-based financial support models need to be developed and implemented. Grass-roots NGOs, and international donor organizations could be involved in this effort.

Female orphans need specialised counselling and support, in addition to assistance with basic survival needs, to help reduce their vulnerability to sexual exploitation. Counselling and basic levels of support could be facilitated by NGOs, women's lobby groups like the International Federation of Women Lawyers, and those donor agencies concerned with women and children.

More research is needed to better understand orphans' survival mechanisms and how families can best manage orphan care. NASCP and partner agencies with a history of working with children, as well as international and national religious agencies, need to promote this effort.

The Public Health Act needs to be reviewed with the objective of minimising the social stigma of AIDS. Informed health workers have an important role to play in fostering community understanding of AIDS and acceptance of PWAs.

Chapter 5

The Direct and Indirect Costs of HIV/AIDS

By Charlotte Leighton

Abt Associates, Inc.

I. Description and Purpose of the Study

HIV/AIDS will be costly to Kenya's health care system, and is likely to severely affect the country's ability to produce goods and services. This study provides a preliminary effort to examine the economic costs of AIDS treatment, as well as to review possible economic impacts at the sectoral, urban-rural, and household level.³⁰

This study estimates the economic impact of both increased expenditures on health care and production loss due to HIV/AIDS over a 20-year projection period (1990-2010). These two components—health care treatment costs and production loss—are standard elements in assessing the economic impact of disease and are often referred to as the direct and indirect costs.³¹ The findings are intended to be used as il-

³⁰ This is an abbreviated version of a more comprehensive study funded by AIDSCAP/FHI and USAID entitled "Economic and Social Impacts of the HIV/AIDS Epidemic in African and Asian Settings: Case Studies of Kenya and Thailand," Abt Associates, Inc., July, 1993.

³¹ Rice, Dorothy. "Estimating the Cost of Illness," *American Journal of Public Health* 56, 1967.

This study has illustrated the effects that HIV/AIDS could have on economic well-being in Kenya. Regardless of the exact magnitude of impact, it is clear that each major sector of the economy will produce less, and households affected by AIDS will be seriously impoverished. These effects are serious for agriculture, industry and for the service sector. They are serious for the lowest income rural farm households and for upper-income urban families.

lustrative of possible economic impacts of HIV/AIDS in certain contexts over this time period, rather than “predictive.” It is important to note that this study estimates the economic impacts of HIV/AIDS, assuming no significant increase in interventions to prevent or control its transmission.

In this study, the indirect costs of production loss are measured by lost workdays due to increased morbidity during the “pre-AIDS” phase and to morbidity and mortality for persons with full-blown AIDS. Lost workdays are valued at average wage levels and projected using a spreadsheet estimating model. Estimates include production loss for workers with HIV and AIDS, as well as for their caretakers. Health care costs include treatment, but not prevention costs. All data inputs to the calculations of economic impact are from various official and published secondary sources.

The analysis includes high and low estimates of the direct and indirect cost impacts and compares these with estimates of the economic situation as it would be if AIDS did not exist. High and low estimates are based on variations in wage growth rates, assuming historical variations, and varied assumptions about health care use. For example, high estimates assume high wage rate growth and heavier use of expensive health services, like hospitalisation. The baseline economic situation without AIDS is projected at constant historical rates of growth.

Several other studies have estimated the economic impact of HIV/AIDS in developing countries. The most prominent of these have estimated HIV/AIDS costs with macroeconomic models using algebraic equations that simulate ag-

gregate economic production and growth (see Chapter 7). In contrast, this analysis focuses on production loss at the sectoral rather than the macroeconomic level, using the three standard sectoral categories for which data is generally available: agriculture, industry, and service.³² This study attempts to estimate sectoral, urban-rural, men-women, and household economic impacts. The methodology permits analysis of the socioeconomic impact of HIV/AIDS for different population groups. It also permits a comparison between sectors and at the household level, which helps reveal impacts that averages and highly aggregated data often mask.

II. Economic Impacts

A. Health Care Costs

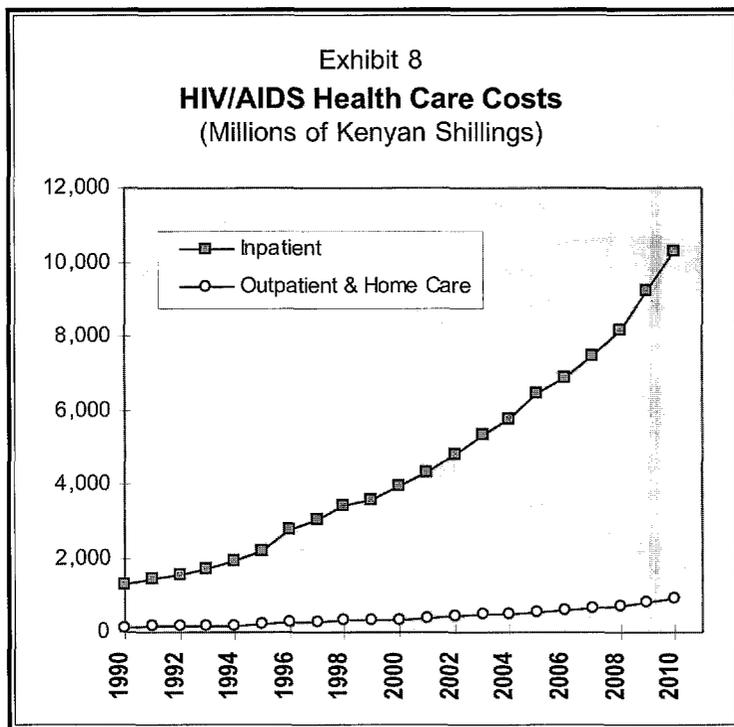
This study estimated the costs for HIV/AIDS treatment for inpatient and outpatient care in the public, private and mission health centres, as well as estimating the costs of home-based care³³. Total annual health care treatment costs

³² "Agriculture" includes forestry, hunting, fishing, and animal husbandry, as well as general agriculture. "Industry" covers manufacturing, mining, construction, and utilities (electricity, water and gas). "Services" includes all other branches of economic activity, such as restaurants, transportation, banking, commerce, and government.

³³ Based on the best available information about the HIV and AIDS morbidity and treatment patterns in Kenya, the study assumed a specific number of sick days in the last year of life with full-blown AIDS and distributed these days among inpatient hospital care, outpatient visits only, and home-based care. Fewer sick days and less use of facility-based health care are included for the period of HIV infection leading up to full-blown AIDS (on average 7.3 years for adults; 1-3 years for infants and children).

In the absence of specific data for public and private sector utilisation in Kenya, the study distributed use of HIV/AIDS inpatient and outpatient health services to the public and private sectors according to available information on their share of total health facilities (70 percent government, 20 percent for-profit private, 10 percent mission).

The high estimates of health care costs assume 75 percent utilisation in each of the inpatient and outpatient categories; that is, 75 percent of the sick days requiring inpatient care, or an outpatient visit, are in fact spent in such care. The low health care cost estimates assume 25 percent utilisation. Little solid data are available to measure utilisation in relation to need in Kenya.



Note: High Estimate

for persons with HIV and AIDS of all age groups grow eight-fold from KSh1.4 billion in 1990 to KSh11.2 billion in 2010 under the high estimate, and from KSh480 million in 1990 to KSh3.7 billion in 2010 under the low estimate.

Exhibit 8 shows the growth and composition of these treatment costs over the projection period under the high estimates. More than 90 percent of health care costs are incurred for inpatient care, with the remaining costs covering outpatient and home-based care.

Assuming that the current distribution of utilisation between the public and private sectors remains unchanged, use of private sector health services accounts for 68 percent of HIV/AIDS health care costs across the projection period. Estimated total costs of HIV/AIDS care in private sector for-profit and mission health facilities are more than twice as high as total public sector costs, even though only 30 percent

of HIV/AIDS patients would use private sector facilities. The higher unit costs in the private for-profit sector outweigh the lower proportion of patients treated. For example, according to data available for this study, the average cost per inpatient day in private for-profit hospitals in Kenya (KSh1,653) is about seven times higher than costs in public sector hospitals (KSh235). Average inpatient day costs in mission facilities (KSh281) are only about 20 percent higher than public sector costs. Some of the reasons for higher private sector unit costs in Kenya are more and better supplies and equipment, better drug availability, higher salaries for health workers, lower occupancy rates, and newer facilities than in the public sector.

This analysis suggests that the burden of inpatient hospital stays could be overwhelming. Some hospitals in Kenya estimate that patients with AIDS occupy more than 50 percent of their available hospital beds. By 2010, under the high assumptions, the demand for HIV/AIDS hospital days would represent 185 percent of MOH inpatient capacity. In other words, there could be nearly twice as many patients with AIDS over the next 15 years as there are hospital beds. Even if only 25 percent of patients receive the inpatient care they require, patients with AIDS would still occupy over 60 percent of all available hospital beds in 15 years. HIV/AIDS patient visits to MOH facilities on an outpatient basis would grow from an estimated 3 percent of all MOH outpatient visits in 1990 to 10 percent in 2005 and 15 percent by 2010.



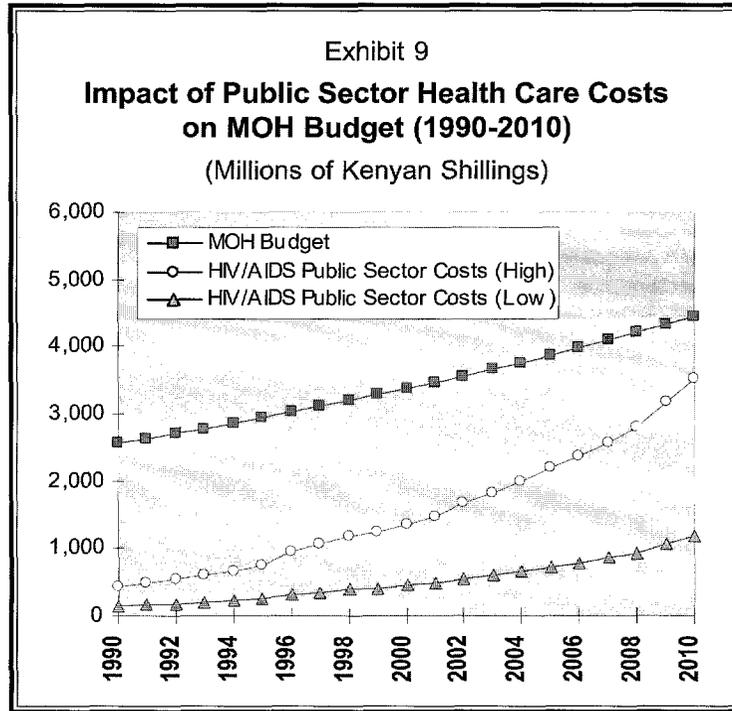
Photo: UNICEF

It is important to note that the main variable in the high and low estimates of health costs in this study, different rates of use of health facilities, is one of the key variables in current policy considerations about treatment for HIV/AIDS in many developing countries. This consideration is particularly relevant in Kenya's case given that the public health system is already at capacity, with many hospitals overcrowded and beds frequently double-occupied. Because the MOH budget has not kept pace with population growth or renovation needs, the capacity of the health system is already strained.

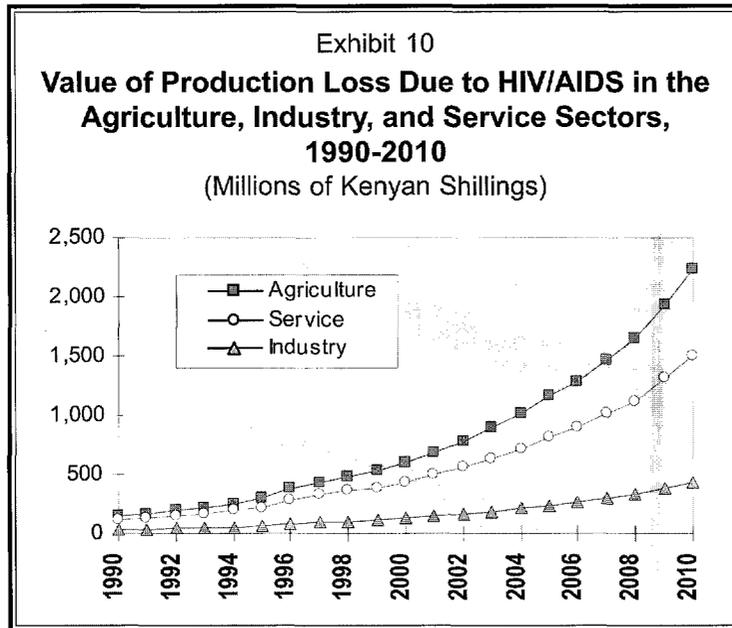
MOH budget expenditures have not grown in real terms on average over the past five years. Under an optimistic assumption that the health budget keeps pace with inflation and population growth over the 20-year period covered by this study, the cost of meeting the high estimate of the demand for HIV/AIDS treatment in the public sector would grow from an estimated 17 percent of the health budget in 1990 to 79 percent in 2010.

Exhibit 9 illustrates this relationship, showing the MOH budget growing at a rate to cover inflation and population growth in relation to the cost of meeting growing demand for HIV/AIDS treatment in the public sector.

Estimates of total current for-profit sector health costs in Kenya are not available. Assuming that private for-profit sector costs are 20 percent of total health sector costs (i.e., in the same proportion as their share of total health facilities) and are seven times higher than the government sector's costs as unit cost differences indicate, they would amount to KSh2.5 billion in 1990. Meeting 75 percent of the demand for private sector HIV/AIDS treatment at a cost of KSh880 million would then represent 35 percent of this estimated 1990 total private sector health cost. The share absorbed by HIV/AIDS would rise to 161 percent by 2010 under the high estimates, and 53 percent under the low estimates, assuming that private sector costs increase to cover inflation as well as population growth. The burden on private sector capacity could be about twice as great as on public sector capacity, if the current distribution of public-private sector use remains the same.



It is important to note that the HIV/AIDS health cost estimates reported here do not include any growth for technology change or use of more expensive medications to treat HIV and AIDS-related illnesses. A reasonable basis for making such assumptions is not available. The growth in health costs that these estimates reflect are real cost increases, in constant 1990 currency values, due entirely to the increase in HIV and AIDS-related illness, under two assumptions about health facility utilisation. Any change in technology, in utilisation for other illnesses, or other health system changes that would increase unit health costs in general would also add to these estimated average HIV/AIDS treatment costs.



Note: High Estimate

B. Sectoral Impacts: Agriculture, Industry, and Service Sectors

Estimates for this study indicate that HIV/AIDS will cause the highest total production loss in agriculture. Under the high estimates, for example, the value of lost production in agriculture in 1995 (KSh296 million) is one-third higher than losses in the service sector (KSh222 million) and 4.5 times higher than industry's losses (KSh66 million). By 2010 the agriculture sector loss (KSh2.2 billion) is 15 percent higher than the combined industry and service sector losses (KSh1.9 billion).

Exhibit 10 shows the distribution of these costs under the high estimates by sector over the 20-year period.

This exhibit shows that agriculture suffers the highest percent loss in production due to HIV/AIDS. In 1990 agriculture production loss due to HIV/AIDS represents 0.3 percent of the total value of production and rises to 1.7 percent under the low estimate and 2.4 percent under the high esti-

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mate by 2010. The value of lost production in the service and industry sectors remains less than 1 percent each year over the whole projection period. In aggregate terms, under the high estimates, the losses in each of these three sectors will have quadrupled between 1990 and the year 2000; the will be 13 to 15 times higher, depending on the sector, in 2010, compared with 1990.

The impact of HIV/AIDS on sectoral production can also be measured by the effects of the epidemic on each sector's overall labour capacity. The total number of workdays lost due to HIV/AIDS in any given year can be translated into "person years" to reflect the equivalent of numbers of full-time workers.

Using this measure, the loss in workdays due to HIV/AIDS in agriculture translates into a loss of 45,000 person years in 1990, 127,000 in 2000, and 329,000 (2.1 percent of total agriculture person years) in 2010. The service sector suffers a loss of 43,000 person years in the year 2010, representing 2 percent of the 2.1 million total person years in service in that year. The combined loss of person years in industry and service represents 1.6 percent of urban employed person years in 2000, and 3.1 percent in 2010.

Losses in 2010 of 2 to 3 percent of total person years in the agriculture and urban industry and service labour forces are relatively small. They represent only one-fifth of the official unemployment level, which has been approximately 15 percent in recent years. HIV/AIDS related employment "vacancies" at these levels could thus, in principle, be filled by the unemployed and thereby substantially minimise actual production lost.

The work years lost increases over the 20-year period at an average annual rate of 10 percent in each of the sectors. The cumulative loss of person years is thus substantial and would require a sizeable continuous annual effort to replace the lost labour, increase labour productivity, or make other adjustments to labour's role, especially in the leading growth sectors in urban areas.

It is important to note some of the reasons for the higher losses in agriculture relative to the other sectors. As Chapter 2 indicated, HIV prevalence rates are lower in rural areas

than in urban. However, since 85 percent of the labour force works in agriculture, this lower rate still produces a much greater number of affected individuals than the higher urban prevalence rates. The lower value of each agricultural worker's production, compared with earnings for industry and service sector workers, is more than offset by the much larger proportion of the population engaged in agriculture.

In addition, the larger impact within agriculture than in other sectors as measured by the percent of sectoral production lost is due, in part, to the larger share of total agriculture production that workers' earnings represent, especially in family-owned, small-farm agriculture. In the industry and service sectors, wages/earnings represent only 44 percent of total production value in Kenya³⁴, compared with nearly 100 percent in agriculture. Since this study's main measure of lost production is wages, the relationship between wages and total production value directly affects the impact that lost workdays would have in relation to total sectoral production value.

It is also important to note the inverse of the high impact in agriculture: that is, losses in industry and service sectors are, together, roughly equal to the loss in agriculture over the 20-year projection period. This effect occurs even though only 10 percent of employed workers are engaged in industry and service sectors, because their wages substantially exceed the value of labour in agriculture. Average wages in the service sector (KSh152/day) and in industry (KSh136/day) are about seven times higher than the estimated value of one day's labour in small-farm agriculture (KSh20).

In addition, a higher percentage of workers in the industry and service sectors is affected because they are predominantly located in urban areas, where HIV/AIDS prevalence rates are highest. This higher percentage produces a greater number of affected industrial and service workers than their share of all employed workers in Kenya implies.

These dynamics of the economic impact of HIV/AIDS demonstrate the importance of performing actual calculations

³⁴ World Bank. *World Development Report*. Oxford: Oxford University Press, 1992.

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to estimate the effects. For example, they show that the overall economic impact of HIV/AIDS for a given economic sector or occupational category, such as agricultural or industrial workers, cannot be easily predicted from the sector's or occupation's relative contribution to the macroeconomy. The economic impacts of HIV/AIDS are at least as sensitive to the numbers of workers in the sector and the prevalence of HIV/AIDS among those engaged in the sector as they are to the value of that activity to the economy. Because all these factors combine in different ways in each national economy, general estimates must be made carefully.

Thus the agricultural sector, which produced 28 percent of GDP value in 1990, represents 49 percent of the total value of production loss from HIV/AIDS in 1990 and 53 percent by 2010 under the high estimates. The service sector shows the reverse relationship: it produced 51 percent of 1990 GDP, but represents 39 percent of the production loss due to AIDS in 1990. Industry represents 21 percent of GDP but only about 12 percent of the AIDS lost production throughout the 20-year period.

C. Household Impact

This section constructs a simple typology of urban and rural households to illustrate the possible effects of HIV/AIDS on family income. In the typology, household size, specifically the number of formal and informal sector workers per household, is intended to reflect a typical composition. For simplicity and comparability, each household is assumed to have the same number of workers, but at different levels of earnings. Earnings are based on economic survey data for Kenya and on the average sectoral wage levels used for this study's other economic estimates.

The typology illustrates the effect of one adult (the husband) dying in year one, followed by a second adult (the wife) and an infant in the following year. The typology focuses only on the year of AIDS death, without consideration of cost incurred during prior years of HIV infection. The typology assumes that only the upper-income urban household uses private sector health care, paying fees equal to 100

Table 1			
Impact of AIDS on Urban and Rural Household Income			
Households with 3 Adult Earners			
	<u>URBAN</u>		<u>RURAL</u>
	Upper	Middle	Small farm
Year One:			
First Adult AIDS Death			
Household Income (KSh)	440,000	100,000	14,000
MINUS			
Earnings Loss	209,200	44,600	6,200
Health Care Costs	80,300	4,760	4,760
NET IMPACT:			
Percent of Income Lost	66%	49%	78%
(Low estimate)	54%	47%	58%
Year Two:			
Second Adult, One Infant AIDS Death			
Household Income (KSh)	240,000	60,000	8,500
MINUS			
Earnings Loss	220,000	50,000	7,000
Health Care Costs	120,300	7,160	7,160
NET IMPACT:			
Percent of Income Lost	142%	5%	167%
(Low estimate)	(108%)	(88%)	(116%)

percent of cost. Even though this socioeconomic group is likely to have health insurance, the typology assumes that HIV/AIDS care is not covered. The other households use the public sector and pay fees equal to 25 percent of cost.

Table 1 (next page) summarises these economic impacts of AIDS on households at different socio-economic levels. Under a high estimate that assumes 75 percent use of needed

health services, households at each of the socioeconomic levels will have losses and expenses that equal or exceed their entire annual income by the second year. As the table shows, in the first year, with one adult death, the households lose 49 to 78 percent of income. The net effect in the second year represents 95 to 167 percent of household income. This effect occurs even without consideration of funeral costs (which can be significant) and does not include any household expenses other than the cost of AIDS treatment.

Typical rural households are the most severely affected, with AIDS costs representing 78 percent of household income the first year and 167 percent the second year. Middle-income urban households are less severely affected than either their rural or upper-income urban counterparts. However, middle class urban households would be more severely affected than either of the other two groups if they paid the costs of private sector health care, instead of using public health facilities as in this illustration. After losing their income from work in the second year, even the upper-income urban class cannot afford private sector health care costs out of their current year's income.

