

HIV EXAMINER

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AIDS in Africa: UN 2000 HIV/AIDS Report

In 1999 alone, 4 million people in sub-Saharan Africa became infected with the human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS). In several African countries, at least half of males currently aged 15 will eventually die of AIDS. These and other shocking facts about the level of devastation that HIV/AIDS has inflicted and will inflict on the people and economies of Africa are documented in the *Report on the Global HIV/AIDS Epidemic*. The report, excerpted here, was published in June 2000 by the Joint United Nations Programme on HIV/AIDS, known as UNAIDS.

Report on the Global HIV/AIDS Epidemic

AIDS in a New Millennium: A Grim Picture with Glimmers of Hope

When AIDS emerged from the shadows two decades ago, few people could predict how the epidemic would evolve, and fewer still could describe with any certainty the best ways of combating it. Now, at the start of a new millennium, we are past the stage of conjecture. We know from experience that AIDS can devastate whole regions, knock decades off national development, widen the gulf between rich and poor nations and push already-stigmatized groups closer to the margins of society.

Just as clearly, experience shows that the right approaches, applied quickly enough with courage and resolve, can and do result in lower HIV infection rates and less suffering for those affected by the epidemic. An ever-growing AIDS epidemic is not inevitable; yet, unless action against the epidemic is scaled up drastically, the damage already done will seem minor compared with what lies ahead. This may sound dramatic, but it is hard to play down the effects of a disease that stands to kill more than half of the young adults in the countries where it has its firmest hold—most of them before they finish the work of caring for their children or providing for their elderly parents. Already, 18.8 million people around the world have died of AIDS, 3.8 million of them children. Nearly twice that many—34.3 million—are now living with HIV, the virus.

The most recent UNAIDS/WHO estimates show that, in 1999 alone, 5.4 million people were newly infected with HIV.

Africa: the Enormous Challenges of a Long-lasting Epidemic

The African countries south of the Sahara have some of the best HIV surveillance systems in the world. They provide solid evidence that the HIV infection rate has stabilized at a relatively low level in Senegal and that the extremely high rates in Uganda have been reduced. However, in most sub-Saharan countries adults and children are acquiring HIV at a higher rate than ever before: the number of new infections in the region during 1999 was 4.0 million. This acceleration effect is yet another challenge posed by long-standing epidemics. As the rate of HIV infection in the general population rises, the same patterns of sexual risk result in more new infections simply because the chances of encountering an infected partner become higher.

Altogether, there are now 16 countries in which more than one-tenth of the adult population aged 15–49 is infected with HIV. In seven countries, all in the southern cone of the continent, at least one adult in five is living with the virus. In Botswana, a shocking 35.8% of adults are now infected with HIV, while in South Africa, 19.9% are infected, up from 12.9% just two years ago. With a total of 4.2 million infected people, South Africa has the largest number of people living with HIV/AIDS in the world. While West Africa is relatively less affected by HIV infection, the prevalence rates in some large countries are creeping up. Côte d'Ivoire is already among the 15 worst-affected countries in the world; in Nigeria, by far the most populous country in sub-Saharan Africa, over 5% of adults have HIV. The prevalence rate in other West African countries remains below 3%. Infection rates in East Africa, once the highest on the continent, hover above those in the West of the continent but have been exceeded by the rates now being seen in the southern cone. The prevalence rate among adults in Ethiopia and Kenya has reached double-digit figures and continues to rise.

These rises are not inexorable. Uganda has brought its estimated prevalence rate down to around 8% from a peak of close to 14% in the early 1990s with strong prevention campaigns, and there are encouraging signs that Zambia's epidemic may be following the course charted by Uganda. Yet, even in these countries, the suffering generated by HIV infections acquired years ago continues to stagger sectors of the economy under the burden.

Uganda's was the first government on the continent to recognize the danger of HIV to national development. Acknowledging an explosive epidemic in the general population very early on, President Yoweri Museveni took active steps to fight its spread through action by the Government and other groups in society, including religious leaders and community development organizations, which were encouraged to tackle HIV and AIDS in ways that made best use of their particular skills. This broad-based approach to the epidemic contributed to a reduction in HIV infections among young pregnant women living in towns and cities, as recorded in the 1998 *Report on the Global HIV/AIDS Epidemic*. Gratifyingly, data from a large community-based study now show a similar fall in infection rates in rural Uganda. ...[T]he HIV prevalence rate among 13–19-year-old girls has fallen significantly over an eight-year period, while the rate in teenage boys—always much lower because boys are less likely than girls to have partners in the older, more heavily infected age groups—has remained roughly stable. A large increase in condom use probably contributed to these lower rates of infection (and to the significant decline in teenage pregnancies which accompanied it).