Households will adopt a variety of means to cope with declining income and increasing health care costs. Many of these options, such as withdrawing children from school to save school fees and sending children to live with relatives, have been identified in other studies^{35,36,37,38}. To use the example presented here, even if only 25 percent of households obtain needed health services (low estimate), HIV/AIDS costs would still equal roughly half the annual income in year one for all households at each socioeconomic level and

³⁵ Barnett, Tony and Piers Blaikie. *AIDS in Africa*. Oxford: Blackwell, 1992.

³⁶ Ainsworth, Martha. "Economic Aspects of Child Fostering in Côte D'Ivoire." 48 pp. Sept. 1989.

³⁷ Ainsworth, Martha et al. "Coping with the Economic Impact of Fatal Adult Illness: An Analytic Framework." The World Bank and the University of Dar es Salaam, February 12, 1991.

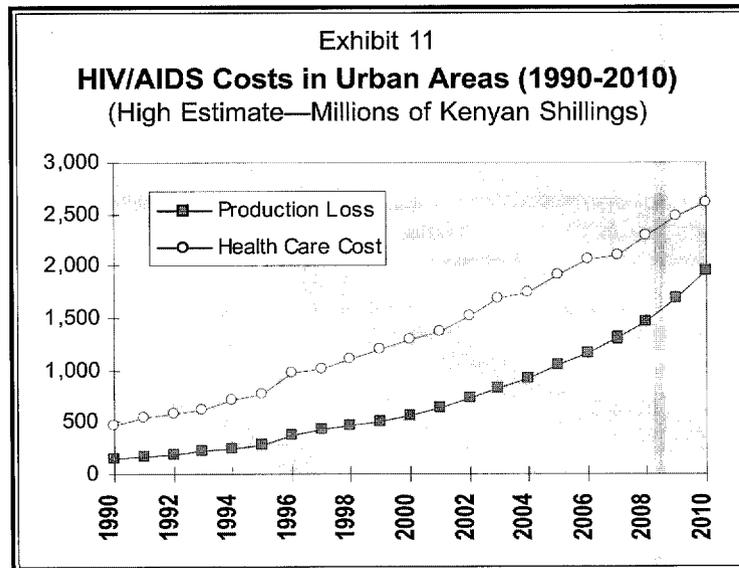
³⁸ Foster, Susan and Sue Lucas. "Socioeconomic Aspects of HIV and AIDS in Developing Countries, a review and annotated bibliography," Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, 1991.

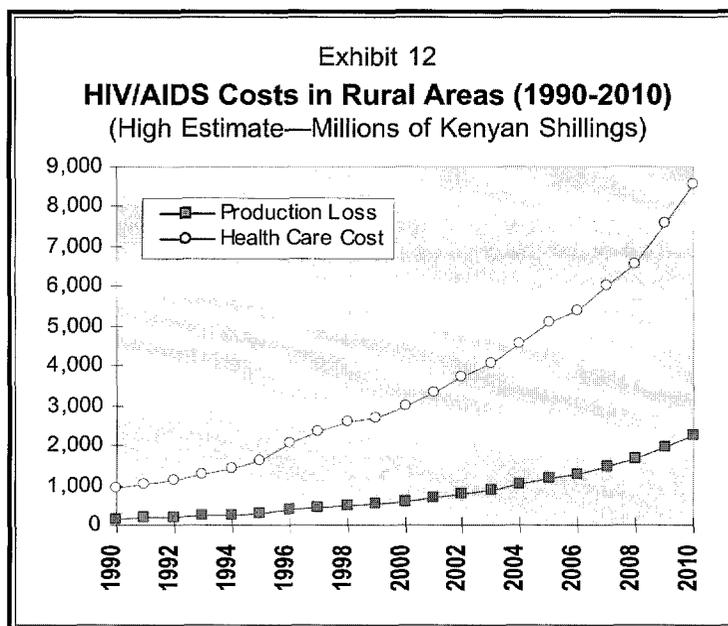
exceed annual income in the second year for the higher- and lower-income households. This lack of affordability of health care in the public and private sectors will place limits on the extent to which people will seek HIV/AIDS services in the formal health system and create pressures for developing lower-cost alternatives to inpatient hospital care.

D. Urban and Rural Men and Women

In addition to estimating the impacts of HIV/AIDS for the principal economic sectors, this study estimated the distribution of these costs by urban and rural areas. This geographic distinction is particularly relevant to an analysis of HIV/AIDS, given the different rates at which the epidemic affects urban and rural populations.

As expected from the higher HIV/AIDS prevalence in absolute numbers in rural areas compared with urban areas, the total cost of production loss and health care treatment in rural areas is on average 1.5 times the cost of urban areas through the year 2000. Rural costs rise to 2.2 times urban costs in 2010 under the high estimates as increasingly higher numbers of rural people are afflicted by AIDS. By the year





2010, an estimated 77 percent of all AIDS cases will be in rural areas.

The relationship between urban and rural economic impacts of HIV/AIDS is somewhat more complex, however, than the higher numbers of people with AIDS in rural areas might suggest. In Kenya's case, the higher economic impact in rural areas is primarily due to health costs. Production losses represent a higher proportion of total costs in urban areas as shown in Exhibits 11 and 12. But rural health care treatment costs are twice as high as urban health costs for the first part of the projection period, and are estimated to be three times higher by 2010. Thus, on average only one-third of the health treatment costs will be incurred in urban areas over the 1990 to 2000 period. This share decline over the subsequent decade to 23 percent in 2010.

The higher impact of health care costs in rural areas reflects the substantially greater number of rural versus urban people with HIV/AIDS, in combination with this model's assumption of equal urban and rural health service utilisation rates and treatment costs. Adequate data were not available

Table 2
Lost Production from Urban and Rural Men and Women in Kenya due to HIV/AIDS, in selected years 1990-2010
 (High estimate, in millions of Kenya Shillings)

Population Group	1990	1995	2000	2010
<u>URBAN</u>				
Women	160.0	300.0	670.0	1454.0
Men	130.0	194.0	418.0	1040.0
Subtotal	290.0	494.0	1088.0	2494.0
<u>RURAL</u>				
Women	124.0	258.0	474.0	2008.0
Men	60.0	120.0	258.0	856.0
Subtotal	184.0	378.0	732.0	2864.0
TOTAL				
Women	282.0	558.0	1144.0	3462.0
Men	192.0	314.0	676.0	1896.0

to make reliable assumptions about likely differences in urban and rural health service use and costs. Instead, the main health cost differential possible for this model was between the public and private sectors. Because urban and rural unit health costs and utilisation had to be considered equal, the rural-urban difference in the relative health cost impacts may be overstated. It is overstated at least to the extent that the higher cost, for-profit health care facilities are predominantly located in, and used by, the urban population.

For production losses, on the other hand, data were available to reflect the substantial difference between urban and rural wages in estimating the value of lost workdays.

Until the year 2008, both urban men and women account for higher production losses than rural men and women primarily because of higher average earnings in urban areas. But this dominance shifts to rural areas after 2008, as the

greater numbers of people with AIDS in rural versus urban areas offsets their lower earnings relative to the urban population. By 2010, the rural population accounts for 53 percent of total lost production due to HIV/AIDS. Table 2 shows the increasing share of production losses attributable to the urban population and to women and men over the 20-year projection period.

III. Policy Implications

Findings from this study suggest some general policy directions that are likely to be most effective in mitigating the negative economic impacts of HIV/AIDS. The study suggests which groups are likely to bear the heaviest economic burdens of HIV/AIDS. The following section highlights these implications in two general policy areas.

A. Target Groups for Prevention and Control

Results of the estimates presented for Kenya suggest that the effects of HIV/AIDS may be more complicated and situation-dependent than generally thought. Many previous studies of the socioeconomic impact of HIV/AIDS suggest that the economic impact of HIV/AIDS will be larger if the epidemic strikes a disproportionately larger percentage of higher-educated and higher-earning groups^{39,40,41,42,43}.

³⁹ Forgy, Larry. "Mitigating AIDS: The Economic Impacts of AIDS in Zambia and Measures to Counter Them," REDSO/ESA, February 1993.

⁴⁰ Foster, Susan, and Sue Lucas. "Socioeconomic Aspects of HIV and AIDS in Developing Countries, a review and annotated bibliography," Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, 1991.

⁴¹ Hanson, Kara. "The Economic Impact of AIDS: An Assessment of the Available Evidence." London School of Hygiene and Tropical Medicine: March 1, 1992.

⁴² Way, Peter O., and Mead Over. "The Projected Economic Impact of an African AIDS Epidemic." Paper prepared for presentation at the annual meeting of the Population Association of America, April 28 - May 2, 1992, Denver, Colorado.

⁴³ Over, Mead. "The Macroeconomic Impact of AIDS in Sub-Saharan Africa," The World Bank, April 20, 1992.

The larger economic impact said to result from HIV infection among higher socioeconomic groups would occur both because of the higher earnings and higher spending on health care. As this study's analysis of household impacts indicates, the combination of lost income and health care costs may exceed most households' income, thus requiring those households (or individuals in the household) to either forego the health care or finance that comes from savings or reduced consumption in other areas. These impacts are as evident for upper- as for lower-income households.

This study's findings regarding the distribution of HIV/AIDS' economic costs in urban and rural areas, and among men and women, reinforce the notion that a broad-based programme perspective will be important in mitigating the epidemic's economic impact. Estimates reported here demonstrate the substantial importance of the economic impact in rural areas. Estimates reported here demonstrated the overwhelming importance of the economic impact in rural areas in the long run and for employed women, as well as for employed men. AIDS prevention and control programmes that targeted predominantly mid- and senior-level employed men in urban areas would miss an overwhelming proportion of the estimated economic impact of the epidemic. Ignoring rural populations could miss 65 percent of the total production and health cost impact over the next decade—and 70 percent by the year 2010.

The study reinforces much of the current emphasis on a broad-based prevention programme. However, this does not necessarily exclude the need to simultaneously target groups with specific messages, services and programmes. Strategies aimed at mitigating the economic impact will need to be combined in careful ways with strategies that reflect the principal epidemiologic patterns of the epidemic (i.e., identifying those groups with the highest potential for transmitting or acquiring HIV infection).

Within those epidemiologic priority target groups, efforts that target all workers, including managers, will be necessary. Groups at high risk of HIV infection, such as truck drivers, transient migrant labour, or commercial sex workers, cannot be ignored in prevention strategies. Similarly, while

risks of contracting HIV infection may be lower in rural than in urban areas of Kenya at present, prevention efforts must shift focus to include urban-rural transmission patterns.

B. Relative Impact of Health Costs and Production Loss

This study's estimates show that health care costs for treatment of HIV/AIDS could have a substantially greater economic impact than the production loss due to HIV/AIDS. Under assumptions for the high estimates, health costs equal 78 percent of total economic impacts in 1990 and decline to 68 percent by 2010. Under both the low and high estimates, health care costs represent a greater burden in rural compared with urban areas and substantially exceed the value of rural production losses.

The impact of these health costs can directly affect economic growth and development in a variety of ways. For example, if health care is financed from national savings, the result is likely to be decreased investment for economic growth and social development. Even that portion that is financed by substituting for other consumption expenditures reduces the welfare that would have been derived from the alternative consumption. Costs of this magnitude in the health sector also create difficult resource allocation decisions in determining government budgets and public finance.

In the health sector specifically, the additional costs of treatment for HIV/AIDS forces decisions about trade-offs between spending for HIV/AIDS prevention and control, spending for other diseases and increasing investment in expanding health sector capacity. The additional demands that HIV/AIDS places on the health system detract from its ability to meet the needs for other curative and preventive health services that contribute to increased productivity and human capital development (e.g., maternal and child health services, family planning services, malaria control).

Thus, policies to mitigate the negative economic effects of HIV/AIDS in Kenya will need to give as much weight to addressing the additional burden posed by health care treatment costs as to the possibility of production losses. How-

ever, the household analysis suggests that the costs of meeting even part of the HIV/AIDS health care needs through currently available alternatives will be beyond the reach of many Kenyan households. The private sector, as currently configured, cannot be counted on to pick up a disproportionate share of the additional need since even fees that cover only a small portion of the costs are beyond most of the population's ability to pay. Only the wealthiest Kenyan households would be able to afford fees for inpatient care in the private for-profit sector.

The lack of affordability means that many people will not seek formal sector care. These realities point to the importance of developing less costly HIV/AIDS treatment alternatives, especially for inpatient care, for people at all income levels.

IV. Future Modelling and Research Activities

Future research needs to focus on the coping mechanisms that are likely to be pursued by families, businesses, the health care system, and the national economy.⁴⁴ For example, more detailed research is required about the cost of treating patients with AIDS in order to provide clearer policy direction about future needs for care and treatment. This should include an assessment of how health care responses occur in a system that is already at capacity, and the type of assistance that can be provided to families when inpatient hospital care is not available.

Similarly an assessment should be performed to determine how economic factors are likely to affect the continued spread of the epidemic. While it is understood that behavioural responses do occur in the presence of economic factors, it is not clear how an individual's risk-taking behaviour relative to their sexual practices may be affected by economic incentives or disincentives.

⁴⁴ Picazo, Oscar. "Comments on the Study 'Direct and Indirect Costs of HIV/AIDS in Kenya,'" Correspondence from REDSO to AIDSCAP, November 20, 1995.

Case Study **George**

In August 1994, George, a 29-year-old Nairobi man, drank liquid detergent in a failed attempt to take his own life. George is living with AIDS.

One of four siblings in a wealthy and prominent Nairobi family, George completed his advanced level education and then pursued further studies abroad. He returned home after a few years and secured a management position in the hospitality industry where he was employed until five years ago.

While George is not sure how he became infected with the virus that causes AIDS, when reflecting on his personal history he realises that it was probably through one of his many sexual encounters. His first sexual experience was at age 13 when his boarding school friends paid 20 Kenyan Shillings to a prostitute in the neighbouring town. Heeding the warnings from the older boys, he used a condom to prevent transmission of STDs. However, while living and studying abroad in the early '80s, he had a number of sexual encounters with women he mostly met in nightclubs, and did not use protection. When he returned to Nairobi in 1985, he entered a steady relationship with one girlfriend for 18 months. They also had unprotected sex. Following an argument with his girlfriend, George angrily sought a prostitute and contracted gonorrhoea from this encounter. During treatment for the STD the doctor warned him to be careful. George broke up with his girlfriend in 1986 and over the next four years had numerous sexual encounters, always unprotected.

George recalls first developing symptoms that he now associates with HIV back in 1988, including thrush and acne. Other symptoms emerged in 1989—feelings of lethargy, anxiety, exhaustion—but still he did not seek treatment for these symptoms. In 1990, George came down with a severe case of pneumonia. The doctor encouraged him to be tested for HIV at that time but he declined. He recovered from the pneumonia but over the next two years he experienced severe weight loss, dropping from his normal weight of 75-80 kgs down to 55 kgs. The following year he suffered with a persistent dry cough and occasional chest

pains. In 1993, when he developed meningitis, he agreed to an HIV test and tested positive. He was hospitalised intermittently over a period of five months. By March of 1994, George was severely depressed and resorted to heavy use of alcohol. That August he experienced a mental breakdown and attempted suicide after learning of the death of a prominent personality from AIDS. He received psychiatric treatment and is now somewhat stabilised.

While George says he realises that it would help to talk more openly about his situation, he does not discuss his illness with his friends. Most of the emotional support comes from his parents with whom he lives, particularly from his mother.

At this time George can meet the economic burden of AIDS as his parents are able to help him financially in covering the high costs of his medical care, which has already reached well over half a million Kenyan Shillings. However, George expressed a strong need for some psychological support and requested assistance in finding an appropriate support group of people living with HIV/AIDS.

Chapter 6

Business Responses to HIV/ AIDS in the African Formal Sector Workplace: Findings of a Kenya Needs Assessment

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I. Introduction

As the rising human cost of AIDS becomes increasingly visible in African countries, policymakers are giving more attention to the impact of the epidemic on socioeconomic development. Kenya's 1994-1996 National Development Plan begins to strategically address the developmental impacts of HIV/AIDS. The Plan calls upon the formal commercial/private sector (henceforth the "business sector") to play a greater role in HIV/AIDS prevention by supporting workplace prevention efforts and establishing appropriate policies for the workplace. With increasing demands on scarce public resources and a recognition that the workplace provides a good environment for HIV/AIDS pre-

Estimates indicate that one in seven workers

in Nairobi are currently infected with HIV; projections are that one in four workers will be infected by the year 2000. Financial analyses of several Kenyan firms revealed that AIDS could increase labour costs by 4 percent by the year 2005, with one company incurring losses to profits of 15 percent. Interviews with managers from Kenyan businesses revealed that almost all managers know of at least one of their employees who had died of AIDS and of others who are currently infected.

Companies that will struggle most as a result of HIV/AIDS are those that are highly labour-intensive, employ highly skilled workers, or offer comprehensive benefits to employees. These companies were also the ones identified as benefitting most from HIV/AIDS prevention programmes.

vention activities⁴⁵, it is anticipated that the business sector involvement will complement existing public resources and contribute to greater integration of HIV/AIDS prevention into Kenya's development plans.

With HIV infection rates reaching as high as 20 to 30 percent of adults in some parts of Kenya, business leaders are also increasingly concerned about the likely impact of AIDS on their businesses. AIDS poses a direct financial risk to businesses in terms of costs for health care and other benefits, and also poses an indirect risk to production and productivity. Production may suffer from high and/or unexpected absenteeism of workers. Work disruptions may occur if it is not understood that HIV-infected workers generally pose no risk to their co-workers. Employee morale and related productivity may also suffer if the company discriminates against or stigmatises workers who either have, or are believed to have, HIV⁴⁶.

⁴⁵ Witte, Kim. "Managerial Style and Health Promotion Programs." *Social Science and Medicine* 36, 3, (1993): 227-235.

⁴⁶ Bunker, John F., et al. "AIDS in the Workplace: The Role of EAPs." *The Almacan* (September, 1987): 18-25.

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This assessment of Kenya was undertaken to identify what formal sector business managers and workers know about HIV/AIDS, to find out what their organisations are doing to address it, and to determine the types of information and communication strategies that will best persuade managers to establish appropriate HIV/AIDS policies and prevention programmes for their workplaces.

The study presented in this chapter is part of the Private Sector AIDS Policy Presentation (PSAPP) project being implemented by the AIDS Control and Prevention Project (AIDSCAP), with funding from the Africa Research and Technical Support Division of the USAID Africa Bureau. PSAPP provides managers and workers' groups in the Sub-Saharan Africa region with information and guidelines that will help them to implement HIV/AIDS policies and prevention programmes in the workplace.

II. Methodology

Workforce and financial information and data were collected from 16 Kenyan companies early in 1994.⁴⁷ The organisations represented a diversity of business types, including light industrial/manufacturing (7), agro-industries and plantations (5), tourism (1), transport (2), and services (1). Organisations were also selected to represent a range of ownership patterns (foreign, local, and joint foreign/local), size (on the basis of numbers of employees), and geographic regions. Nine of the firms were located in Nairobi, four in Eldoret, and three in Kisumu. In addition, representatives from two trade unions were interviewed.

Finally, in order to assess worker's knowledge of HIV/AIDS and their perceptions of the appropriate role for their companies in offering HIV/AIDS prevention and policies, focus groups were conducted with workers in 13 of the companies.

⁴⁷ Roberts, Matthew. "PSAPP: A Manager's Guide." Family Health International/AIDSCAP, 1994.

Four areas of HIV/AIDS workplace issues were investigated in this study:

- 1) The prevention education practices of businesses.
- 2) The prevention services, interventions and benefits offered by businesses.
- 3) Organisational policies and processes.
- 4) The impact of HIV/AIDS on businesses.

III. Results

A. Prevention Education Practices

HIV/AIDS prevention education practices of organisations refers to any programmes or activities conducted in the workplace that are intended to educate workers about HIV/AIDS and bring about changes in their risk behaviour. The main types of education activities envisioned are:

- Distribution of literature, posters, and other materials;
- Short presentations of factual information about HIV/AIDS;
- Formal in-depth discussions/presentations about HIV/AIDS, attitudes toward it, fears and experiences;
- Peer education programmes in which select workers are trained to conduct formal and informal education and intervention activities with co-workers on an ongoing basis.

Of the 16 organisations sampled here, 11 offered some form of HIV/AIDS prevention education programmes in their workplaces⁴⁸. Of the 11 companies with programmes, 8 of them offered in-depth prevention education (formal in-depth sessions and/or peer education) while 3 offered only informal prevention activities (posters/pamphlets and/or short factual presentations).

Managers of companies without HIV/AIDS prevention programmes offered the following explanations: "employees have not requested them"; "it would be considered a 'ta-

⁴⁸ The prevalence of such activities is not necessarily indicative of the population of all Kenyan firms because this study sought to sample a large number of firms with prevention interventions.

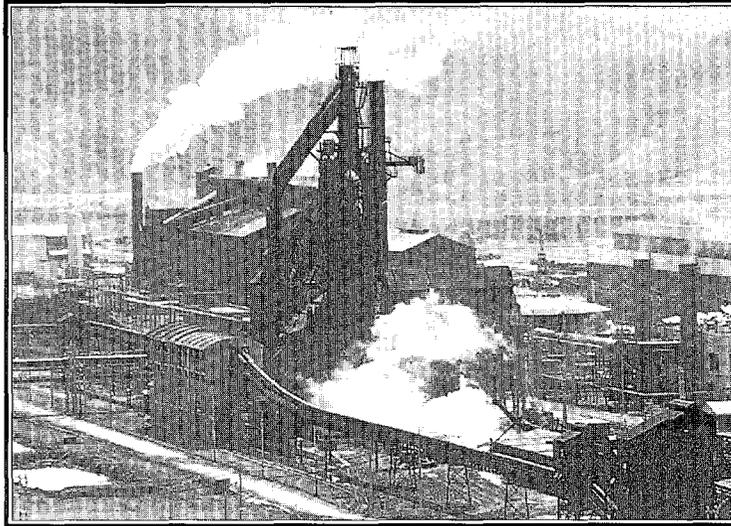


Photo: UNICEF

boo' topic"; and/or they state that "such education is available and adequate elsewhere." In most of these cases, management seemed willing to consider establishing programmes, but had not really considered the issue seriously in the past. The management of one company began considering establishing a comprehensive programme after learning from the focus groups conducted with its workers that misinformation and high-risk behaviour regarding HIV/AIDS transmission were widespread.

Two of the three companies with "informal programmes" perceived themselves as having launched an effective education programme. That is, they had conducted a set of education sessions for all workers one or more years earlier and felt that all workers were now properly educated. However, behaviour change and workplace experts have found that regular reinforcements of information, education, and risk-reducing training (that includes discussion about feelings and is not just reciting of facts) about HIV/AIDS must be offered to bring sustained behaviour change⁴⁹. Even if this

⁴⁹ Woolsey, Christine. "Employers Teach AIDS 101." *Business Insurance* 25, 40 (October 7, 1991: 78-9).

were not the case, the two companies have not ensured that employees hired since the initial sessions have been exposed to education programmes.

As an example of the type of in-depth programme being offered, one company has trained 20 managers and 60 laborers in peer education techniques. Not only have the peer educators reached an estimated 90 percent of the work force, but some of them also do outreach to the surrounding community after work. Another company ensures that every formal training programme for employees (on any subject) includes some discussion about HIV/AIDS.

Various reasons were given by respondents for initiating prevention education programmes. Three of the respondents indicated that they began prevention activities because there had been HIV/AIDS cases in their workforce, while three indicated that they were influenced by national data regarding the epidemic. Two respondents said that they looked at HIV/AIDS prevention as a way to protect the company's human investments.

The impetus to start these programmes was almost always inspired by one person in a management position, usually the company medical officer or personnel manager. None of the programmes were said to be initiated by non-management staff and only one programme was initiated by a managing director.

Virtually all of the companies report positive feedback from workers about the education programmes. The focus groups also indicated that workers desire more information and education about AIDS. At least half of the groups expressed strong interest in having, or expanding, AIDS education programmes in the workplace and none had negative feelings about such programmes. One manager did indicate that one union lobbied against the installation of condom dispensers in the bathrooms, but that the majority of workers supported their installation. There do not appear to be significant gender differences in the way programmes are administered or responded to by men and women. However, in some companies men and women have not wanted to participate in education sessions together and so separate sessions are offered for each.

B. Prevention Services, Interventions, and Benefits

1. Recommended Services

HIV/AIDS-related prevention services at the workplace can include condom distribution, treatment of STDs and counselling. To date, many workplace programmes have focused on per education programmes without devoting much attention to developing and sustaining the complementary components. Furthermore, little effort has been devoted to building sustained company investments in workplace programmes. Lessons from workplace-based family planning programmes demonstrate the importance of company commitment and investment. A recent follow-up study of the USAID-funded Enterprise Programme found that nearly all employment-based programmes that were sustained covered programme costs out of company earnings⁵⁰.

2. Kenya Prevention Service Experiences: Needs Assessment Findings

Nearly all of the Kenyan companies sampled distribute condoms in their workplaces (see Table 3). About 60 percent of the companies offered STD diagnosis and treatment, and a third offered counselling services. One-quarter of the companies stated that they offered voluntary HIV testing. Six of the companies (over a third) had mandatory or co-

Informal Prevention Education	19%
In-Depth Prevention Education	50%
Condom Distribution	94%
STD Diagnosis and Treatment	63%
Counselling Services	38%
Voluntary HIV Testing	25%

⁵⁰ Fort, Catherine. *The Enterprise Program Follow-up Study: Were Private Sector Family Planning Services Sustained*. Arlington, VA: John Snow, Inc., 1994.

erced HIV testing of applicants and/or employees.

The level and depth of company investment in prevention services was problematic. Though nearly all companies distributed condoms, well over half of them received the condoms as donations without company cost-sharing. Only two of the companies were known to absorb the full cost of procuring condoms. Similarly, nearly half of the organisations received financial or other external support to conduct their education programmes. Though many companies do offer some prevention interventions, programmes are usually not comprehensive and tend to be largely externally supported.

C. Organisational HIV/AIDS-Related Workplace Policies and Processes

1. Recommended Policies

Both to strengthen workplace prevention efforts and to provide guidance on company operations, organisational policies related to HIV/AIDS are a needed third component. Company policies demonstrate commitment to the principles and practices of the workplace and provide authoritative backbone to prevention efforts.

Public health and business organisations alike have developed a number of workplace policy guidelines or recommendations to promote HIV prevention, the rights of workers, and a healthy work force. Based on these, the following HIV/AIDS-related policies⁵¹ are recommended for formal adoption and practice:

- There will be no compulsory pre-employment or employee HIV/AIDS screening for employment, insurance, or other purposes.
- All medical information and records of employees will be kept confidential.
- Persons with HIV infection, including AIDS, will have

⁵¹ World Health Organisation and the International Labour Organisation. *Statement from the Consultation on AIDS and the Workplace*. Geneva, June 27-29, 1988.

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the same rights, responsibilities, and benefits/opportunities as others with serious illnesses or disabilities.

- HIV infection is not a cause for termination of employment, and employees with HIV-related illnesses should be able to work as long as medically fit for available, appropriate work.

There appear to be relatively few private sector companies operating in sub-Saharan Africa that have formally adopted these WHO/ILO recommended policies related to HIV/AIDS. Many companies conduct HIV screening and many managers feel that pre-employment screening is warranted. Few companies have explicit HIV/AIDS policies in place.

2. Kenya Workplace Policy Experiences: Needs Assessment Findings

Kenya has a well-developed set of labour laws and formal benefits that address worker rights, set work days, minimum wages, sick leave benefits, safety standards, and other labour issues. Even with these formal regulations, however, "actual practice does not always reflect these protections."⁵² Furthermore, the Government of Kenya has not moved beyond recommending that businesses adopt WHO and ILO policies on HIV/AIDS. As a result, other than parastatals, few companies have either adopted these policies or practice them.

This assessment found only one company that abided by all the WHO/ILO recommended policies. This company does not mandatorily screen applicants for HIV, does not test employees for HIV, does not have AIDS-specific firing criteria, does not discriminate against HIV-infected workers, and preserves the confidentiality of employee medical records. A little more than half of the companies practiced four of the five policies and nearly one-fifth of them follow only one of the recommendations (see Table 4). Two firms reported that HIV testing was voluntary for workers whose illnesses or absences were "suspicious" (i.e., frequent). Because refusal to be tested

⁵² U.S. Department of State. *Annual Labor Report for Kenya, 1992-93.*

would almost certainly result in termination, such testing cannot be considered voluntary.

For some of the companies, testing upper-level employees for HIV is required by the company's insurance underwriters for receiving life insurance. Under present Kenyan law, insurance companies

may also deny payment of life insurance benefits if the death certificate indicates that death was a result of HIV-related illness.

Virtually all firm managers indicated that they would not discriminate against HIV-infected employees and would allow them to work as long as they were medically able. Yet many workers who participated in the needs assessment focus groups believed that they would lose their jobs if they were found to be HIV-positive. This is an important finding, for if the managers are sincere in their interview reports, the lack of a formal and explicitly communicated policy of non-discrimination leaves workers feeling mistrustful of management. As long as such an environment of mistrust prevails, workplace prevention efforts will be ineffective.

Managers frequently interpret medical confidentiality in a loose manner that is not consistent with medical ethics or WHO/ILO recommendations. That is, medical records are available to various managers upon request. This assessment considers a company policy to be one of confidentiality only if it abides by the full intent of WHO/ILO recommendations: medical records are only available to medical personnel for the purposes of medical care and treatment, unless ordered released by the courts.

This assessment also sought to determine the origin and process of policymaking in these businesses. Perhaps reflecting the minimal direction the GOK has provided in this area, only one company identified government guidelines as the

Table 4

**Companies Abiding by
WHO/ILO Policies**

All Policies	6%
4 of 5 Policies	56%
3 of 5 Policies	19%
2 of 5 Policies	0%
1 of 5 Policies	19%
None of the Policies	0%

primary source of guidance or information on its policies related to HIV/AIDS. Although the Federation of Kenyan Employers has sent its members copies of WHO/ILO recommended guidelines on HIV/AIDS policies, only one company reported these guidelines as its source of policies. The primary sources stated by managers were: company assessment of workers' needs (5); company assessment of company needs (4); and parent company guidelines (3) (several of these companies are subsidiaries of multinational corporations). Company policies tend to be consistent with government regulations in areas that are not specific to HIV/AIDS, such as workmen's compensation, where clearer direction is provided.

Managers reported that employees were generally accepting or positive about their policies and there were few plans to change these policies in any significant way. However, as noted above, the commonly expressed concern in the focus groups that HIV-infected employees would be dismissed suggests that worker satisfaction is not as strong as managers believe. There was no clear pattern in terms of expanding or reducing medical benefits. Two companies indicated that they plan to expand their health insurance scheme—in part because public medical services were declining—and two others said that they were planning to reduce benefits to curtail their financial exposure.

The policy findings of this assessment suggest that Kenya's business employers need to devote greater attention to developing prevention-supporting HIV/AIDS policies, communicating policies to employees, and demonstrating their commitment to these policies through actual practices. Because the economic benefits of following these policies may not be self-evident from a business perspective, guidance and assistance from outside sources may be necessary. One source of assistance is parent company guidelines for subsidiary companies of multinationals. Another source is an internal assessment of the comparative costs of HIV/AIDS on businesses and of prevention programmes.

D. Economic Impact of HIV/AIDS on Organisations

This assessment examines the impacts of the HIV/AIDS epidemic that Kenyan company managers are experiencing or expecting and employs a micro-economic impact model developed by AIDSCAP⁵³. This study compares the present and projected impact of HIV/AIDS on individual businesses to the cost of establishing workplace HIV/AIDS prevention programmes. It is instructive to first review the impacts companies have experienced in other parts of Africa, before turning to the Kenya experience.

1. Impact of HIV/AIDS on African Companies

Research and economic analysis by Ainsworth and Over of the World Bank find that HIV/AIDS will negatively impact business, though it is hard to determine exactly to what degree⁵⁴. They also cite reports by others in South Africa, Zimbabwe, and Zambia that anticipate that the production and productivity impacts of AIDS (e.g., absenteeism, reduced labour productivity, job turnover, training, and recruitment costs) will be greater to businesses than the costs of AIDS deaths (e.g., medical expenses and death benefits). They also note that skilled labour is scarce in Africa and that AIDS is likely to significantly reduce this labour supply.

A study of a petroleum refinery in Zambia found that 84 percent of the deaths at the company between 1987 and 1992 were AIDS-related. The medical expenses were, in fact, considered substantial, averaging KSh17,600 per patient in 1993. Sick leave, death benefits, and funeral expenses also represent significant financial outlays. However, this study did not estimate the production impacts of AIDS⁵⁵.

⁵³ Roberts, Matthew; Forsythe, Steven; Nyamete, Andrew. "Conducting a Workplace HIV/AIDS Policy Needs Assessment: A User's Guide." Family Health International/AIDSCAP, 1994.

⁵⁴ Ainsworth, Martha; Over, Mead. "AIDS and African Development." *The World Bank Research Observer*, 9, 2 (July, 1994), 203-240.

⁵⁵ The Population Council. "Community-Based AIDS Prevention and Care in Africa: Building on Local Initiatives." New York, 1994.

Another study conducted in Zambia focused on the Nakambala Sugar Estate, where the estimated HIV prevalence rate (believed to be similar to that of the surrounding community) is 20 percent⁵⁶. This study estimates that HIV-related illnesses result in a 1 percent labour loss due to sickness and another 1 percent loss from paid absences (e.g., to attend funerals of co-workers), resulting in a total company cost of KSh7.5 million or some 32 percent of the total cost impact of AIDS to the company. Other costs included increased employment of expatriates to fill positions (KSh3 million or 13 percent), increased medical costs (KSh3.5 million, or 15 percent), retirement-related costs (KSh3.8 million, or 16 percent), training (KSh1.8 million, or 7 percent), funeral expenses (KSh1.2 million or 5 percent), and several other cost areas. In total, these costs represented 1.9 percent of the company's total costs in 1992/93 and, at the projected increase in HI infection, it is expected to rise to 3.1 percent of total costs by 1995/96. The study finds that these costs are significant but not substantially detrimental to the company's operations.

In Zimbabwe, one study found that the main concerns expressed by businesses regards the impact AIDS will have in terms of losses of skilled labour (33 percent), loss of manpower generally (24 percent), reduced future productivity (24 percent), insurance and pension costs (13 percent), and other economic costs to the company (12 percent)⁵⁷.

Another Zimbabwe study⁵⁸ supports all of the above findings. Companies said that their short-term concerns are with the manpower impacts (e.g., recruitment, training and development, and employee benefits) and that in the long-term they are concerned about markets. Though AIDS has had little serious impact to date, worker losses are expected to rise significantly from 1995 onward.

⁵⁶ Haslwimmer, Martina. *The Social and Economic Impact of HIV/AIDS on Nakambala Sugar Estate*. Report for Zambia Sugar Company Ltd. And the Food and Agriculture Organisation of the United Nations, January 1994.

⁵⁷ Jackson, Helen, and Pitts, Marian. "Company Policies on AIDS in Zimbabwe." *Journal of Social Development in Africa* 6, 2 (1991): 53-70.

⁵⁸ Whiteside, Alan. "The Impact of AIDS on Industry in Zimbabwe." *Facing Up to AIDS: The Socio-Economic Impact in Southern Africa*, (1993): 233-234.

2. Kenyan Managers: Perspectives from the Needs Assessment Interviews

Management perspectives in Kenya are similar to those expressed elsewhere in Africa. Only one company manager felt that AIDS is significantly affecting his operations now, though all of the respondents felt AIDS would significantly affect their operations in the future. To date, employers have not had difficulty in replacing workers at needed skill levels. Notably, all of the managers knew of an employee who had died of AIDS in their company and nearly all of them knew of at least one employee with HIV at the time of the interview. Most of the managers seemed to believe that HIV was primarily a problem among manual laborers, not among senior managers. However, experiences of some companies and evidence elsewhere suggest that senior managers are at least equally likely to be engaging in risky behaviour.

Nearly all of the companies provide some medical benefits to employees, usually in the form of medical treatment at a company clinic, reimbursement of medical expenses for outside care, and health insurance for senior managers. So far, HIV-related illnesses are not reported to have significantly affected medical expenses, though some companies report increases in medical and pharmaceutical costs. However, HIV-infected workers and their families often exhaust their medical benefits, which is likely to have serious repercussions for companies⁵⁹. Few managers could estimate changes in medical, funeral, and other expenses related to HIV/AIDS over time or apportion them to HIV/AIDS-related illnesses. The micro-economic model presented in the next section better estimates these costs.

3. Impact on Kenyan Companies: The Micro-Economic Model Findings

Five companies shared the financial and labour data necessary to produce a financial assessment of the projected impact of HIV/AIDS on their businesses. The companies

⁵⁹ U.S. Department of State. *Annual Labor Report for Kenya, 1992-93*.

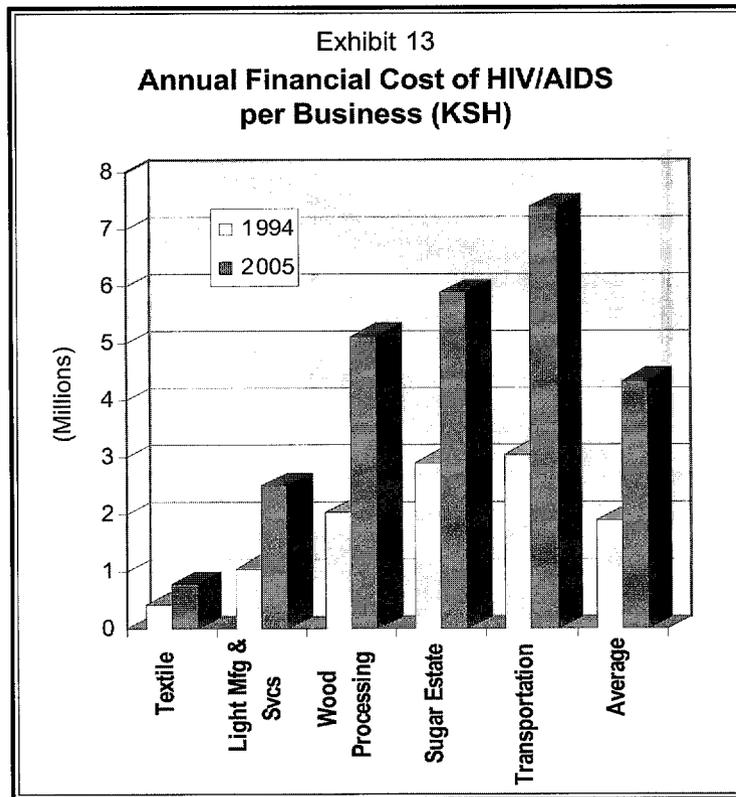
supplying data were involved in transportation, manufacturing/light assembly, textiles, wood processing, and agrobusiness. The size of these companies ranged from 1,200 to 2,200 workers, with an average of 1,500 employees. The revenues earned by each of the companies varied from KSh0.3 billion per year to KSh2.1 billion per year, with an average of KSh1.0 billion per year.

It was anticipated that business could be affected by HIV/AIDS in a number of ways. In terms of increased expenditures, the analysis assessed additional costs associated with health care, burial fees, and recruitment. In terms of decreased revenues, the analysis addressed issues of decreased productivity during absenteeism related to HIV infection, AIDS, and funeral attendance by coworkers. The lost production during the time required to hire new employees was also assessed. This analysis additionally estimated lost revenues caused by the reduced productivity of newer employees relative to the more experienced employees who were lost to AIDS-related morbidity or mortality. Table 5 reflects the variables included in the analysis.

For a number of reasons, it was not possible to quantify certain costs. The impact of HIV/AIDS on a company's pension plan and life insurance policies, for example, could not be measured in this analysis. Also, it was not possible to assess the impact of HIV-related illnesses among family members on workers and their companies. Similarly the impact of HIV/AIDS on morale might be significant, but could not be quantified.

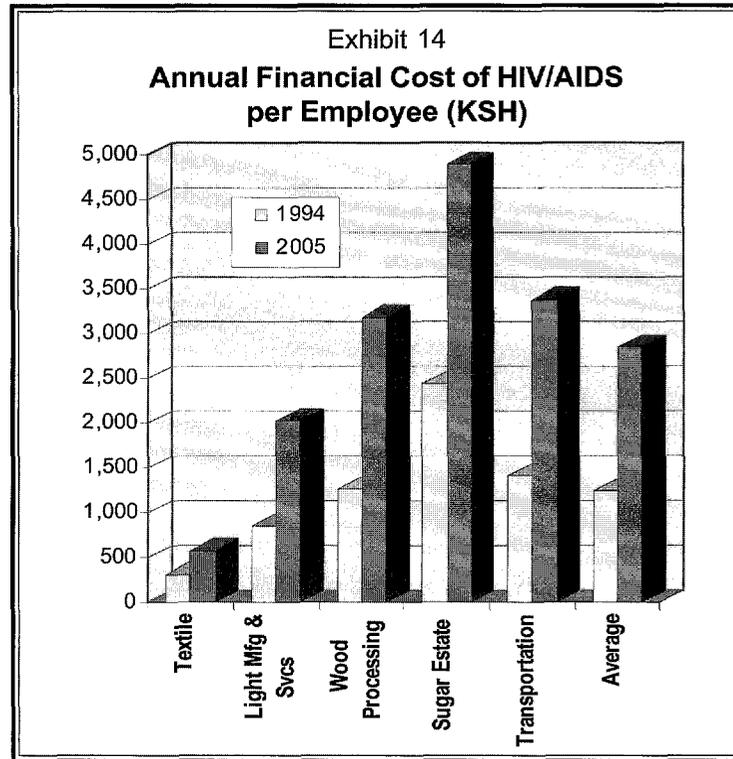
For the purpose of this analysis, this study applied the relevant dis-

Table 5	
Impact of HIV/AIDS on Businesses	
Increased Expenditures	Decreased Revenues
Health care	HIV Absenteeism
Burial Fees	AIDS Absenteeism
Recruitment	Funeral Attendance
	Labour Turnover
	Training
	Productivity Losses Following Training



trict-level seroprevalence data to the workplaces that were interviewed (for example, companies in Nairobi were assumed to have a seroprevalence level of 14 percent in 1994 and 24 percent in the year 2000). There are reasons to believe, however, that even these estimates may in fact be conservative. For example, the transportation company employed a large number of drivers who were frequently away from their homes for extended periods of time, thus likely putting them at greater risk of contracting HIV than the general adult Nairobi population.

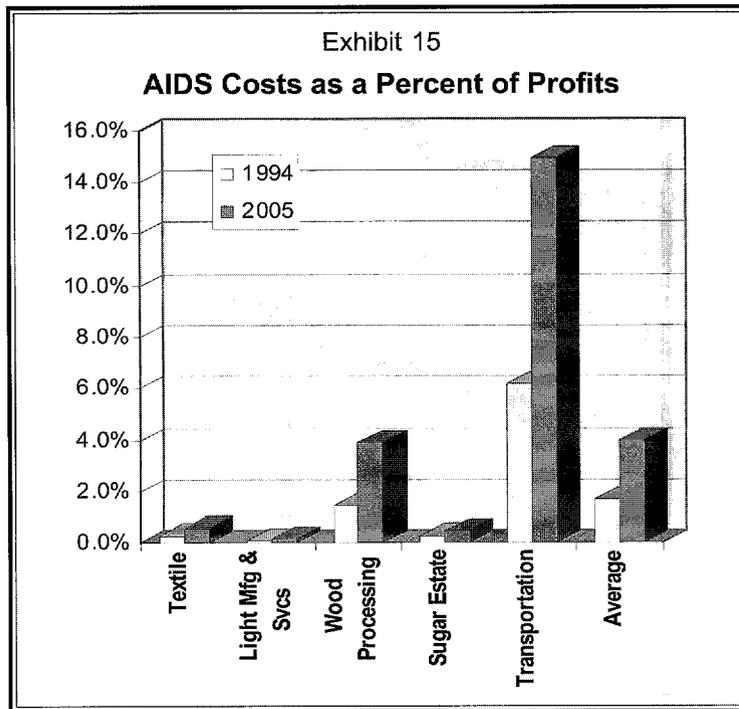
In terms of actual Shilling figures, the following represents estimated costs (both increased expenditures and reduced revenues) resulting from HIV/AIDS for businesses between 1994 and the year 2005. The calculation of these costs was based on projections regarding the future spread of HIV/



AIDS and the estimated change in expenditures and revenues that could be caused by this spread.