In Zambia, the Government has been trying to involve all sectors in HIV prevention, from health to education, agriculture and industry. Religious leaders and church groups have also been playing a part in prevention. New data from Zambia's HIV sentinel surveillance system ... show that the percentage of pregnant girls aged 15–19 infected with HIV in the capital, Lusaka, has on average dropped by almost half in the last six years.

Comparisons between studies of sexual behaviour conducted in 1990, 1992, 1996, and 1998 suggest that these falling HIV rates are due in part to a decrease in the prevalence of some types of risky sexual behaviour in urban areas. For example, far fewer young women in Lusaka were having sex before marriage in 1996 than in 1990, and the percentage of unmarried women who were sexually active fell from 52% to 35% over that period. Among young men, according to nationwide studies, the change came later; in 1998 just over half of unmarried men said they had not had sex in the past year, compared with just over a third two years earlier, and the proportion of men reporting two or more casual partners in the past year also fell. However, there was no evidence at the national level that either girls or boys were postponing the start of their sex life.

Elsewhere in the region too, there are signs that young people are avoiding the patterns of behaviour which led their parents and older siblings to such high levels of HIV infection. Condom use, for example, is increasing among young people and there are indications that,

among the better-educated, sex with casual partners may start later and be less frequent. But these changes are taking place against a background of very high infection rates, especially in young African women.

...[F]righteningly high prevalence rates of infection [exist] among teenagers and women in their early 20s in various urban and rural areas in Africa. The rates among teenage girls and especially among women under 25 defy belief: in 7 of the 11 studies, more than one woman in five in her early 20s was infected with the virus; a large proportion of them will not live to see their 30th birthday. Close to 6 out of 10 women in this age group in the South African town of Carletonville tested positive for HIV.

The infection rates in young African women are far higher than those in young men. In the 11 population-based studies presented here, the average rates in teenage girls were over five times higher than those in teenage boys. Among young people in their early 20s, the rates were three times higher in women. In large measure, this enormous discrepancy is due to age-mixing between young women and older men, who have had much more sexual experience and are much more likely to be exposing the girls to HIV. It is also because girls are more easily infected during vaginal intercourse with an infected partner than boys are.

The fact that, in Africa, women's peak infection rates occur at earlier ages than men's helps explain why there are an estimated 12 women living with HIV for every 10 men in this region of the world. Not only do the young age groups account for a bigger proportion of the population, but individuals who are infected at a younger age tend to survive longer and continue to be counted among those living with HIV....

Waking up to Devastation

Since the early 1990s, it has been clear that HIV would help undermine development in countries badly affected by the virus. Warnings about falling life expectancy, increasing numbers of orphans, extra costs for business and the destruction of family and community structures are not new.

These effects are becoming increasingly visible in the hardest-hit region of all, sub-Saharan Africa, where HIV is now deadlier than war itself: in 1998, 200 000 Africans died in war but more than 2 million died of AIDS. AIDS has become a full-blown development crisis. Its social and economic consequences are felt widely not only in health but in education, industry,

agriculture, transport, human resources and the economy in general. This wildly destabilizing effect is also affecting already fragile and complex geopolitical systems.

As a result, AIDS is rapidly becoming the key issue for human security in sub-Saharan Africa. AIDS in Africa was chosen as the theme for the United Nations Security Council meeting on 10 January 2000—the first time that body had dealt with a development issue.

The Demographic Impact of AIDS

The Population Chimney

It is now clear that the population structures of badly affected countries will be radically altered by HIV. And that can only mean massive changes in the way societies organize themselves, make a living and care for the needy.

In developing countries, population structure is generally described as a pyramid, reflecting the demographer's traditional depiction of populations according to age group, with men on one side of a central axis and women on the other. The shape of the pyramid is determined by both birth and death rates. When both are high, the pyramid has a wide base and tapers off steadily with increasing age. As health improves and fertility falls, the older age groups grow larger than the younger age groups, and the pyramid becomes more of a column. Now, AIDS has begun to introduce a completely new shape, the 'population chimney'.

The base of the pyramid is less broad. Many HIV-infected women die or become infertile long before the end of their reproductive years, which means that fewer babies are being born; and up to a third of the infants born to HIV-positive mothers will acquire and succumb to the infection. But the dramatic change in the population pyramid comes around 10 or 15 years after the age at which people first become sexually active, when those infected with HIV early in their sexual lives begin to die off. The populations of women above their early 20s and men above their early 30s shrink radically. As only those who have not been infected survive to older ages, the pyramid becomes a chimney.

The chimney... shows the dramatic impact that AIDS is predicted to have on the structure of the population of Botswana, where over a third of the 775,000 adults are now infected with HIV. ...[In the absence of an AIDS epidemic] more children would be born (because more mothers would survive and remain fertile throughout their reproductive years) and fewer would die

because they acquired the virus from their mothers. Far fewer young adults would die before old age.