As Exhibit 13 shows, the typical company was expected to incur costs of KSh0.4 million to KSh3.1 million in 1994, with an average annual loss due to HIV/AIDS of KSh1.9 million per company. By the year 2005, it was projected that the annual cost would range from KSh0.8 million to KSh 7.4 million, with an average cost of KSh4.3 million per business.

As Exhibit 14 illustrates, the cost of HIV/AIDS to a Kenyan business can vary tremendously. On average, these five companies currently spend KSh1,250 per employee for HIV/AIDS-related costs, which is projected to rise to KSh2,850 per employee by the year 2005. This is equal to an additional 4 percent of the salary of employees for HIV/AIDS-related costs.



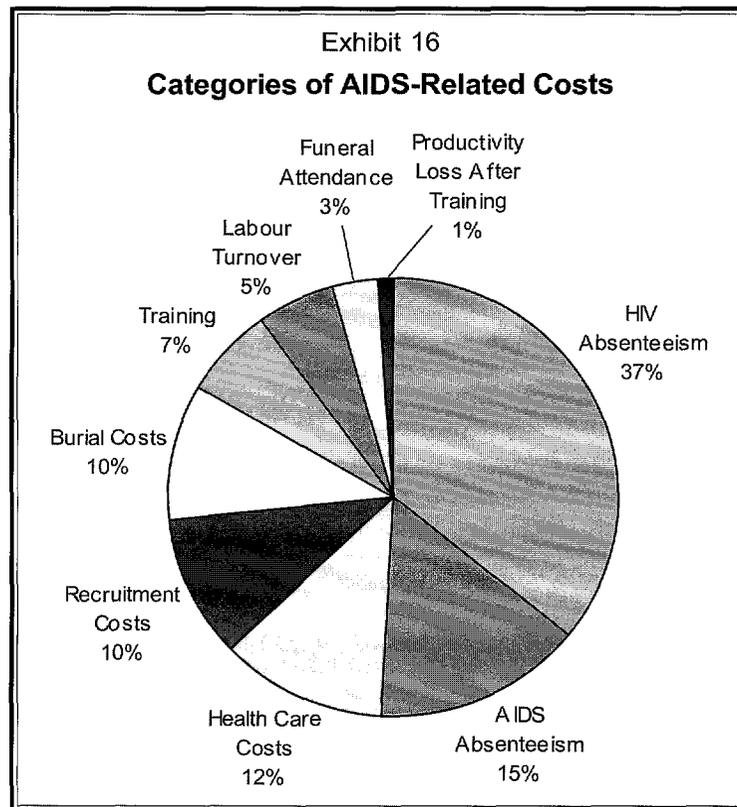
On an individual company basis, the additional cost of AIDS in 2005 equates to increases in labour costs of 3 percent for the light manufacturing and service business, the textile company, and the wood processing facility, and 4 percent in the transportation business. It is particularly interesting to note that for the sugar estate, the cost of AIDS per employee could reach KSh4,900 per employee per year in 2005, even though the average real annual salary for that company is only KSh60,600. This means that the average impact from HIV/AIDS could increase the cost of labour by as much as 8 percent in this particular company.

If the cost of AIDS is compared to the profits of the companies interviewed (Exhibit 15), it is found that AIDS can represent a fairly significant drop in profits. AIDS-related costs accounted for 1.7 percent of profits in the year 1994, and were expected to more than double to 4.0 percent of profits by the year 2005.

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The transportation company was projected to lose almost 15 percent of its annual profits to HIV/AIDS by the year 2005 and the wood processing company was expected to lose nearly 4 percent of its profits by the year 2005. On the other hand, the other three companies were expected to lose less than 1 percent of their profits due to AIDS. This apparent disparity in impact appears to be due to the labour intensity of the companies (companies that are more labour intensive tend to suffer greater impact) and the level of benefits offered to the employees.

In assessing the costs, the estimates were divided into categories representing either increases in expenditures or reductions in revenues. As Exhibit 16 shows, the greatest loss to businesses (approximately 36 percent) was expected to be

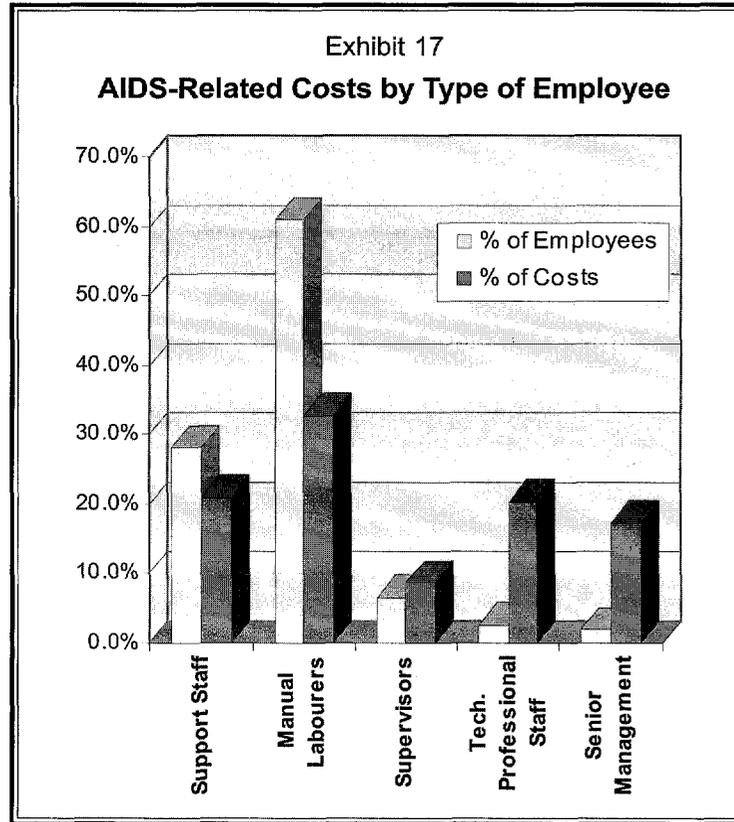


due to HIV-related absenteeism, followed by AIDS-related absenteeism (15 percent), health care (12 percent), recruitment (10 percent), and the costs of providing burial benefits to families of workers who die of HIV/AIDS (10 percent). The next greatest loss due to HIV/AIDS was projected to result from revenue losses occurring during training of new employees (7 percent). Relatively minor costs were associated with lost productivity during a period of labour turnover, funeral attendance, and productivity losses incurred after training.

Costs by categories of employees were also assessed by calculating the costs of having employees in a particular employment category fall ill from HIV or AIDS. Exhibit 17 shows a breakdown of employment and of HIV/AIDS-related costs. Overall it was found that 61 percent of all employees in these five companies are manual labourers, 28 percent are support staff, 7 percent are supervisors, 3 percent are technical professionals, and 2 percent are senior managers. In terms of AIDS-related costs, this study found a disproportionate impact among the higher-level employees, especially the technical professionals who incurred very significant training costs and earned substantial salaries. Technical professionals represented 3 percent of employees in all companies, but accounted for more than one-fifth of all AIDS-related costs. Overall, supervisors, technical professionals, and senior management represented 11 percent of employees, but accounted for more than 46 percent of AIDS-related costs.

This financial analysis revealed a number of very interesting findings for Kenya. First, this analysis indicated that a significant and growing AIDS problem will substantially increase the cost of labour. Projections for the year 2005 indicate that the additional cost of AIDS may increase labour costs by 4 percent. For some companies, such as the transportation firm, this could rise to 8 percent.

Second, most HIV/AIDS-related costs in the workplace are associated with absenteeism and health care expenditures. For the most part, these costs could not be reduced by changing the company's benefits structure. Instead, it appears that the most effective means to reduce these costs is by in-



stituting a workplace-based prevention programme to reduce the number of HIV and AIDS cases that the companies will have in their workforces.

Third, as indicated by studies in other African countries, while AIDS is likely to have a significant negative impact on companies' profitability in the future, it is not presently having a significant impact and is unlikely to result in wholesale closure of Kenyan businesses in the foreseeable future. While one of the five businesses was projected to have HIV/AIDS-related costs reaching 15 percent of profits by the year 2005, the average loss in profits was projected to be 4 percent.

Finally, corporate investing in HIV/AIDS prevention does appear to have a financial benefit. Preliminary estimates of

the annual costs of operating a comprehensive workplace prevention programme range from KSh250 to KSh1,000 per worker. With HIV/AIDS-related costs for the five companies expected to average KSh1,250 per worker today, up to KSh2,900 per worker in the future, it does appear that many businesses would benefit by investing in HIV/AIDS prevention interventions in the workplace. For smaller companies, it is possible that several of them could collaborate to jointly co-sponsor workplace programmes for their businesses. As one Kenyan company manager with a prevention programme in place expressed, "If you lose someone you've trained for 20 years, that's a great loss. Condoms and AIDS education cost peanuts."

IV. Conclusions

Consistent with the growing body of socioeconomic research on AIDS in Africa, this study of Kenya finds that AIDS is having a notable negative impact on the business sector. Though some businesses have responded to the AIDS crisis, many more are at early stages in establishing HIV/AIDS workplace prevention programmes or developing appropriate policies. This study found that most managers expect AIDS to affect their companies in the future, but they are uncertain what the impact is likely to be. To date the Kenyan government has not been actively involved in developing legal or regulatory guidelines for the business sector.

The growing body of knowledge and expertise on HIV/AIDS prevention in the workplace is consistent in its message: comprehensive workplace prevention programmes can result in behaviour change and reduce risky behaviour. However, few companies in Kenya or elsewhere in the region are offering a package that includes: formal and informal education, STD diagnosis and treatment, condom distribution, and counselling and support services.

The data from this chapter indicates that workers don't trust their employers to maintain their confidentiality and act with compassion towards those infected with HIV. About a third of Kenyan employers in this study conduct compulsory or coerced HIV testing of workers and/or applicants,

resulting in an unwillingness among employees to come forward for such things as prevention education or STD treatment. Furthermore, the policy findings of this study indicate that prevention programmes will need to be supported with appropriate workplace policies, which are clearly communicated to employees.

At the company level, the benefits of HIV/AIDS prevention in the workplace will almost certainly outweigh the costs of an unchecked spread of the disease. However, not all aspects of the recommended workplace policies are necessarily financially appealing in the short-term. Furthermore, managers consistently indicated that they desire more information on workplace policies as well as prevention interventions.

Managers are aware that AIDS will affect their operations, and many of them are ready to begin responding to the crisis so as to reduce both its spread and its impact. A well-crafted approach of public and private sector collaboration in workplace HIV/AIDS prevention and policy planning promises to address Kenya's AIDS crisis in a manner that will yield human, socioeconomic development, and private sector benefits in the future.

V. Recommendations

First, all Kenyan companies should assess the potential impact of HIV/AIDS on business operations and profitability.

Second, both employers and worker associations can take a more active role in clarifying the major policy issues related to HIV/AIDS in the workplace. This will provide guidance and structure as individual companies begin to design policies appropriate to their needs.

Next, a government-business-labour dialogue needs to clarify the expected responses to the epidemic from each side. The dialogue could address issues such as HIV testing, counselling, STD service provision, financial commitments and coordination.

Fourth, the Kenyan business community needs training and assistance in designing, developing and implementing HIV/AIDS prevention policies and programmes. Either an NGO or a consulting firm could offer this expertise to the business community on a fee-for-service basis.

Finally, Kenyan companies can play a leadership role in eastern and southern Africa by sharing their experience in responding to the HIV/AIDS epidemic. Much can be learned across borders as businesses seek to remain profitable in the face of HIV/AIDS.

Chapter 7

The Macroeconomic Impact of HIV/AIDS

By John Hancock^{}, David S.O. Nalo^{**}, Monica Aoko^{***}, Roselyn Mutemi^{****}, Hunter Clark^{*****}, and Steven Forsythe^{*****}*

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I. Introduction

As the AIDS epidemic worsens in Kenya, it is becoming increasingly evident that the disease will have a profound impact on the Kenyan economy, although the magnitude of this impact remains unclear. Due to the long incubation period between HIV infection and the onset of AIDS, many of the effects have not yet been fully felt on a large scale. It is important from a planning perspective to quantify, as precisely as possible, what these impacts will be. It is equally important to gain insight into the factors contributing to these impacts and determining the best way to mitigate them.

In economies with significant underemployment such as Kenya's, one might expect that workers (especially those in

By the year 2005, the economic simulations

suggest that Kenya's Gross Domestic Product (GDP) will be 14.5 percent smaller than it otherwise would have been had AIDS never occurred. Per capita income is projected to be reduced by 10 percent. Kenya's macroeconomy is likely to decline as more money is spent on health care, and workers are forced to move into generally lower paying jobs in the informal sectors.

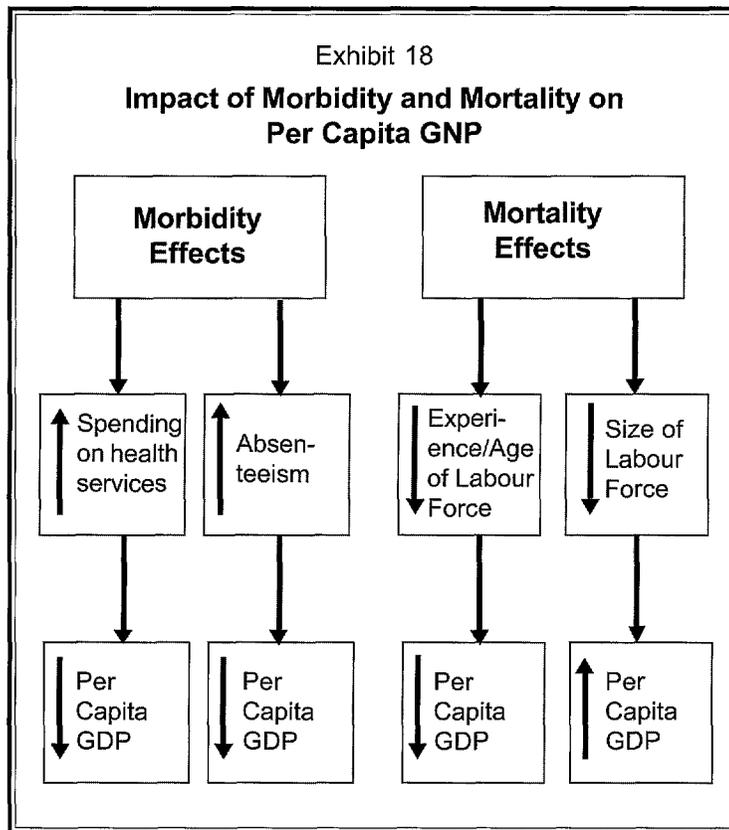
the "formal" sector⁶⁰) who die of AIDS could be replaced by underemployed workers from other parts of the economy (especially those in the "informal" sector). As a result, AIDS might be expected to reduce underemployment and increase the average income of the surviving workers. One might expect that per capita Gross Domestic Product (GDP) might actually rise as workers involved in generally lower-paying activities in the informal sector fill the vacancies created by AIDS in the formal sector. Thus financially, the survivors of the AIDS epidemic could theoretically be wealthier with the epidemic than without.

However, other factors might negatively affect per capita income. To the extent that increases in health care expenditures are funded by savings and investment, AIDS will lead to lower capital accumulation and slower employment growth in the formal sector. Furthermore, in a sticky-wage economy (so called because wages don't immediately adjust to compensate for labour shortages or surpluses), the inability to lower wages to compensate for the reduced productivity of workers will cause firms to hire less labour and switch to more capital-intensive production methods. This will cause reductions in demand for formal-sector labour,

⁶⁰ The formal sector is defined in a variety of ways in different statistical studies (firms with more than ten employees, firms with more than fifty employees, firms located in a facility with a roof, etc.). Since Kenya's Economic Survey defines the formal sector as firms with more than ten employees, this definition was used in this analysis. All other firms or forms of self-employment, including hawking, subsistence farming, etc., are categorised in the informal sector.

forcing more workers into the informal sector and subsequently reducing the per capita GDP.

As illustrated in Exhibit 18, various competing forces are at work that may result in the per capita GDP increasing or decreasing due to AIDS. While increased spending on health services, increased absenteeism within the labour force, and reduced experience levels among workers may reduce per capita GDP, this could be offset by an overall smaller workforce. In order to make projections of the impact of AIDS on Kenya's macroeconomy, it is necessary to simulate the course of the Kenyan economy with and without AIDS. The economic simulations performed for this chapter use the results of demographic simulations completed in Chapter 2. The results from these demographic models were then used



as inputs into the macroeconomic model used in this analysis (the macroeconomic model is an extended version of the "MacroAIDS model" developed by John Cuddington and John Hancock^{61,62}).

Similar studies using the MacroAIDS model have been performed in Tanzania⁶³, Malawi^{64,65}, Zambia⁶⁶, and Zimbabwe⁶⁷. These studies indicate that there could be very substantial declines in *total* GDP, depending upon the extent of the epidemic and the effectiveness of the mitigation strategies, and smaller changes in per capita GDP over the next 10 to 15 years. Estimates for Malawi, for example, suggest that the size of the entire Malawian economy could be cut by as much as a third because of AIDS.

The remainder of the chapter is organised as follows. Section two discusses the AIDS-related factors that are likely to affect the Kenyan economy. Section three describes the results of the Kenyan simulations. Finally, section four discusses conclusions and policy recommendations.

II. AIDS-Related Factors Affecting Kenya's Macroeconomy

As HIV prevalence rates rise, labour productivity, earn-

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- ⁶¹ Cuddington, J.T. 1993. "Further Results on the Macroeconomic Effects of AIDS: The Dualistic, Labor-Surplus Economy," *World Bank Economic Review* 7,3 (Sept.), 403-417.
- ⁶² Cuddington, J.T.; J.D. Hancock; and C.A. Rogers. "A Dynamic Aggregative Model of the AIDS Epidemic with Possible Policy Interventions," *Journal of Policy Modeling*, 1994, 473-496.
- ⁶³ Cuddington, J.T. 1993. "Modeling the Macroeconomic Impact of the AIDS in Tanzania," *World Bank Economic Review* 7, 2 (May), 173-189.
- ⁶⁴ Cuddington, J.T. and J.D. Hancock. 1994. "Assessing the Impact of AIDS on the Growth Path of the Malawian Economy," *Journal of Development Economics*
- ⁶⁵ Cuddington, J.T. and J.D. Hancock. 1994. "The Impact of AIDS in Malawi: A Dualistic, Labor-Surplus Economy," *Journal of African Economies*, 4,1, 1-30 (in press).
- ⁶⁶ Forgy, Larry. "Mitigating AIDS: The Economic Impacts of AIDS in Zambia and Measures to Counter Them," REDSO/ESA, February 1993.
- ⁶⁷ Forgy, Larry. "The Economic Impact of AIDS in Zimbabwe: Economic Analysis for AIDS Project Paper," REDSO/ESA, January 1993.

ings and savings will be affected in a number of ways. Since HIV/AIDS primarily affects people within their most economically active age range (15-45), these AIDS-related impacts could be substantial. These effects can be grouped into five basic categories:

- reduction in investment and savings due to higher health care expenditures;
- decline in labour productivity due to worker absenteeism;
- decline in labour productivity due to the loss of experienced workers;
- changes in labour market supply and demand; and
- changing demand for government services.

A. Increased Spending on Health Services

Increased illness among Kenya's population, corresponding to a rising HIV and AIDS prevalence rate, will lead to greater health care expenditures. These expenditures are incurred by households and the health care system (public and private) to assist patients with AIDS and AIDS-related illnesses as they cope with the disease. AIDS will also increase other household expenditures, such as payments for special diets, transportation to health facilities, and ultimately funeral costs. To pay for this growth in health care consumption, there will need to be a decline in non-medical consumption and/or a reduction in savings/investment, with adverse effects on economic growth. Families may have to sell off assets to meet the additional demand for health care expenses. For families with employer-paid health insurance, these businesses will have to increase their health care expenditures leading to reduced profits and/or investments.

While aggregate savings and investment for Kenyan families and businesses will fall because of HIV/AIDS, it is unclear how the amount of capital available for each worker will be affected. The historically high population growth rate in Kenya has made it difficult for investment to keep up with population growth. Thus the increased mortality due to AIDS could, theoretically, more than offset any reductions in sav-

ings and investment caused by increased medical consumption, leading to rising capital to labour ratios. However, this has not been found to be a likely scenario in the previous simulations for Tanzania and Malawi.

B. Decline in Labour Productivity

Due to the increased absenteeism of workers caused by AIDS, the productivity of labour will be negatively affected. AIDS is likely to increase absenteeism due to: 1) illness, 2) time required to care for sick family members, and 3) funeral attendance. In turn, workers not absent from work face greater stress as they seek to compensate for their colleagues who are too ill to work. AIDS may even affect the morale of the workforce, with potentially severe consequences for the employers. All of these factors are likely to result in a declining per capita GDP as each employee is, on average, producing less. If workers cannot be replaced, or if finding temporary replacement workers is expensive, AIDS may represent a significant cost to Kenya's businesses and the macro-economy as a whole.

C. Decline in Labour Productivity Due to the Loss of Experienced Workers

"Learning by doing" or "on the job training" is an especially important form of human capital that can be lost with the death of a worker⁶⁸. HIV/AIDS may have a significant human capital effect as experienced labourers die of AIDS and are subsequently replaced by newer, younger, and less experienced workers. The reduction in life expectancy caused by AIDS means companies have less time to realise the gains from their investments in training new workers. This reduces the incentive for the private sector to invest in human capital, while strengthening the argument for workplace prevention.

⁶⁸ de Beyer, J. 1990. "The Incidence and Impact on Earnings of Formal Training Provided by Enterprises in Kenya and Tanzania," *Economics of Education Review* 9, 4, 321-330.

D. Changes in Labour Market Supply and Demand

In the Kenyan economy, there are likely to be important labour allocation effects associated with HIV/AIDS. It has been speculated that the existence of a large supply of underemployed replacement labour would mitigate the economic effects of AIDS. As underemployed workers in the informal sector move into generally higher-paying, formal sector jobs to replace workers who have died of AIDS, unemployment or underemployment would be reduced and the average wages of survivors might increase.

However, this theoretical notion assumes that the number of formal sector jobs is not affected, or is only marginally affected, by AIDS. This most likely will not be the case. Productivity and savings/investment effects discussed above will almost surely affect job formation in the formal sector, leading to slower growth in the formal sector demand for labour. If the rate of formal sector job creation falls by more than the decline in the rate of growth of the labour force, then the proportion of workers employed in the formal sector could actually decrease relative to the "No AIDS" scenario.

E. Changing Demand for Government Services

The demographic structure of the population and the demand for government services are closely linked. Higher youth dependency ratios mean a greater demand for government-supported health and education services. Alternatively, the demand for education may decline as children are forced to drop out of school and enter the labour force prematurely to support themselves and their families. More single-parent households and AIDS orphans will also affect the demand for social services (see Chapter 4 on the impact of HIV/AIDS on orphans). These effects are described in studies completed by AIDSTECH/AIDSCAP⁶⁹, the Ministry

⁶⁹ Forsythe, S.; D. Sokal; L. Lux; and T. King. 1992. "An Assessment of the Economic Impact of AIDS in Kenya." mimeo, Family Health International AIDSTECH/AIDSCAP Division.

of Planning⁷⁰, and Abt Associates⁷¹. The increased demand for government services will, in turn, affect the economy to the extent that investment funds are diverted to pay for increased services.

The state of the economy will also feed back into the availability of funding to meet the demand for government services. In the presence of HIV/AIDS, a smaller economy will result in a smaller tax base and thus less ability to provide these services. For the purpose of this analysis, changes in government services were not projected, since it was argued that this would largely depend upon political decisions that could not be predicted.

III. Simulation Results

This section summarises simulation results for the “No AIDS” and “With AIDS” scenarios. (Appendices B and C show the methodology and key parameter assumptions used in the simulation exercises).

A. Age of Labour Force

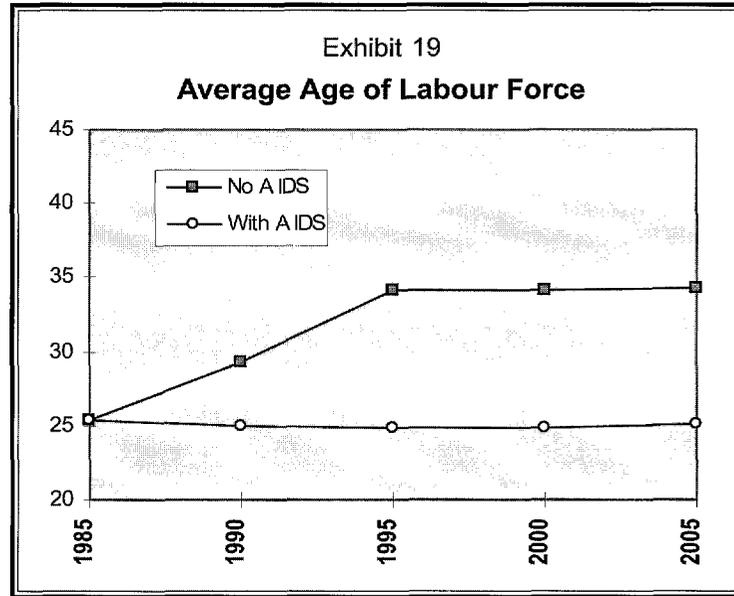
Exhibit 19 illustrates the average age of the labour force in scenarios in which AIDS does and does not exist. This exhibit confirms the assumption that the average age of workers is likely to be substantially reduced (from 34 years in the “No AIDS” scenario to 25 in the “With AIDS” scenario). This illustrates that HIV/AIDS will create a workforce made up of younger and more inexperienced workers.

B. Savings/Investment

The MacroAIDS model predicted that the cost of meeting medical expenditures for patients with HIV and AIDS will cause a significant drop in savings, which in turn will result

⁷⁰ Nalo, David S.O.; Monica I. Aoko. “Economic Impact of AIDS in Kenya,” 1992, Long Range Planning Division of the Ministry of Planning, Nairobi.

⁷¹ Leighton, C. 1993. “Economic and Social Impacts of the HIV/AIDS Epidemic in Africa and Asian Settings: Case Studies of Kenya and Thailand.” AIDSCAP and USAID, Abt Associates.

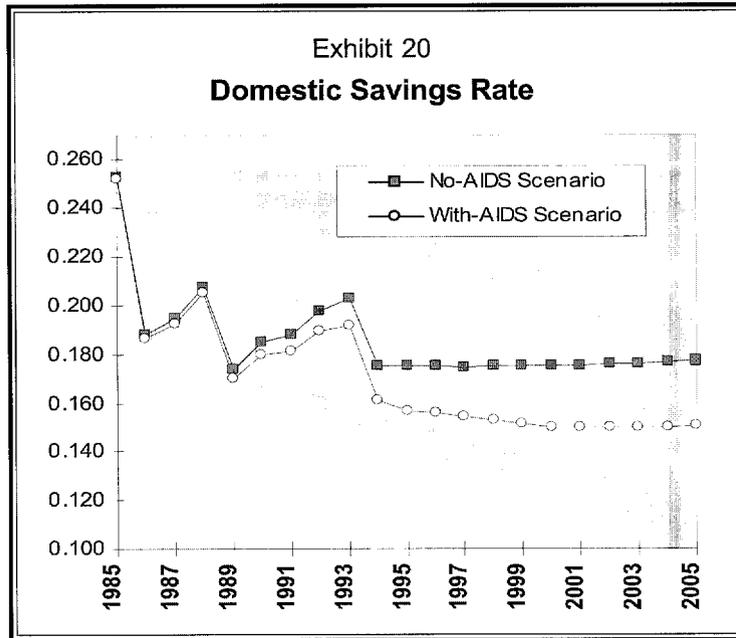


in lower capital accumulation. Exhibit 20 shows the time paths of domestic savings in the two scenarios. By the year 2005, the domestic savings rate is predicted to drop 15 percent in the “With AIDS” scenario relative to the “No AIDS” scenario. This reduction in savings will create particular difficulties for the formal sector, which relies upon savings to accumulate capital and thereby create higher-paying formal sector employment.

C. Employment

The MacroAIDS model further projects that the loss in savings (and subsequent capital accumulation) and the decrease in labour productivity are expected to result in less demand for employment within the formal sector. As mentioned previously, if wages are sticky, the number of formal-sector jobs will shrink at a significantly faster rate than if those wages had been able to fluctuate freely. The result is that workers may be pushed from the generally higher-paying jobs in the formal sector into jobs in the informal sector.

In the “No AIDS” simulation, formal-sector employment



comprised 15 percent of total employment by the year 2005, which represents a rise from 14 percent in 1985. However, in the “With AIDS” simulation, formal-sector employment was projected to decline to 13 percent of the total workforce. The rate of formal sector job creation is falling by more than the rate of population growth, resultin in a relative loss of formal sector jobs.

D. Ratio of Capital to Labour

While the model predicts that both the rate of growth in formal sector employment and the rate of capital accumulation will decline as a result of AIDS, it is projected that the impact of HIV/AIDS on capital accumulation will be less than the impact on formal sector employment. This is projected to cause the capital to labour ratio in the formal sector to be slightly higher in the “With AIDS” scenario (Ksh99,000) relative to the “No AIDS” scenario (Ksh98,000). The amount of capital per worker in the informal sector is projected to fall from KSh2,200 (1985 Kenyan Shillings) in the “No AIDS”

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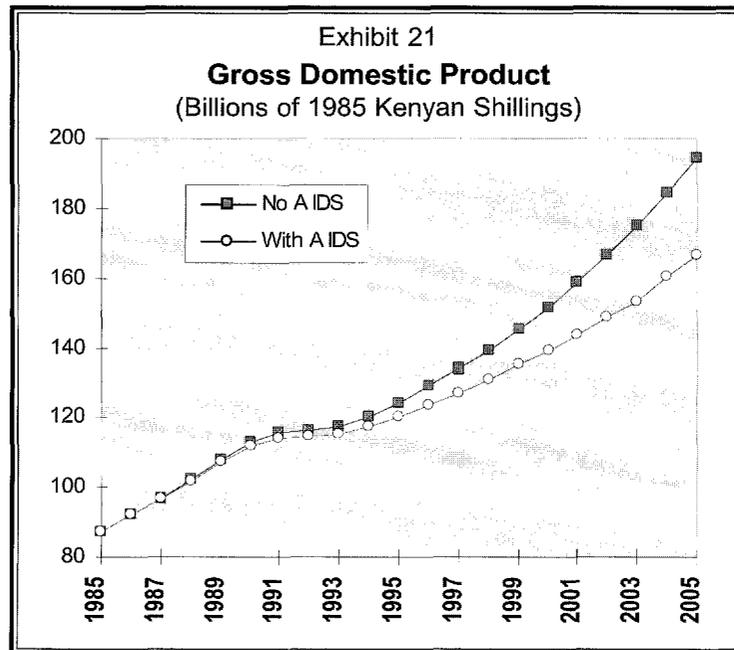
scenario in the year 2005 to KSh1,900 per worker in the “With AIDS” scenario.

E. Wages

The simulations predict that wages in the formal and informal sectors will not be much affected. Wages in the formal sector are predicted to be the same in the year 2005 for both the “No AIDS” and “With AIDS” scenarios. Wages in the informal sector fall from KSh3,000 (1985 KShillings) in the “No AIDS” scenario to KSh2,800 in the “With AIDS” scenario, a drop of 7 percent. It seems that most of the economic impact of AIDS will be upon those in the informal sector, especially those who would have otherwise found employment in the formal sector had the growth of jobs in the formal sector not been adversely affected by AIDS.

F. Gross Domestic Product

Exhibit 21 shows the time paths of GDP in the “With AIDS”



and “No AIDS” scenarios. What is surprising is the magnitude of the impact on total output, which is a full 14.5 percent lower in the “With AIDS” case relative to the “No AIDS” scenario.

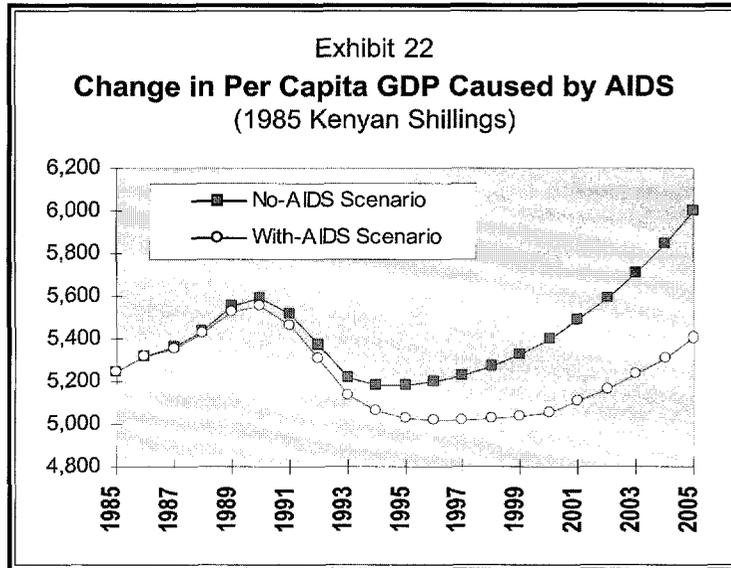
Because output growth is projected to outstrip population growth, per capita GDP in the absence of HIV/AIDS rises from KSh5,200 in 1993 to KSh5,400 by 2005 (1985 Kenya Shillings) in the presence of HIV/AIDS. As shown in Exhibit 22, since the population is 4.5 percent smaller in the “With AIDS” scenario, there is a 10 percent drop in per capita GDP as a result of HIV/AIDS. This illustrates that the negative impact of HIV/AIDS (a 14.5 percent decline in GDP) far outweighs the advantages of a smaller population (a 4.5 percent decline).

G. Sensitivity Analysis

The macroeconomic effects of AIDS depend largely on the assumed values for the saving and productivity loss parameters. Appendix D summarises the sensitivity analysis showing the effects of AIDS on future GDP and GDP per capita under different assumptions. The negative impact of AIDS on GDP in the year 2005 ranges from 2 percent in the most optimistic case to 26 percent in the most extreme case. The per capita income actually rises by 3 percent due to AIDS in the most optimistic scenario and falls by 22 percent in the most pessimistic case.

H. Measuring the Indirect Cost of AIDS

In weighing the costs and benefits of any response to the AIDS epidemic, planners will need estimates of the costs of the disease, both treatment costs and the costs of lower productivity. One way to measure the cost of lost productivity is to measure the difference in output between the “No AIDS” and “With AIDS” scenarios. Assuming a discount rate of 5 percent, the discounted value of lost output in the years 1985 through 2005 is KSh76 trillion (1985 Kenyan Shillings). This is almost double the discounted treatment cost of AIDS over the same period which, given the assumptions of the simu-



lations, is KSh42 trillion (1985 Kenyan Shillings).⁷² Thus the total loss to the Kenyan economy over this period, both the cost of lost productivity and the cost of treating patients with AIDS, is equivalent to KSh118 trillion (1985 Kenyan Shillings).

IV. Conclusions and Policy Recommendations

The negative economic impact of HIV/AIDS on the Kenyan economy produces some extremely disturbing results that demand carefully considered policies to contain the situation. By the year 2005, the simulations presented here suggest that Kenya's GDP will be 14.5 percent smaller than it otherwise would have been had AIDS never occurred. Per capita income is projected to be reduced by 10 percent. This impact is somewhat larger than was found in a similar study in Tanzania, which is due primarily to the greater decline in

⁷² Note that this finding differs from that presented in Chapter 5, which indicated that direct treatment costs would be greater than the indirect costs of HIV/AIDS.

projected savings associated with Kenya's higher AIDS-related health expenditures.

The sectoral examination of employment reveals that in the "No AIDS" simulation, formal sector employment will be 15 percent of total employment in 2005. In the "With AIDS" case this proportion falls to 13 percent, reflecting a significant reversal in formal sector job creation due to HIV/AIDS. This occurs because the rate of formal sector job creation falls much faster than the rate of population growth, resulting in a smaller proportion of jobs being in the formal sector. A decline in the formal sector job creation is attributed to lower savings rates in the formal sector leading to lower rates of capital accumulation.

Increasing the foreign inflow of capital to Kenya may need to be pursued to mitigate the economic impact of AIDS. As was seen in previous sections of this report, financing the direct cost of AIDS will divert funds badly needed for capital development in the formal sector. It is possible to make up for reduced domestic savings by increasing foreign savings. The MacroAIDS model predicts that in order to maintain output at the same level in the year 2005 as it would otherwise have been had the AIDS epidemic not occurred, the rate of foreign aid would have to double from the current rate of 4 percent of GDP to 8 percent of GDP beginning in 1996 and continue at that level through the year 2005.

The simulation results and conclusions above call for clear policies aimed at reducing the spread of HIV and minimising the general negative impact of AIDS on economic growth. Some of the policy recommendations are discussed below.

Prevention policies targetting the labour force at the workplace will be most effective at mitigating the economic impacts of HIV/AIDS. As an example, medical programmes to treat STDs will reduce absenteeism and improve the worker productivity, while reducing the chances of HIV infection.

Policies on AIDS in the workplace must prevent the firing of employees who are HIV-infected, especially when those employees are still capable of effectively doing their jobs. Developing and promoting policies that offer security and stability is essential for a productive workforce. The GOK could assist the private sector in this by helping to formulate ap-

appropriate HIV/AIDS policies for businesses and the workplace.

Because HIV/AIDS will disrupt labour markets due to increasing morbidity and mortality, policy reforms to allow more labour market flexibility will help in the adjustment to large AIDS-related shocks to labour supply and demand. Reforming labour laws, already a stated objective of the government,⁷³ can offer stability to both workers and employers.

In addition, the government can assist the private sector and the overall economic well-being of the country by training youth entering the job market and by accelerating specialised training programmes for workers in key sectors and industries likely to be most affected by HIV/AIDS. A public-private partnership (or series of partnerships) for developing such training may be appropriate.

The Ministry of Planning and the Ministry of Health need to develop a comprehensive and detailed macro and sectoral AIDS policy, as has been proposed in Kenya's 7th National Development Plan⁷⁴. Such a comprehensive policy document must spell out relevant policies to be pursued at all levels in the public and the private sectors. The government will also need to assure that the policy document will have sufficient legislative support. The ongoing *Parliamentary Sessional Paer on AIDS* should serve as a key component to developing a national AIDS policy.

Domestic resources need to be reprogrammed to support HIV/AIDS prevention programmes. In addition, there is a need for greater financial support from wealthier nations. The health sector in particular will need additional support as the burden of health care costs increases. If plans are made early enough, it may be possible to reduce costs and improve treatment through long-term planning. The use of hospice care for patients at advanced stages of their illness, for example, may reduce costs and improve services.

⁷³ Republic of Kenya. "Sessional Paper No. 1 of 1994 on Recovery and Sustainable Development to the Year 2010." 1994.

⁷⁴ Republic of Kenya. 1994. "Seventh National Development Plan (1994-1996)."

The government needs to increase social services for Kenyans, especially in the areas of health and education. Higher youth dependency ratios may imply greater demand for assistance in obtaining health and education services. More single parents, especially mothers and children orphaned by AIDS, will also affect the demand for social services.

Kenya's vulnerable groups (unemployed youth, poor single parents, women, orphans) need to be integrated fully in the country's proposed Social Dimension of Development Programme (SDD). It is particularly important that poverty alleviation be addressed by designing programmes that engage women in income-generating activities.

Finally, there is a need for future research to support appropriate policies aimed at mitigating both health and economic impacts. Such research needs to analyse cost-effectiveness, taking into account the costs and effects of reaching various geographic, demographic, and employment groups. Measures of effectiveness need to include reductions in economic impacts that could be assessed at sectoral, regional, and household levels.

Case Study Joshua

Joshua has not revealed his HIV-positive status to his family or to any of his friends. If his mother was told that he has the virus that causes AIDS, Joshua says, she would blame this on his abandoning the Jehovah's Witness faith. Joshua, on the other hand, blames his predicament on the religious upbringing that he describes as "very restrictive". When he finally left the faith, Joshua reports that he had a sudden desire "to pay back for time lost" finding himself seeking indiscriminate sexual contact for the first time at the age of 23.

His behaviour was of such high risk that one of his friends cautioned him to go slower and to protect himself during the sexual encounters. Joshua felt such anger toward his restrictive upbringing that he did not heed this advice. It only took one encounter to contract HIV.

As he now reflects on this turn of events, Joshua feels rather forlorn but regrets that it is now a bit late. While Joshua blames his religion, he also feels that if he had stuck to his faith, he would have escaped the HIV infection.

Joshua describes a disturbed childhood where he found himself commuting between his mother's and father's homes. His mother was the second wife in a polygamous marriage and his father worked in another town. Joshua felt torn between his parents as he was equally fond of both of them and hated being separated from them. During his education, Joshua would be away for months at a time, attending the

schools chosen by his father, who demanded that he keep the Jehovah's Witness code.

Joshua describes his mother as being lonely for most of the time when the father was away and he found himself sharing in her loneliness. The parents have since separated and Joshua now feels obliged to take care of his mother, as he is the only child who has received a good education, enabling him to maintain a well-paying job. He still describes himself as "dysfunctional" and as a result is on a soul-searching mission to overcome this problem.

Joshua has known of his HIV infection since 1992. Prior

to this, he had maintained a steady relationship with a young woman for about a year. However, on disclosing his status to her, she abandoned him and Joshua has not had any sexual relationships since. He realises the need to maintain friendships with women and says that he is working on this.

While he has sought HIV counselling from various sources, he feels that his needs have not been met. He refers to his limited experience with HIV/AIDS counsellors as unsatisfactory and unprofessional, and would be interested in better counselling where he would have the opportunity to interact with other professional people like himself who are also living with HIV/AIDS.

Although he has not yet developed AIDS and suffers only mild symptoms related to his HIV infection, Joshua is struggling with the stigma associated with the virus and is careful about revealing his status to anyone in his professional field. He fears that he will lose his job once this condition becomes obvious and is looking for ways to become financially independent to enable him to leave formal employment voluntarily.

Joshua is concerned about his family members who depend on him for economic support, especially his mother. He would like to make sure that his mother has a satisfactory home and is working toward helping her with this.

Earning a comfortable salary of about KSh50,000 a month, Joshua is able to pay for his medical bills that amount to about KSh15,000 for various viral infections of the throat, stomach and feet. He manages a house rent of about KSh3,000 a month and is able to employ a house helper at a low rate of KSh1,000 a month. He helps educate a younger sister paying up to KSh5,000 a month. On top of all this, he is his mother's primary means of support. Because of all these responsibilities, Joshua maintains that he will only disclose his situation after developing full-blown AIDS.

Chapter 8

Christianity and AIDS in Kenya

By Ndunge Kiiti and Debbie Dortzbach

MAP International

Many Kenyans knew Ruth Kasuki. Ruth died of AIDS in March 1993 at the age of 35, but her challenge to the churches will not be forgotten.

Christians comprise 70 to 80 percent of the Kenyan population. The church clearly has an important role to play in the AIDS epidemic. Ten million Kenyans are members of six major Christian denominations—Catholic, Africa Inland Church, Presbyterian, Seventh Day Adventist, Church of the Province of Kenya, and Methodist. The Catholic church is the largest denomination in Kenya with a following of 5.4 million people.

I. The Challenge

Kenneth Kaunda, former President of Zambia, challenged the church to provide moral and spiritual standards against which a nation measures its policies and action: "Never has the church had a more wonderful opportunity to be a relevant and effective spiritual and moral force than it has in these newly established states, where persons are hungry for the truth."⁷⁵

⁷⁵ Okullu, H. *Church and State*. Nairobi, Kenya: Uzima Press Limited, 1984.

Ruth

"Ruth, what is the one message you would like to communicate to churches in Kenya?" Ruth was asked, eight days before she died of AIDS. As Ruth lay in her bed, struggling to put her thoughts and words together, she responded, "The first thing is that church leaders must understand this thing! And after they have understood this disease, then they must have an interest."

Churches are a grassroots, integral part of community life. Churches promote beliefs that guide behaviour with either an implicit or explicit system of accountability. The church is a community in itself with particular expectations from its members, involving a sense of accountability and caring, leadership and structure. The church is an institution that is capable of educating large numbers of people. In addition, the church responds to the community outside its walls in numerous ways, often seeking to bring reconciliation between God and man and to meet human needs, recognising the inseparable physical and spiritual nature of man.

The church is a healing community, practising healing in many different ways, but most commonly through a sense of caring and a strong belief in hope, both for this life and the life to come. Families affected by HIV/AIDS need the hope and purpose for living that the church can offer. The church can play a more comprehensive role as a healing community to respond effectively to the HIV/AIDS epidemic and make a significant impact on HIV prevention as well. This must happen through looking at the deeper factors contributing to the epidemic, such as the breakdown of family structures, unfaithfulness in marriage, sexual activity among youth, and lack of reverence for the value of life.

Who should be involved? HIV/AIDS programmes must target all cadres of church leaders and laity, women's group leaders, youth and young adults. The church must address the particular needs of women, many of whom are not in high-level leadership roles, but who are often the most regular attendees and contributors to church programmes.

II. The Response

The church in Kenya is very diverse in its beliefs, practices, and structures, making it difficult to generalise about a single response to HIV/AIDS. The common denominator of churches—their concern for spirituality—is a traditional African value deeply ingrained in history, culture, family and custom. Indeed, in African culture, spiritual issues and physical issues are inseparable. The church in Kenya has responded to the AIDS challenge in a number of ways, but two responses have been most characteristic. Churches have sometimes responded with a *helping hand*. Support, both spiritual and physical, has been provided to the affected families. Youth have been challenged to avoid pre-marital sex, and husbands and wives encouraged to remain faithful to each other. On the other hand, some churches have responded with a *closed fist*. One man living with AIDS was asked if he received any help from his church. “No,” he responded. “I don’t want them to know that I have AIDS because if they knew they would not come near me. I have stopped going to church.”

A number of Christian institutions and international agencies working in Kenya have responded positively to the HIV/AIDS challenge. The Christian Health Association of Kenya (CHAK) has numerous training workshops on AIDS awareness, home care, and counselling throughout Kenya, especially through church hospitals. Norwegian Church Aid (NCA) has developed the “Partnership in Community” approach for community education and training using the community itself to design AIDS programmes. In addition, NCA has provided financial and educational support for churches in eastern Kenya. World Vision Kenya has started an extensive AIDS programme in the sprawling Korogocho slum in Nairobi. This programme has grown to reach other slums in the city. World Vision also has effectively encouraged the use of traditional media such as song, dance, music, drama, and poetry to communicate HIV/AIDS messages. The Kenya Catholic Secretariat (KCS), which coordinates health services for the Catholic Church in Kenya, has tried to tackle some of the problems that have come with the HIV/AIDS epidemic.

With its extensive programmes focusing on educational material production and dissemination, home care for people with AIDS and counselling, the KCS has made an impact on many Catholics in Kenya. MAP International, a Christian health and development agency working through churches across Africa, is involved in enabling churches to respond to the AIDS epidemic through networking, ethnographic research on home care and behaviour change among Kenya's church-going public, literature development and training of church leaders. Together, these agencies collaborate on a number of efforts, primarily through the Kenya AIDS NGOs Consortium.

III. The Church and Policymaking

At times, the Christian churches react instantly without thought to social policy issues because they fail to understand and relate to the world around them. On the other hand, society may fail to appreciate that church convictions are rooted not simply in tradition, but in deeply held beliefs about God and relationships revealed in the Bible. Persons of faith possess convictions that are rooted in explicit revelation and not current popular thinking or behaviour relating to relationships. Christian groups take stands on social issues by applying the messages from the Bible. Conviction is based upon interpretation of this guidebook, which may even be considered a "policy manual."

Beliefs guide behaviour and form the basis for policymaking. At times, religious groups are adamant about policy and formalise it through statements intended for adoption at all levels. At other times, informal policy discussions encourage church leaders to grapple with issues and suggest guidelines. Both approaches are intended to "proclaim and promote life." A danger exists, however, when informal policy discussions lack accurate information or when formal policies fail to meet human needs. For example, a discussion about the use of the common cup during communion and possible HIV transmission may lead to an inaccurate and divisive conclusion that AIDS can be transmitted

by sharing cups or utensils. Among Christians, it is common to hear uninformed Christians argue that an intact condom has microscopic holes through which HIV may pass. These are examples of false information used in informal discussions of issues leading to policy formation. Policies must never be formed based on false information or presumption. It is imperative that the church affirms truth rather than perpetuates myths about HIV and AIDS.

The high prevalence of HIV/AIDS in Kenya challenges the churches to look at their traditions and ways of thinking and communicating. Discussion about sexuality is not common in Kenya's churches or its homes. Traditional ways of preparing youth for adulthood are disappearing with rapid urbanisation and cultural change. The church is faced with the dilemma of abandoning its traditional and subtle approach to discussing sexuality and moving to boldly address these issues.

"Talking about sex in the church is very difficult because church leaders have not done it before, and sometimes they believe that a holy place should not be made unholy by such talk."⁷⁶ How then do religious groups begin to talk about HIV/AIDS and sex and discuss policy issues surrounding AIDS? Too often, issues are not discussed at all and informal policies develop out of suspicion and fear rather than from accurate information, such as clergy refusing to bury persons who have died of AIDS, or failing to provide pastoral care for someone with AIDS or his or her family.

A. Policy Issues

Reflections on HIV/AIDS policy issues and the church must begin with a closer look at commonly held beliefs governing behaviour and forming policy. This section aims to clarify the church's positions on key policy issues such as:

- social and family impact
- behaviour change

⁷⁶ Dortzbach, D; Kiiti, N. "Enabling the African Church to Respond Biblically to the AIDS Crisis," Presented at the Stewardship Journal/Villars Committee Conference on Holistic Ministry, 1994.

- youth education
- training and counselling

Policy Issue #1: Social and Family Impact

In Kenya, the first schools, hospitals and clinics were all church-related. Through a combination of Christian missions and early colonialism, churches began to have increasing influence over Kenya's families. As this influence increased, churches began to respond to requests to address the human needs of Kenyan families.

HIV/AIDS is now challenging the ability of families to cope, and the ability of church institutions to continue to respond to the human needs of Kenyan families. Religious groups across Kenya are responding to the physical needs of families with AIDS. Some examples include: home-based care programmes established through CHAK and the Seventh Day Adventist Church in Kendu Bay; church-based hospital care in places like Chogoria of the Presbyterian Church of East Africa, and Kijabe Medical Centre of the African Inland Church; home care and counselling through the Eastern Deanery AIDS Relief Programme of the Catholic Church in Nairobi; orphan care for HIV-positive children through Nyumbani; and Crescent Medical Aid clinics in poor urban centres.

As the epidemic evolves and Kenyans face the impending reality of one million children orphaned by AIDS and nearly two million people infected with HIV by the year 2005, the church is in the unique position to offer true community-based assistance. Indeed, it will take a great sacrifice of time, energy and finances to assist widows and orphans, care for the sick and strengthen the family in the face of great demands.

Policy Issue #2: Behaviour Change

The church in Kenya believes that God created sex to bring fulfillment and enrichment between one husband and one wife. Christians believe that sex was the first commandment given to man, "Be fruitful and multiply" (Genesis 1:28). An

entire book in the Bible, the Song of Solomon, is about married love and love making. Sex is to be celebrated within marriage. Repeatedly, the church warns against sex apart from marriage because it violates God's law, "You shall not commit adultery" (Deuteronomy 20:14). The family is to be protected and nurtured, the husband and wife relationship preserved for each other. The Kenyan church then is careful to frame statements and policies around the preservation of the family and a sexual union within marriage. Regardless of denomination or ecclesiastical position, churches in Kenya unite around this theme.

What about the reality that faithfulness and abstinence are not widely practiced in Kenya? Marital infidelity is of great concern to church leaders and AIDS prevention experts alike. Dr. Mary Bassett from the University of Zimbabwe addressed the IX International Conference on AIDS in Berlin in a plenary meeting stating:

Modern "multi-partnering" carries little long term commitment or financial responsibility and has become a feature of life for all men. In a 1987 study of Harare factory workers, we found that married men, whether living with a wife or not, were actually more likely to pay for sex than single men. The same study showed that four-fifths of married men had girlfriends in addition to their wives. True, there are men who have sex only with their wives and men who are single and celibate; they are however, the minority. Not surprisingly, this configuration of sexual relationships has led to sexually transmitted diseases becoming rampant.

Faithfulness in marriage is a policy of the church. When couples are married by a pastor or priest, a vow is taken before the congregation to commit to faithfulness. Some churches in Kenya developed Family Life Education Programmes through the assistance of the National Council of Churches in Kenya (NCCCK) to encourage abstinence before marriage and faithfulness within marriage. These programmes help enrich marriages by fostering open communication between husbands and wives, understanding a spouse's needs and deepening love and commitment to each other.

The church maintains that God's plan for

marriage: protects children from abandonment, protects the sanctity of sex, protects the family and society from the devastation of AIDS. The church aggressively participates in AIDS control by encouraging a commitment to faithfulness in marriage.

Some churches express strong statements about the condom. The Catholic Church, for example, opposes the use or promotion of condoms. Some Catholics devote themselves to counselling couples where one is infected and the other is not, to express a sacrificial love through abstinence. Other Catholics wrestle with tradition and stated official policies of the church, and offer information on condoms to discordant couples for their own informed choice. Catholics and other church bodies oppose offering condoms to youth who are not married. While such opposition to condoms may reduce sex outside of marriage, there is also tremendous concern, especially by those outside the churches, that such opposition to condoms may condemn youth who are sexually active to suffer unwanted pregnancies, HIV/AIDS and/or other STDs.

Some church leaders counsel the use of condoms for married couples only. Very few church leaders would sanction condom use indiscriminately, believing that condom use outside marriage violates God's purpose for marriage. *Helpers for a Healing Community: A Pastoral Counselling Manual for Pastors*, a guide developed through workshops with pastors from a variety of Kenyan denominations, recommends that pastors become more acquainted with facts and attitudes about condoms. It advises that the pastor-counsellor talks with both partners about how to protect an uninfected spouse.

Policy Issue #3: Youth education

While church leaders were presenting their recommendations for sex education of youth at a church leader policy workshop in November 1994, the Kenyan press announced

We believe that prevention of AIDS is best

promoted in God's ideal of fidelity and faithfulness in monogamous marriage and sexual abstinence before marriage. We recognise that we can fall short of God's ideal and suffer consequences. When physical life can be preserved in the midst of circumstances, we recognise that condoms may reduce risk, but we believe that the promotion of condoms as the primary prevention of AIDS falls short of God's idea for the sanctity and joy of sexual fulfillment in marriage.

The Declaration of the All Africa Church and AIDS Consultation held in Kampala, 1994, with participation from 28 countries and multiple denominations throughout Africa.

that the Ministry of Education was supporting a family life education curriculum in primary schools. The headlines brought an immediate negative response from churches and parents with one newspaper announcing, "Uproar over Sex Education Plan." The paper reported that church leaders objected to sex education that was not value-based. Religious groups have blocked similar proposals by the Ministry in the past. Yet churches have been slow to respond with their own programmes. The Ministry of Education has sought to respond to the fact that 10,000 young women drop out of school annually as a result of pregnancy. What happens to these young women and their infants? There is room for both secular and religious authorities to address these young women and their sexual partners, many of whom are older men seeking younger girls not yet infected by HIV. These same authorities must deal with the fact that one girl in 20 in Africa is HIV-infected in the 10-14 age group⁷⁷, and that nearly two-thirds of HIV infections in Africa occur in youth age 24 and younger⁷⁸.

"It is vital that children receive the information and skills to protect themselves from HIV before they become sexually

⁷⁷ WHO Press, June 11, 1994.

⁷⁸ Global AIDSNEWS, 1994, No. 3.

active," says Dorothy Blake, the Global Programme on AIDS Director of External Coordination and Mobilisation.

While some church leaders criticised the Ministry of Education's Family Life Education Curriculum, other church leaders met at the AIDS policy workshop and tried to tackle some of these difficult issues. They recommended, "that churches join in a united task force to influence the government to strengthen moral family life education syllabi in schools and that churches reevaluate their own youth programmes and activities to relate to the real issues that youth are facing."

There is a growing understanding within the churches that youth are sexually active and that parents must be more involved in understanding their children and communicating effectively with them regarding sexual issues. A Kenyan survey of 312 young people (12-24 years old) who regularly attend church revealed that 64 percent of boys are sexually active, with 30 percent of boys reporting that they have already had more than five partners.⁷⁹ That same survey revealed that nearly all young people knew about AIDS (predominantly through the radio), but that condom use remained low (about 30 percent) and that 43 percent of these young people believe that they have a "good" to "moderate" chance of getting AIDS.

The Methodist Church in Kenya became active relatively early in the epidemic, by launching an "Education for Life" programme as a pilot in 1987. The programme's purpose is "to help parents by means of teaching, discussing together and sharing together to take up their responsibility of giving counsel to their children and grandchildren, so as to mold them into responsible adulthood." Objectives for youth include: a) increased ability to communicate ideas, beliefs, and feelings with peers and parents; b) responsible sexual behaviour; c) decrease in teenage pregnancies; d) decrease in trial marriages; e) more realistic expectations of marriage;

⁷⁹ Kiiti, Ndunge; Dortzbach, D.; Guturo, F.; Wangai, A. "AIDS Prevention and Kenya's Churched Youth: An Assessment of Knowledge, Attitudes and Sexual Practices," Presented at the Third USAID HIV/AIDS Prevention Conference, Washington D.C., August 21-24, 1995.

“Our youth are in the crossroads of change and many times are lost in the middle without parental guidance on morality, sex, and marriage. Education is viewed as society’s answers, but schools are not necessarily providing guidance on values and moral decision making....Should the church be silent about AIDS and fail to act? Could the church’s *lack* of involvement in AIDS in our communities be sin?”

One Kenyan pastor in the Africa Inland Church (Mumo, 1995)

f) avoidance of sexually transmitted diseases; g) demonstrated ability to live within their financial means; and h) decrease in use of drugs. The pilot project was so successful that the denomination has decided to adopt it in regions throughout the country.

Policy Issue #4: Training and Counselling

In Mombasa, the Church of the Province of Kenya has tried to address the rapid spread of HIV/AIDS in its community. Church leaders came together for a series of workshops in 1993 to determine appropriate church interventions. An initial group of 90 pastors discussed the church’s role in helping to prevent adultery, improve physical hygiene, avoid sexually transmitted diseases, and teach youth about sex through choir groups, drama, and development groups. For the first time, they addressed issues surrounding sex in a session entitled, “Issues Which are Difficult to Discuss” and began to grapple with “secret” things between generations, children, in-laws, and husbands and wives. They decided to begin by using proverbs to communicate in indirect but clear, culturally acceptable ways, and to use simple language to communicate about sex. They agreed to work to strengthen families, and to enable women to become more involved.

The church leaders re-united after four months to report that 66 parishes had initiated church-wide gatherings to discuss the problem of HIV/AIDS in their churches. They found tremendous interest among their members and realised that

the epidemic provided a ministry for health and healing in the community that they had not previously considered. The pastors commissioned leaders to attend a second workshop for more in-depth training on pastoral counselling in HIV/AIDS.

Through a process of self-discovery about the responsibility of the church and the role churches could play in HIV/AIDS prevention and care, the pastors began to see the extent of the problem, and began to search for effective ways to address the issues within their cultures and spiritual beliefs. They no longer saw local hospitals or the media as the primary care providers, counsellors, or educators in HIV/AIDS. They began to see that simply passing along information about HIV/AIDS will not stop high-risk behaviour. The pastors realised that it is not offensive to God to speak openly about sex, but that preaching alone was not enough to bring about behaviour change.

B. Religious Networks

With funerals for young adults occurring weekly in churches, the AIDS issue could no longer be ignored. An ecumenical conference on AIDS in 1994 produced a dialog about the church's role in HIV/AIDS prevention and care. As a follow-up to the conference, a steering committee started meeting regularly to strategise on next steps. An urgent call was made to the highest level church leadership in every major denomination in Kenya to attend a second workshop to discuss HIV/AIDS issues relating to church issues and responses. Forty church leaders, including women leaders, bishops, pastors, seminary educators, priests and church communicators, identified the following issues for continued discussion relating to church policy and HIV/AIDS: 1) changes in sexual behaviour and values, 2) integration of faith with life issues, 3) sex education for youth, 4) advocacy for affected families, 5) counselling and training, 6) dealing with traditions, and 7) volunteer participation. The workshop provided a forum for discussing these issues and for making policy.

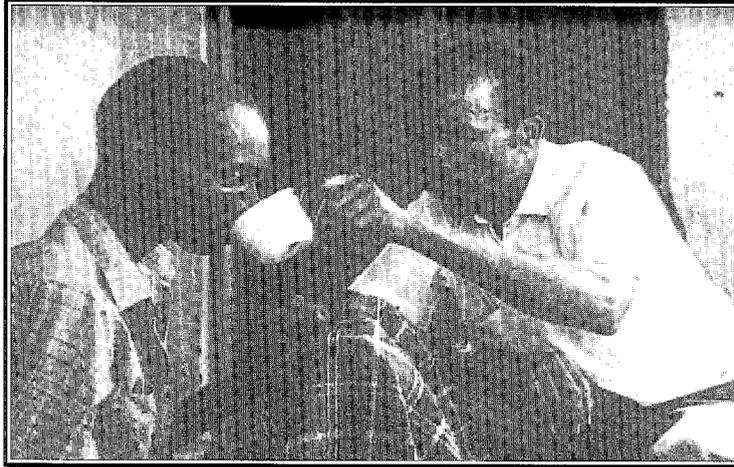


Photo: MAP International

A recurrent theme throughout the workshop was that the church was a powerful influence in the community, with existing structures to effectively put policies and programmes into place. However, church leadership often lacks vision and knowledge on the one hand or feels overwhelmed by the human need and lack of resources on the other. One participant remarked, "When I see the soaring number of AIDS orphans in Kenya, I think my home is just not big enough! Can we start small, even with just one little child?"

The church in Kenya supports an ecclesiastical network, the Kenya Christian AIDS Network (Kenya CAN) to facilitate the sharing of information, pool resources, exchange programme ideas and present a common voice on HIV/AIDS. Stemming from the first conference, a steering committee of different major denominations developed a position statement which was adopted at the second church leadership workshop held in November 1994. Kenya CAN demonstrates the policy commitment that networks promote together in order to share knowledge and provide support to accomplish big tasks together. As one participant at the workshop expressed it, "If you want to lift an elephant, you don't just go to the trunk or tail, but you require a *harambee* to lift the trunk, tail, and body together." Kenya CAN's statement

of purpose, agreed upon by all major denominations in Kenya states:

We are a group of church leaders and Christian organisations in Kenya. We recognise that the AIDS challenge is the church's challenge—a challenge to live out the compassion of Christ and meet the needs of the whole person. We are committed to a ministry of Christian hope, reconciliation, and healing in our congregations and communities through prevention, education, and care for persons and families. AIDS is with us. We must act now!⁸⁰

Another church movement is occurring in army camps and barracks. The Kenya Army Chaplains invited all major denominations and religions to share concerns about HIV/AIDS with the army leadership in a series of ongoing presentations.

The involvement of Kenya's church with the HIV/AIDS movement will have far-reaching effects as churches stretch beyond national borders to other countries in Africa and throughout the world. This movement powerfully demonstrates the ability of very diverse church bodies to unite around a common enemy—AIDS, and take up the collective challenge to work together.

IV. Conclusions and Recommendations for Church Policy

Harambee, a Kiswahili word meaning “togetherness,” has for years expressed the spirit and commitment to action of certain aspects of the Kenyan culture. As the *harambee* spirit has always been a part of Kenya, it has also been a part of Kenya's churches. The HIV/AIDS epidemic, more than any other challenge, calls for the togetherness, the unity of the church, if it is to have an impact. The following recommendations can strengthen the responses of the churches to the epidemic:

⁸⁰ Press release (signed by representatives of all major denominations) published in Kenya's major newspapers following the church leadership workshop on AIDS, November 1994.

- Religious groups need to build policy from what is true, not what is presumption.
- The unity of networks provide churches with a focus on common denominators in dealing with HIV/AIDS without having to seek a consensus in all areas of doctrine, belief or practice.
- The strength of the churches as healing communities needs to be fully articulated and utilised. By looking at the deeper contributing factors to the epidemic (such as the breakdown of family structures, unfaithfulness in marriage, premarital sexual activity, a lack of reverence for the value of life, and protection of life), the churches will provide insights into how the healing aspects of religion can reach beyond the epidemic itself.
- The church needs to identify the various strategies by which sex education for youth can be promoted in the family or integrated into educational programmes. Churches can sponsor seminars and workshops for couples and families on marriage and family enrichment. Training in pastoral counselling for families affected by HIV/AIDS can be added to seminary curricula.
- The church needs to network closely with the Ministry of Health, NGOs and other individuals in their communities to share its unique contribution to HIV/AIDS prevention and care.

Millions of dollars are being spent and the brightest of minds are struggling to control HIV/AIDS. At the IX International Conference on AIDS, Michael Merson, the former director of WHO's Global Programme on AIDS, stated, "AIDS must not be allowed to join the list of problems that the world has learned to live with because the powerful lost interest and the powerless had no choice." In the church, the powerful and powerless are joined with a mission to serve each other and the world. The resources of the churches stretch far beyond the most comprehensive HIV/AIDS programme budget. The church is endowed with the tools to address the global health crisis of the century, not with power or science

but with truth and love in the power of God. The church has existing infrastructures for social, personal, and family networks. The church embodies a sense of community and can marshal resources, share common values, goals, and purposes. The AIDS challenge *is* the church's challenge.

Case Study
Ann

Ann, a 37-year-old mother of four children, has found it extremely difficult to disclose her HIV status to anyone other than her husband of 19 years. She believes he is the source of her infection. Being the stronger of the two, and having taken the news of her seropositivity more calmly and ably in 1992, she is now busy trying to support her husband who has become totally devastated by the news. Ann is a devoted Christian and a deacon in her local church community.

The last born of eight children, Ann had 12 years of formal education. Unable to afford further education, she secured clerical work with a local firm. While working as a filing clerk, she met her husband and was married shortly thereafter. Her husband immediately moved to Nairobi to seek employment, leaving Ann in their matrimonial home with two young children. He would return once a month to bring money home to his family. As time passed, Ann observed that her husband was becoming irregular in his home visits and each time they had sexual contact, she contracted an STD. She resolved to join her husband in the city as her marriage was becoming strained. At first, her husband disapproved of the idea, giving the excuse that the children would not be able to attend school in the city. Ann was not discouraged and saw this opportunity as a last chance to save her marriage. In the city, she was able to find schools for her children with the help of her husband.

However, her fears regarding her husband's infidelity were confirmed after receiving several threats from a woman who claimed that Ann had taken her position.

Ann was first tested for HIV in 1992 at the Special Treatment Centre (STC) in Nairobi where she sought treatment for a urinary tract infection. She was not told that the blood drawn would be screened for the AIDS virus. When she was told of her seropositivity a week later, her first reaction was to ignore this news. It was only later that she told her husband and requested that he too should be tested. When her husband also tested positive, Ann decided to accept this status without a struggle.

Reflecting on this turn of events, Ann, who had remained

faithful to her husband throughout their marriage, believed she might have been infected either by her husband, who had proved to be unfaithful, or through a tubal ligation operation she had in 1988.

Feeling very guilty and remorseful for having probably infected his wife, Ann's husband was now ready to support any decision she made. That is how they sought counselling. Ann eventually took a position as a counsellor herself at an AIDS hospice day care facility where she is still working today. With a monthly allowance of KSh5,000 from the hospice, she is able to feed her family. Her husband has not been able to secure long-term employment.

Surprisingly, Ann and her husband have become very close as a result of this infection. They realise the need to work together in order to support their children and help them secure a good education and a bright future. After counselling, they resolved to use condoms. They had used condoms intermittently in the past to prevent unwanted pregnancies.

In the past two years, Ann and her husband have experienced flu-like symptoms and bouts of diarrhoea. Ann has suffered from herpes zoster, fevers, and heavy bleeding during her menstruation since being diagnosed with HIV.

Being highly religious, Ann gets her spiritual strength from her firm belief in God. She finds it extremely difficult, however, to reconcile her HIV status and her role in the church, as transmission is largely believed to be sexual and therefore immoral. She fears rejection from the church community once they discover her HIV status.

Ann is keenly aware of the ignorance on the part of the churchgoing community surrounding AIDS and its transmission. She fears that even after receiving education, which is badly needed, they would still criticise her and her husband and brand them as sinners.

Ann is currently immersed in her work as a counsellor for PWAs and finds fulfillment in helping others deal with their crisis. She often finds herself dissatisfied when she is not able to help others feel better. Most of the PWAs coming to the hospice are very poor and need food, medical attention for pain relief and much psychological support. Ann and her colleagues are only able to offer minimum support through counselling.

Chapter 9

The Law and HIV/AIDS in Kenya

By A.D.O. Rachier*

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I. Background

Reaction to the outbreak of HIV/AIDS often has been highly emotional. The uninformed and often malicious response to the epidemic has been termed the third epidemic, along with the biologic epidemic of IV and the medical crisis of AIDS.⁸¹ Such reaction is not new—as history has recorded similar responses when other epidemics and plagues have spread. As much in panic as in an attempt to stem the spread of HIV/AIDS, governments and organisations have instituted measures that are an affront to human rights and the law. Examples include: breaches of confidentiality with respect to people with AIDS, refusals to issue insurance policies to those infected with HIV and people with AIDS, and discrimination in places of employment and in educational institutions. These and other responses to HIV/AIDS have either militated against the law

⁸¹ *The 3rd Epidemic: Repercussions of the Fear of AIDS*. London: Panos Institute, 1990.

“Panic. Alarm. Banishment. Cruelty. Public stigmatisation. Law. These are the melancholy companions of disease and epidemics.”

Michael Kirby, President of the New South Wales Court of Appeal, Sydney, Australia in his address to the First South African Conference on AIDS and the Law, 1992.

and human rights or have resulted in laws being developed and/or changed to address these issues. Kenya has often responded to the epidemic without considering human rights or developing effective legal or policy guidelines.

Sweden enacted the first law directly related to AIDS in 1983, two years after the disease was medically identified. Since the Swedish legislation, many nations have enacted some form of legislation to deal with the AIDS epidemic, such as creating national AIDS control programmes and requiring that blood supplies and blood products be screened. In most countries, however, little or no legislation has dealt with the human aspects of AIDS—such as testing for HIV/AIDS infection, regulating its treatment, or offering legal and material support for people with HIV/AIDS.

II. AIDS and the Rights of the Population

A. Human Rights

Legal aspects of HIV/AIDS in Kenya and elsewhere revolve primarily around human rights. Kenya has subscribed to the 1948 Universal Declaration of Human Rights and Fundamental Freedoms, which defined personal rights and freedoms such as the right to life and liberty, to a fair trial in criminal proceedings, to freedom of expression, religion and association. The preamble to the World Health Organisation constitution states that “the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction to race, religion, political belief, economic or social condition.”

In addition, medical/legal ethics are governed by several basic codes of professional conduct, including the Code of Professional Conduct and Discipline issued by the Medical Practitioners and Dentists Board, the International Code of Medical Ethics (1949), the Declaration of Helsinki on Human Experimentation (1965) and Statute law. Thus, the Government of Kenya's signature on numerous international agreements and existing local statute law provides a foundation to consider further legislation and to guarantee a protection of the human rights for persons with HIV and AIDS.

Article 70 of the Kenyan Constitution provides that "every person in Kenya is entitled to the fundamental rights and freedoms of the individual...but subject to respect for the rights and freedoms of others and for the public interest, to each of the following, namely: Life, liberty, security of the person and the protection of the law; freedom of conscience, of expression, of assembly and association; and protection for the privacy of his home and other property..." An important condition to this preamble asserts that "the enjoyment of these rights and freedoms by an individual does not prejudice the rights and freedoms of others or the public interest."

B. Rights to Privacy and Confidentiality

The rule of confidentiality in medical practice is as old as the Hippocratic Oath and is regarded as one of the cardinal principles of medical ethics. The constitutional guarantees to "life, liberty, security of the person and protection of the law" assure that the rule of confidentiality has a basis in Kenyan legal structures as well as in established medical ethics. The essence of this rule is that a health worker should not disclose to a third party information obtained in confidence from a patient, except when:

- Valid consent has been obtained;
- The information is required by law;
- The public interest so dictates;
- The information is vital for purposes of biomedical research;

- It is desirable that the information be passed on to relatives.

The privacy and confidentiality of Kenyans in relation to HIV/AIDS may be threatened by the following actions:

- a) Mandatory HIV testing of patients, employees, job applicants, applicants for insurance policies, applicants for mortgages, etc.
- b) Compulsory registration of persons who are thought to be HIV-infected or are considered at high risk of becoming infected.
- c) Disclosing the test results of an HIV-infected person to third parties.

The AIDS epidemic has introduced a potentially unresolvable conflict between the doctrine of strict confidentiality and the dictates of public interest, with serious ramifications for the individual and the family. On the one hand, a guarantee of confidentiality is an indispensable condition of encouraging people to seek treatment and thus reduce the spread of sexually-transmitted diseases and HIV infection. On the other hand, some authorities have argued that in certain circumstances, the confidentiality of HIV-infected persons should be waived in the interests of public health, such as when a person with AIDS persists in unprotected sexual intercourse with his or her partner despite advice and counselling. It has been argued that confidentiality cannot be sustained in a number of other circumstances, such as when:

- The Public Health Act mandates a disease as “notifiable”;
- National Hospital Insurance Fund forms require a description of the illness;
- Death certificates require cause of death to be listed;
- Life insurance policies require medical examinations before issuance.

In some instances “shared confidentiality” may be more appropriate than “strict confidentiality.” “Shared confidentiality” involves informing sexual partners, or possibly family members and/or caretakers of an individual’s HIV status. This would be particularly practical in those situations when sexual partners need to make a fully informed deci-

sion about behaviour. It would also be useful for relatives or caretakers who require counselling and information concerning care of the patient, or when other health professions or social service professionals need to be involved in the patient's care.

The basic human rights of privacy and confidentiality are threatened by those who would require mandatory testing for HIV infection, compulsory registration or routine screening of persons thought to be at high risk, and unauthorized disclosure to third parties not involved with the medical care of the patient. The medical community takes seriously the protection of individual privacy. A breach of medical ethics can entail disciplinary action and/or legal sanction under the Medical Practitioners and Dentists Act.

C. The Right to Liberty and Security

Threats to liberty and security are posed by compulsory quarantine such as by confinement or isolation in a hospital or hospice, or internment in an institution removed from the rest of the society. The latter approach has been adopted by a few countries, such as Cuba, although that country's policy has been modified to include counselling and release. The WHO position, adopted by Kenya, is that "there is no public health rationale to justify isolation or quarantine based solely on the fact that a person is suspected or known to be HIV-infected." Also, Article 72 (1) of the Kenya Constitution provides that: "No person shall be deprived of his personal liberty save as may be authorised by law." Except for detention of a person for purposes of his or her mental treatment, the Kenyan Constitution does not provide any medical reason for the deprivation of a person's liberty. It can be argued that where AIDS has been criminalised, such as where willful infection of others with HIV virus has been made an offence, a person's liberty may be compromised or curtailed by due process of law. Kenya has not criminalised AIDS, although the danger of the introduction of such legislation is real, based on the fact that newspapers periodically report and sensationalise cases of people infected with HIV willfully infecting others.

D. The Right of Freedom of Movement

In International Law there is no legal obligation for any state to admit aliens into its territory, but once it does it must adopt certain standards of decent treatment toward them. Because of the AIDS epidemic, certain countries, in an effort to combat the spread of HIV, have devised ways of restricting immigration into and emigration out of the country for their nationals as well as for aliens depending on HIV status. Already some countries are restricting the entry of aliens who have AIDS or are HIV-positive. Of particular concern to Kenyans wishing to emigrate is the policy of some Scandinavian countries to deny entry visas based on HIV status.

The United States, Libya, and Cuba, among other countries, have made provisions against entry into their territories unless one presents a certificate stating that one is HIV negative. Kenya regards these as violations of the Universal Declaration of Human Rights because the mere presence of a person in any given territory does not pose any danger to others. It is for this reason that such travel restrictions imposed by these countries must be condemned.

E. The Right to Work and to Receive Education

Kenya has adopted the position of the ILO and the WHO which states that, "pre-employment HIV/AIDS screening as part of the assessment of fitness to work is unnecessary and should not be required...there should be no obligation of the employee to inform the employer regarding his or her HIV/AIDS status."

Despite these international guidelines, which have been distributed to the member firms of the Federation of Kenya Employers, employers commonly insist on a medical examination either before engaging an employee or for determining the issue of retirement on medical grounds. Medical practitioners, either employed by the firm or in private practice, carry out an examination and provide a report on the basis of which, presumably, a decision will be made as to whether or not to employ or retire that person.

However, pre-employment HIV testing runs counter to both informed consent and the international guidelines cited

above. While pre-employment medical exams have been common for many years, applicants are not always informed clearly that they are also being tested for HIV. Even when informed, pre-test counselling usually is not provided. Thus, there are strong reasons why pre-employment HIV/AIDS testing should not occur. HIV testing also should not be carried out as part of periodic medical examinations of employees, as some private employers in Kenya do. Refusal to submit to an HIV test should not have negative consequences for an employee or an applicant.

Pre-employment testing also poses a dilemma for the health care worker performing the test, since they have allegiances both to the concept of confidentiality and to the company performing the test. Should the health worker disclose the HIV status to the prospective employer who contracted for the services, even when the persons examined has withheld his or her consent? The Kenyan position is that everyone has a right to work—HIV status notwithstanding—and the employer need not know the HIV status of the prospective employee. However, when an existing employee is infirm with disease and incapable of properly performing the tasks required (irrespective of whether it is as a result of AIDS), the health care provider needs to disclose this incapacity to the employer.

In some cases ethical standards substitute for laws and regulations. Thus, while legal guidance is limited on the issue of pre-employment testing, employers should be encouraged to pursue the following ethical principles and practices:

- Workers who have tested HIV-positive and are still strong and healthy should be treated the same as any other worker with regard to opportunities for promotion, training or capacity building.
- When a worker develops full-blown AIDS, he or she should be treated like a worker with any other illness regarding access to health facilities and continued employment.

F. Ethical and Legal Responses to the HIV/AIDS Epidemic in Kenya

As in many other countries in the world, Kenya has responded to the HIV/AIDS epidemic by taking certain legal steps and issuing policy guidelines that have ethical connotations. For example, in 1987 the Public Health Act of Kenya was amended to include AIDS as a notifiable disease. Also, the National Development Plan 1994-1996 included a section on HIV/AIDS management.

The government of Kenya has issued various policy guidelines on the control and management of AIDS, including:

- National nursing guidelines, issued by the Ministry of Health, which provide that nursing care of AIDS patients in all the health facilities be provided in general wards and that AIDS patients should not be isolated from other patients, except in cases where the AIDS patients have co-existing infectious conditions requiring barrier nursing.
- National guidelines for blood donor services.
- Guidelines for the provision of counselling services.
- Guidelines for the development and implementation of community and home-based care.
- National guidelines on HIV testing and sero-surveillance.

These guidelines/policies provide a nascent legal structure, from which legal standards can be developed. They should not be dismissed as inconsequential. The guidelines can be a basis for developing ethical and legal standards.

G. The Needs of Women and Children

The need to focus attention on the vulnerability of women and children to HIV/AIDS has been underscored by two important international instruments to which Kenya subscribes, namely:

- a) "The Paris Declaration on Women and Children and the Acquired Immunodeficiency Syndrome (AIDS)" made in Paris in November 1989;

- b) The Agenda item 19 of the Forty-Third World Health Assembly held in Vienna in May 1990.

The Paris Declaration recognises that the deterioration of the economic situation adversely affects the health and social status of vulnerable populations, especially women and children, and that the AIDS pandemic has a particularly adverse effect on women and children who are increasingly at risk of HIV infection and AIDS. The course of the epidemic in the years since 1989 has fully confirmed the content of the Declaration. In Kenya, for example, as many women as men are HIV-infected. Among women, the age group with the highest prevalence rates are in their early 20s. Many of these young women probably became infected when they were in their early or mid-teens.

A resolution from the 1990 World Health Assembly urged member states to establish policies for the control of HIV/AIDS, including prevention for women and children and the necessary support for families affected by the infection. In addition, the resolution called for the coordination of prevention programmes with other programmes for women, children and families, particularly maternal and child health, family planning and STD control programmes. Finally, the resolution called for the review of the legal issues relating to children, including adoption laws to deal with cases of abandoned children, their admission to children's homes and the administration of the estates of the deceased parents.

H. AIDS and Reproductive Rights

One of the modes by which HIV is transmitted is from mother to child. One legal question that has been posed is whether or not a pregnant mother who is HIV seropositive should be compelled by law to terminate her pregnancy. In Kenya, as in many jurisdictions, abortion is a criminal offence, permissible only in cases in which the woman's health is in serious jeopardy. HIV infection *per se* is not medical grounds for termination of pregnancy. However, in practice, many doctors do advise their HIV-positive patients to terminate pregnancies because of their status.

I. Biomedical Research Involving Human Subjects

Kenya has no specific legislation providing for sanctions against those who may carry out research involving human subjects with AIDS without clearance from the National Ethical Review Committee. Despite the lack of sanctions against unauthorized research, it appears that most research in Kenya is carried on in strict accordance with the guidelines of the Declaration of Helsinki of the World Medical Association, as revised in 1975 in Tokyo. Nevertheless, an urgent need exists for legislation to avoid possible abuses of human rights. Particularly in cases involving tests of vaccines or other prophylaxis, patients should give informed consent after proper briefing about the risks of such treatment. Legislation also should be introduced to sanction those falsely claiming to have found a cure for AIDS, thereby misleading and/or financially exploiting the public and those people with AIDS who are desperately seeking treatment.

III. Conclusions and Recommendations

This chapter has attempted to describe and critique Kenya's legal response to the HIV/AIDS epidemic. A brief review of national and international instruments that Kenya is committed to illustrates the various gaps and inconsistencies in the legal responses to HIV/AIDS. Legislators must now seriously and quickly address the legal issues described in this chapter and develop sound policies. The international agreements and instruments to which Kenya is committed, plus ethical principles and legal standards, will serve as an effective framework to begin to address many of the critical issues surrounding HIV/AIDS and the law.

The following ethical principles should underpin any legal standards to address the HIV/AIDS issue:

1. HIV testing should always be with informed consent of the person affected. He/she should be offered pre-test and post-test counselling.

“Kenya can be a leader in Africa by aggressively pursuing legal reforms that enable women to protect themselves. Women in Kenya and throughout Africa must unite politically to demand that such action be taken, to save our own lives and the lives of the next generation.”

Jane Kiragu, “HIV Prevention and Women’s Rights: Working for One Means Working for Both.” *AIDScriptions*, November, 1995.

2. Discrimination and stigmatisation of people with HIV/AIDS must be outlawed.
3. Rights of the vulnerable, such as widows, orphans and young girls must be protected.

Confidentiality is one of the prime concerns facing Kenya’s legal system. While current legislation indicates that an individual’s confidentiality must be guaranteed, an inadequate interpretation and application of the law has resulted in individuals losing their privacy. This is particularly the case in the business sector, where testing of employees and job applicants appears quite common in Kenya. This suggests that the law needs to be clearer (by creating clear guidelines for businesses as well as legal restrictions regarding involuntarily HIV screening) and enforcement needs to be assured.

Next, Kenya should develop policy guidelines to assist all actors in the care and management of HIV-infected individuals. These guidelines should assure that the confidentiality of infected persons is maintained. The unwarranted isolation of persons with HIV/AIDS must be discouraged, both because it is ineffective and unjust. Meanwhile, the government should come out in full force and support AIDS self-help groups and support organizations as a way of stamping out stigmatisation and discrimination and spearheading a national response to fight the epidemic.

Finally, legislation should be passed quickly regarding the rights of vulnerable groups to gain equal access to education, employment, insurance, and equal compensation. A particular focus must be placed on the most economically

vulnerable groups, such as widows and orphans, in assuring that survivors are able to inherit land and property.

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Chapter 10

Conclusion: Breaking the Siege of AIDS

By Bill Rau

AIDSCAP/Family Health International

I. Summary

The essays in this book have attempted to broaden the understanding of HIV/AIDS in Kenya. They have illustrated the pressures facing all segments of society, as death, illness and disruption caused by AIDS moves through the population. HIV/AIDS is adding to the pressures on health care systems, on other social services designed to address the needs of low income people, on employment and wage opportunities and on legal statutes. These pressures will continue well into the 21st century.

Some impressive responses to the epidemic are occurring in Kenya. People at all levels of society, in rural and urban areas, recognise AIDS as a serious threat to the nation's well-being. In 1996, it is common to hear district and provincial government leaders warn of the economic impact of AIDS; in the early 1990s such discussions were rare. Religious leaders publicly call for greater attention to prevention, despite much hesitation and anguish over how to address the behaviour that can lead to HIV infection. Historically sig-

Processes currently exist in Kenya for identifying issues and potential solutions to the HIV/AIDS epidemic. Those processes will be strengthened and expanded as more organisations join in the effort to stop HIV/AIDS in the country, protect hard-won achievements in economic and social development, and provide assistance for people and families affected by AIDS. The challenge will be difficult, but can be met.

nificant socio-cultural traditions, such as wife inheritance, are being openly examined by communities concerned about the potential transmission of infection as a result of such practices. Suggestions have been made to abandon or legally ban such practices, while others argue against such actions, raising charges of "tribalism" or "cultural ignorance." The debate is lively and important.

Changes in attitude and policy positions have not been arrived at easily. HIV/AIDS has divided Kenyan society. Rather than collectively responding to the epidemic, some Kenyans have questioned key prevention approaches and their views have received wide media and public attention. In other instances, people with HIV-infection or those considered at risk of infection have been discriminated against. This, in turn, has divided families and communities. Responses to the epidemic often have provoked controversy. The issue of providing youth with clear, accurate and complete education on sexuality, for example, has created substantial discord. On three occasions in the 1990s, the Ministry of Education sought to introduce family life/sex education into primary schools, only to have to withdraw the plans under pressure from religious and parent groups and some senior political leaders. The religious community, for the most part, has failed to offer substantive alternatives to secular sex education. Meanwhile, HIV prevalence is increasing daily among young people.

The chapters in this book have illustrated the dilemma caused by the AIDS epidemic. The major mode of transmission in Kenya is sexual, but sexual partners, parents and politicians are reluctant to discuss sexual behaviour and its as-

sociated risks. As the chapters have shown, discussion and guidance are needed in order to reduce the risk of infection. The disease is a dilemma for families who have an infected family member. Their choices are difficult: to openly seek out the assistance of the community, or to avoid possible rejection by concealing the illness; to participate in cultural practices that might lead to greater vulnerability, or to avoid vulnerability and face ostracism by one's community.

The disease is a dilemma for program planners and implementing agencies. HIV/AIDS demands new resources and threatens to undermine decades of hard-won improvements in health and social conditions. Competition exists among programme specialists and policymakers to increase investments in some health or developmental problems at the expense of AIDS. Such competition is counter-productive, since in the case of HIV/AIDS, multi-disciplinary, multi-sectoral approaches to prevention offer the greatest opportunities for containing the epidemic. Incorporating HIV/AIDS prevention into many already existing programmes offers ways to foster and expand programmatic collaboration without dramatically raising the costs, while strengthening development as a whole.

The disease is a dilemma for national leaders. Policymakers are regularly faced with difficult choices in developing programmes and allocating resources. The AIDS epidemic demands resources and creative problem-solving. Policymakers must make choices about programme priorities and budget allocations. Does the policymaker give priority to health and social issues that are immediately visible—water supplies and housing, for example—or to the prevention of HIV/AIDS, a disease with a long period of invisibility and gradually increasing impact?

AIDS activists feel frustration at the lack of clear direction offered by policymakers as HIV and AIDS rates continue to escalate. However, Kenyan programme and policy leaders have responded to the epidemic more responsibly than leaders in many other countries. Few other countries have incorporated AIDS prevention so completely into their national planning. Likewise, it is rare in other countries to hear people openly question long-held cultural traditions, yet such dis-

cussions frequently occur in Kenya among both common citizens and key decisionmakers. Yet so much more needs to be done.

II. Areas for Further Attention

The policy dimensions of HIV/AIDS prevention and care in Kenya are numerous and complex. Each of the chapters has provided a set of policy-oriented recommendations. In some cases, those recommendations are being addressed, either within specific organisations or within the *Parliamentary Sessional Paper on AIDS*. In other cases, the recommendations remain open for further review and consideration. The essays in this book also suggest where further thought, discussion and work are necessary to contain HIV/AIDS.

Several chapters have directly and indirectly shown how women, including girls, are increasingly affected by the HIV/AIDS epidemic. This reality is not yet reflected in the policy and programme responses. The vulnerability of women is exacerbated by historical trends which have removed men from their families for lengthy periods of time, increased the acceptability of male sexual activity outside of marital relations, and sanctioned the behaviour of older men to use their wealth and prestige to seek sex with girls and young women. For married women, their vulnerability to HIV represents an added dimension to a long-term situation of inequality and discrimination. Few Kenyan women believe that their husbands will not have other sexual partners. Yet it has been common for men to blame women for unwanted pregnancies, STDs or AIDS. New norms of acceptable male sexual behaviour have been proposed by women's groups and religious leaders, but creating such behaviour change will be a lengthy and difficult process.

As described in the chapters on the family and orphans, te stability and well-being of households and communities are threatened as AIDS results in growing illnesses and deaths. This area need particular attention. Governmental and religious policymakers and community leaders have major roles to play in defining effective responses. In some cases, na-

tional laws are needed to address a number of issues that have been exacerbated by the epidemic.

There is an assumption that traditional structures will protect children, widows, households and communities affected by AIDS. However, in Kenya there are already signs that the family structures are no longer able to respond effectively to the growing numbers of children left homeless by parents who died of AIDS or to the incorporation of widows and the elderly into extended family networks weakened by AIDS.

African societies have a long history of adapting to challenges and emergencies. To respond to the AIDS challenge, creative thinking and action will be needed at all levels to adapt institutions and structures so that they can sustain the welfare of households and communities.

HIV/AIDS will lower living standards across Kenya. The loss of one or more wage earners in a family will have an immediate impact. As upper-income, middle-income and poor people are affected by HIV/AIDS, agriculture, commerce, social service delivery and other sectors will also be affected. Kenya, as a country, will become poorer.

Multi-disciplinary and multi-sectoral prevention efforts are necessary to mitigate the impact of the epidemic on both the economy and the social well-being of the community. Steps are being taken to address the gaps in the prevention policies: the 1994-1996 National Development Plan outlines a multi-sectoral approach to prevention; the *Parliamentary Sessional Paper on AIDS* is being written; various ministries have begun AIDS activities; and various multilateral and bilateral donors have increased their level of funding for prevention and care programmes.

Much remains to be done. The business community should formulate a set of practical guidelines to assist individual firms in developing or expanding prevention programmes in the workplace. The government has a key role to play in influencing the private sector—businesses, NGOs, religious and social institutions—to actively participate in national prevention efforts.

The process of policy development needs to include the active participation of people with HIV and AIDS. These people can contribute to a more complete understanding of

the disease, of its transmission, of prevention, and of the ability to live with the infection. Their involvement in prevention and care programmes, in advocacy and in informing policy, is hindered by prevailing social attitudes around HIV/AIDS.

The dynamic nature of the AIDS epidemic means that new issues will regularly arise and will need a forum for discussion both in government and in the private sector. One group, the Kenya AIDS NGOs Consortium, is positioning itself to provide such a forum where community-based groups, HIV-positive individuals, businesses, religious groups and the government can discuss, on a continuing basis, problems and issues that require policy recommendations. This process will help assure sustained attention to the policy aspects of the epidemic.

Policy development in general is a difficult process and policy development within the Kenyan context will be a challenging task. Fortunately, the development of national policies through the *Parliamentary Sessional Paper on AIDS* involves a process of review, discussion and input from leading authorities. Implementation of the policies set forth in the *Parliamentary Sessional Paper on AIDS* will be key to the success of this effort and will involve additional regulatory guidelines which need to be monitored to assure timely and careful compliance.

The various assessments in this volume illustrate a country that is literally under siege. Today, every segment of Kenyan society is exposed to the impact of HIV/AIDS. The personal and national problems arising from the epidemic are very real. But, as these chapters demonstrate, the means exist in Kenya today to confront and break the siege of AIDS.

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Appendix A

Methodology for Orphans Assessment

In order to identify children orphaned by AIDS, it was necessary to first search hospital records to determine the cause of parents' death. This information was then corroborated with HIV/AIDS counselors in the hospitals. District and Provincial Children's Officers also were consulted to identify children orphaned by AIDS. At the community level, community leaders and local administration were interviewed. Mission hospitals were also helpful in identifying orphans for this study.

The information in the study was gathered during interviews with orphaned children, their HIV-infected parents, members of households fostering AIDS orphans, class teachers of the school-going orphans, as well as community group leaders of organisations that have recently emerged in response to the problem of orphans.

The information was collected using the following research methodologies:

- Key informant interviews: Six key informant interviews were conducted in each study site (total 24).
- Case history documentation: Five case histories were done in each study site (total 20).
- In-depth questionnaires for both orphans and their caretakers: 32 in-depth interviews for children orphaned by AIDS and 8 caretakers in each study site (covering a total of 128 children and 32 caretakers) were conducted.
- Repertoire grid: This is a free listing method to deter-

mine priority needs. This instrument was administered alongside the in-depth interviews for the children orphaned by AIDS.

- Focus group discussions: Single focus group discussions were held in each study site with community leaders and school teachers.
- Informal interviews: These were deemed necessary to verify the authenticity of the cultural factors that were gaining prominence in each study site. This has also enriched the findings of the study by describing the cultural milieu in which the changes and subsequent adjustments to AIDS-related mortality occur.

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Appendix B

Methodology and Model Parameter Setting for Macroeconomic Model

I. Methodology

The MacroAIDS model was designed to address many of the factors that project how HIV/AIDS may affect a country's macroeconomy. By projecting changes in the population (and the age structure of that changing population), as well as variations in savings and the productivity of labour, it was possible to estimate changes in formal and informal employment, capital to labour ratios, and wages. All of this information, in turn, was used by the model to project changes in Kenya's total and per capita gross domestic product (GDP) in "With AIDS" and "No AIDS" scenarios⁸². This study does not specifically address the effect of changes in the demand for social services on Kenya's macroeconomy, as it would be difficult to determine how political decisions might be made in apportioning public funds.

⁸² The "With AIDS" and the "No AIDS" scenarios are those developed in the DemProj and AIM models (see Chapter 2). The first scenario assumes current HIV prevalence rates and projects the spread of the epidemic. The latter scenario is one in which HIV does not exist, and is not projected to have any impact in the future.

To obtain a measure of the order of magnitude of the impact of AIDS on the Kenyan macroeconomy, this study compared the time path of the economy in a “With AIDS” scenario to that of a hypothetical “No AIDS” scenario. Through the development of “With AIDS” and “No AIDS” scenarios between 1985 and 2005, it was possible to measure the impact of AIDS on the historical and future Kenyan economy.

A. Baseline Analysis

The actual economic output, employment, and savings for the years 1985 through 1993 were used to create a “With AIDS” baseline. A theoretical “No AIDS” baseline was then developed for the same time period by assuming that the economy had not been exposed to the HIV/AIDS epidemic.

B. Projected Economic Course

For the post-1993 years of the simulations, reasonable economic values for the parameters of the model were chosen and then economic projections were calculated from the model using the “With AIDS” and “No AIDS” scenarios. The scenarios taken by themselves are not meant to be taken as a scientific prediction of Kenya’s economic future. However, by making a comparison of the “With AIDS” and “No AIDS” scenarios, one can gain insight into the magnitude of the effects of AIDS on the macroeconomy given these parameter values⁸³.

1. Increased Health Care Costs

The treatment cost estimates from Chapter 5 were used as an input into the MacroAIDS model. As in Chapter 5, it was assumed that somewhere between 25 percent and 75 percent of persons requiring treatment actually receive that treatment in an inpatient or an outpatient setting.

⁸³ Although the paper presents the results for only one “reasonable” scenario, the MacroAIDS software used in the simulations is publicly available for experimentation with other possible scenarios.

2. Reductions in Labour Productivity

The Abt Associates study referenced in Chapter 5 also estimated that people with HIV will lose, on average, 160 potentially productive days due to illness, from the date of their infection until progressing to active AIDS (about 7.3 years on average). This means that the average person with HIV is estimated to be sick for 22 days *per year* as a result of HIV infection. The same source estimates that 120 days are lost to AIDS-related illness in the final year of life. Meanwhile, a study in Tanzania⁸⁴ arrived at an even more pessimistic estimate of 286 sick days in the final 18 months of life with AIDS, with no estimate made on illness prior to that period. If the additional lost productivity of the caretaker were also taken into consideration, this productivity loss could be even more severe.

II. Model Parameter Setting

In the MacroAIDS model, production occurs in a formal sector, which is relatively capital intensive, and an informal sector, where very little capital is used. Formal sector wages (interpreted to include non-wage benefits, etc.) are assumed to lie considerably above those prevailing in the informal sector, although they may adjust toward market-clearing equilibrium levels over time.

As long as formal-sector wages exceed incomes from informal sector work, most workers prefer formal-sector jobs. (In practice however, many workers may participate in both sectors.) Because formal-sector wages are high and the capital needed to enhance worker productivity is scarce, the number of formal-sector jobs falls short of total labour supply. Workers who are unable to secure employment in the formal

⁸⁴ Pallangyo, K. and R. Laing. 1990. "Background Study on Alternative Approaches to Managing the Opportunistic Illnesses of HIV-Infected Persons: Costs and Burden on the Tanzanian Health Care System." Background paper prepared for the Tanzania AIDS Assessment and Planning Study. Government of Tanzania, the World Health Organisation, and the World Bank.

sector turn to informal-sector work. Workers in the informal sector are self-employed and use only the small amount of capital equipment that they can finance from their own saving.

Formal-sector labour demand depends on the prevailing wage and the available stock of formal-sector capital. The analysis is significantly simplified by assuming that firms hire labour in bundles representative of the age distribution of the entire labour force. Firms are assumed to hire bundles of workers up to the point where their marginal product is just equal to the wage level. Although the formal-sector wage is fixed in the short run, it adjusts gradually toward the long-run equilibrium level where the labour market clears according to a partial adjustment mechanism.

After the sectoral allocation of labour is determined for any one period, output can be determined for the formal and informal sectors. A constant fraction of formal-sector output is saved and invested in formal-sector capital to be used in future production. The remainder is consumed. Similarly, a constant (though perhaps different) fraction of informal-sector output is saved and invested in informal-sector capital such as animal stocks, land improvement etc. Capital inflows are assumed to be invested in the formal sector.

The effects of AIDS are incorporated in this model in a number of ways. First, infected workers are assumed to lose a fraction (z_H for HIV-positive and z_A for active AIDS) of their potential productivity due to illness. In a sticky-wage economy, the inability of firms to distinguish HIV-infected persons or to lower wages to compensate for the reduced productivity due to AIDS will cause firms to hire less labour and switch to more capital-intensive production methods. This may further exacerbate the inefficient use of labour that typifies dualistic economies.

Second, it is assumed that because of "learning by doing," labourers' productivity is a quadratic function of experience⁸⁵.

⁸⁵ In this model, experience is proxied by age. Hence productivity actually declines in later years due to declining health.

As the population shifts to a younger, less experienced labour force, labour productivity declines.

Finally, savings in each sector is reduced by a fraction, α of AIDS related medical expenditures in that sector. Furthermore, we assume that a fraction of AIDS-related costs incurred in the informal sector is financed by the formal sector. Reduced saving will lead to lower growth in formal-sector labour demand and lower future output.

productivity lost per HIV case, formal sector (zHF)	0.07*
productivity lost per HIV case, informal sector (zHI)	0.07*
productivity lost per AIDS case, formal sector (zAF)	0.3*
productivity lost per AIDS case, informal sector (zAI)	0.3*
AIDS cost met by reduced saving, formal sector (α F)	0.5
AIDS cost met by reduced saving, informal sector (α I)	0.5
percent of informal sector AIDS costs paid by formal sector (ω)	0.8
capital to output ratio in formal sector, 1985 (KF/YF)	2.2
capital to output ratio in informal sector, 1985 (KI/YI)	0.8
informal sector saving rate, s_i	0.1
labour's share of output in formal sector (β F)	0.6
labour's share of output in informal sector (β I)	0.9
formal sector depreciation rate (θ F)	0.1
informal sector depreciation rate (θ I)	0.1
age efficiency intercept, formal sector (ρ 1F)	0.455**
age efficiency linear gain, formal sector (ρ 2F)	0.026**
age efficiency quadratic gain, formal sector (ρ 3F)	0.0002**
age efficiency intercept, informal sector (ρ 1I)	0.455**
age efficiency linear gain, informal sector (ρ 2I)	0.026**
age efficiency quadratic gain, informal sector (ρ 3I)	0.0002**
medical cost per adult AIDS case per year	20,640***
medical cost per child AIDS case per year	10,320***

medical cost per adult HIV case per year	1,500***
medical cost per child HIV case per year	750***

* Based on an average progression of 7.5 years from HIV infection to AIDS and 1 year from AIDS to death. This is consistent with the assumptions of the DemProj projections. Also based on an estimated average of 160 sick days with HIV, but not active AIDS (spread over 7.5 years) and 120 sick days with AIDS (spread over one year).

** Based on deBeyer's (1992) estimates for the formal sectors of Kenya and Tanzania

*** Based on 160 sick days with HIV and 120 sick days with AIDS and the per sick day cost estimates from Leighton (1993) for Kenya.

Labour Force Participation Rates

Source: Economic Survey (1993)

0-4	0.00
5-9	0.00
10-14	0.67
15-19	0.77
20-24	0.86
25-29	0.92
30-34	0.95
35-39	0.94
40-44	0.95
45-49	0.94
50-54	0.93
55-59	0.93
60-64	0.90
65-69	0.00
70-74	0.00
75+	0.00

The remaining parameters of the model (λ , s , sf , γ_f , and γ_m) were chosen for the years from 1985-1993 so that foreign and domestic saving, formal and infor-

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mal sector labour, and formal and informal sector output matched those obtained from the 1994 Economic Survey. These time series are as follows (output in 1985 Kenyan Shillings).

	Domestic Saving	Foreign Saving	Formal Labour****	Formal Output*****	Informal Output*****
1985	0.25	0.04	1174400	6.34*E11	2.40*E11
1986	0.19	0.07	1220500	6.94*E11	2.28*E11
1987	0.19	0.09	1264500	7.08*E11	2.60*E11
1988	0.21	0.08	1311000	7.46*E11	2.70*E11
1989	0.17	0.12	1355600	7.84*E11	2.90*E11
1990	0.18	0.10	1409400	8.06*E11	3.12*E11
1991	0.18	0.06	1441700	8.26*E11	3.16*E11
1992	0.19	0.01	1461900	8.36*E11	3.16*E11
1993	0.19	0.00	1474900	8.62*E11	2.86*E11

**** Formal labour is defined as wage labour.

***** Formal output is defined as monetary output
- total agriculture output
+ marketed agricultural output.

***** Informal output is defined as gross domestic product
- formal output.

These same parameters are assumed to be constant for the remaining years of the simulations (1994 to 2005).

Rate of wage adjustment (Lambda)	.01
Rate of foreign savings (s)	.04
Rate of savings in formal sector (sf)	.20
Productivity growth factor in formal sector (gamma _f)	1.005
Productivity growth factor in informal sector (gamma _i)	1.000

Appendix C

Detailed Description of MacroAIDS Model

Equations

This appendix is meant to serve as a brief reference for those interested in the actual equations used in the model. For a complete description of the model see Cuddington and Hancock 1993.

Labour

The total labour supply (L^s) in the model equals:

$$L^s = \sum_{j=0}^{75} p_j L_j$$

where L is labour, p is the labour participation rate, and subscripts denote age.

Labour "experience" is assumed to be a quadratic function of work experience (which is proxied by age):

$$\rho_i = \rho_1 + \rho_2 j + \rho_3 j^2$$

where ρ_i is the work experience parameter for age group i . The average experience based productivity of the labour force is defined as:

$$L^s = \sum_{j=0}^{75} p_j L_j$$

Infected labourers suffer a productivity loss equal to zH for HIV-positive workers and zA for workers with active AIDS. Taking this productivity loss into account, the effective labour supply is defined as:

$$E^s = \sum_{j=0}^{75} (1 - zA^*a_j - zH^*h_j) p_j \rho_j L_j$$

The average productivity of the labour force is thus:

$$\bar{E} = E^s / L^s$$

The Formal Sector

Formal-sector production is assumed to take place with a Cobb-Douglas technology:

$$Y_f = \alpha_f \gamma_f^t E_f^{\beta_f} K^{(1-\beta_f)}$$

where E_f is formal labour demand measured in effective units.

The wage for any age group is assumed to equal a prevailing "sticky" general wage level: w_i . Firms are assumed to hire workers up to the point where the average marginal product equals the prevailing sticky real wage:

$$w_f = \frac{\beta_f Y_f}{L_f}$$

The remainder of the labour force is assumed to turn to the informal sector for employment. Formal wages are allowed to adjust over time according to the following sched-

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ule: $w_t = \min [w_{t-1} + \lambda(w_t^* - w_{t-1}), w_t^*]$, where w^* is the wage which corresponds to the labour allocation with wages in the formal and informal sector equal.

The Informal Sector

Production in the informal sector is also assumed to take place with a Cobb-Douglas technology:

$$Y_i = \alpha_i \gamma_i^t E_i^{\beta_i} K_i^{1-\beta_i}$$

The wage in the informal sector is assumed to be the average product:

$$W_i = \frac{Y_i}{L_i}$$

Sources and Allocation of Saving

As noted in the body of this report, it is assumed that capital formation in the formal sector draws on formal and foreign saving, while the informal sector must rely only on the savings it generates. Furthermore, it is assumed that some fraction of health care expenditures will come out of saving, and that the formal sector will have to pay some portion of the informal's AIDS costs. The equations for formal and informal capital formation are as follows:

$$\delta K_f = s(Y_f + Y_i) + s_f Y_f - x(H_f + \omega H_i) - \delta K_f$$

$$\delta K_i = s_i Y_i - x(1 - \omega)H_i - \delta K_i$$

where x is the parameter reflecting AIDS costs met from reduced saving and ω is the formal to informal transfer parameter. The total AIDS related health costs are calculated as follows:

$$H_f + H_i = mAa * nAa + mAc * nAc + mHa * nHa + mHc * nHc$$

where mAa and mAc are cost per year per AIDS case, adult and child respectively. Cost per year per HIV (non-active AIDS) case, adult and child are denoted by mHa and mHc. The variables, nAa and nAc are the number of adult and child AIDS cases respectively. The corresponding numbers for HIV cases are denoted by nHa and nHc. Total AIDS related health costs are allocated between the formal and informal sectors in the same ratio as employment.

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Appendix D

Sensitivity Analysis of Macroeconomic Model

The macroeconomic effects of AIDS depend largely on the assumed values for the saving and productivity loss parameters. For a number of reasons, it is also very difficult to measure these parameters. Among other reasons for these difficulties are that the availability of health services is not standard in all regions of the country, fluctuating exchange rates change the costs of imported medical supplies, foregone wages of family caretakers are difficult to measure, and infected persons may be able to continue working at some jobs while not at others, just to name a few. Table D1 summarises the sensitivity analysis showing the effects of AIDS on future GDP and GDP per capita under different assumptions. The negative impact of AIDS on GDP in the year 2005 ranges from 2 percent in the most optimistic case to 26 percent in the extreme case. The per capita income actually rises by 3 percent due to AIDS in the most optimistic scenario and falls by 22 percent in the most pessimistic.

As can be seen from the matrix, changes in the savings loss parameters have a great impact on incomes, which suggests that measures to reduce the impact on savings will be highly effective. Decreasing the per case cost of AIDS by one half (which is equivalent to decreasing x from 0.5 to 0.25) would increase both GDP and per capita GDP by 6% in the year 2005.

Table D1

No-AIDS Scenario

1.9415E+11	GDP in 2005 (000,000's of constant 1985 KPounds)
4.0	average GDP growth in 1985-2005 (in %)
6001.63	per capita GDP in 2005
0.7	average per capita GDP growth 1985-2005 (in %)
0.18	saving rate in 2005

With-AIDS Scenario

labour productivity lost per AIDS case

0	0.15	0.3	0.45	0.6
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labour productivity lost per HIV (non-active AIDS)

0	0.035	0.07	0.105	0.14
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AIDS Costs Met by Reduced Savings

	1.8960E+11	1.8699E+11	1.8443E+11	1.8191E+11	1.7944E+11
	3.9	3.8	3.7	3.7	3.6
0.0	6155.13	6070.66	5987.34	5905.71	5825.27
	0.8	0.7	0.7	0.6	0.5
	0.18	0.18	0.18	0.18	0.18
<hr/>					
	1.8044E+11	1.7793E+11	1.7548E+11	1.7306E+11	1.7067E+11
	3.6	3.5	3.5	3.4	3.3
0.25	5857.78	5776.47	5696.73	5618.14	5540.81
	0.5	0.5	0.4	0.3	0.3
	0.17	0.16	0.16	0.16	0.16
<hr/>					
	1.7124E+11	1.6885E+11	1.6649E+11	1.6417E+11	1.6189E+11
	3.4	3.3	3.2	3.1	3.1
0.5	5559.35	5481.60	5405.03	5329.72	5255.59
	0.3	0.2	0.1	0.1	0.0
	0.15	0.15	0.15	0.15	0.15
<hr/>					
	1.6203E+11	1.5973E+11	1.5747E+11	1.5525E+11	1.5307E+11
	3.1	3.0	2.9	2.9	2.8
0.75	5260.04	5185.61	5112.22	5040.17	4969.29
	0.0	-0.1	-0.1	-0.2	-0.3
	0.14	0.14	0.13	0.13	0.13
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	1.5276E+11	1.5057E+11	1.4842E+11	1.4630E+11	1.4421E+11
	2.8	2.7	2.6	2.6	2.5
1.0	4959.39	4888.29	4818.26	4749.41	4681.57
	-0.3	-0.4	-0.4	-0.5	-0.6
	0.12	0.12	0.12	0.12	0.12