The implications of this change in population structure are truly shocking. According to the United States Census Bureau, there will be more adults in their 60s and 70s in Botswana in 20 years' time than there will be adults in their 40s and 50s. This projection is based on the assumption that patterns of new infection will not change greatly over the next decade; however, as changes in future infection rates will principally affect men and women under 40 in 2020, the demographic chimney pattern for older adults is hardly affected by this assumption. The 'missing adults'—men and women who should have reached their 40s and 50s in 2020—are now in their 20s and 30s, although some have already died. Many more are already infected with HIV, which will kill them before they reach their 50s.

What this means for society is hard to predict, since the world has never before experienced death rates of this magnitude among young adults of both sexes across all social strata. But there is one certainty: a small number of young adults—the group that has traditionally provided care for both children and the elderly—will have to support large numbers of young and old people. Many of these young adults will themselves be debilitated by AIDS and may even require care from their children or elderly parents rather than providing it.

Increases in Adult and Child Mortality Rates are Already Being Recorded

Even without analysing the data on death rates, countries with severe long-standing HIV epidemics know from the massive increase in funerals that deaths are on the rise. The data show the same rising trend. Demographers have developed techniques to measure death rates in developing countries by asking about recent household deaths or by studying the reports of surviving relatives in large-scale censuses and surveys. Recent analyses of these household-based data for countries with high HIV prevalence rates show clear increases in both adult and child mortality rates, which often appear after many years of a steady decline in death rates. It is worth noting that these data represent a 'best-case' scenario and may underestimate actual death rates. Because AIDS may kill several members of a household, it can destroy households completely, with the result that some of the deaths will not be captured in subsequent household surveys.

...[U]nder-5 child mortality [decreased in Zambia, Kenya, and Cameroon] between 1981 and 1986 [but subsequently rose again.] ...[The] upturn ... has been attributed to AIDS. Almost all AIDS deaths in young children can be traced back to mother-to-child transmission of the virus. This is why countries such as Zambia and Kenya, with their high adult HIV prevalence rates, have seen a particularly steep rise in child mortality.

Even more dramatic increases are seen in adult death rates. In Zimbabwe, a comparison of estimates based on registered deaths and data collected in different censuses and household surveys over the past two decades show remarkably consistent patterns of increasing mortality among young men. Even though the data presented here have been adjusted for the under-reporting of deaths that is the norm in developing countries, the adjustments must be viewed as conservative, because the families most devastated by deaths may no longer exist to report such events. The true mortality rates could thus be even higher.

Given the death rates prevailing at the time in each age group, a [Zimbabwean] man who was 15 in 1983 would have had just a 15% chance of dying before reaching his 50th birthday. By 1997, 15-year-old boys faced a much bleaker prospect: half could expect to die before the age of 50. The situation was just as bad for women: the likelihood of a 15-year-old dying before the end of her reproductive years quadrupled from around 11% in the early 1980s to over 40% by 1997.

There is no phenomenon apart from the AIDS epidemic that could possibly explain this recent drastic rise in mortality after years of declining death rates. Indeed, smaller community-based studies with information on the cause of death show that in countries where just under 10% of the adult population has HIV infection, almost 80% of all deaths in young adults aged 25–45 are associated with HIV. The proportion of HIV-related deaths is likely to be even higher in areas with higher HIV prevalence rates.

In Some Countries, Over a Third of 15-Year-Olds May Die of AIDS

High and stable HIV prevalence rates are bad news. But there is worse news. Prevalence rates do not reflect the true impact of the epidemic. The 15–49-year-old age group includes people who are not yet infected with HIV but who will be one day. And it excludes men and women born 15–49 years ago who were infected with HIV but have already died. If the probability that a person will become infected at any time in his or her life is summed up, the cumulative figure is higher than the 'snapshot' provided by current prevalence rates. To give a better idea of the actual

risk of dying of HIV-associated disease, researchers have built models to follow people throughout their lives, examining their exposure to risks of infection with HIV at each age. The risks are calculated from patterns of HIV infection at each age observed in African communities. In general, the rate of new infections peaks among women in their early 20s and among men slightly later, and tapers off at older ages. The rate of new infections at each age is determined by the current phase of the HIV epidemic in a country. In the model, men and women also face the competing risk of dying of other causes at rates similar to those recorded before the HIV epidemic.

...[T]he likelihood that a boy now aged 15 will eventually die of AIDS is much higher than the likelihood that a man now aged 15–49 is currently infected with HIV. This sobering fact remains true even if the rates of new infection fall in the future. ...Even in [an] optimistic scenario... the proportion of young people who will die of AIDS is appallingly high in many countries: in [Zambia, South Africa, Zimbabwe, and Botswana,] where 15% or more of all adults are currently infected with HIV, at least 35% of boys now aged 15 will die of AIDS. [In Botswana, where more than 30% of all adults are currently infected with HIV, between 65% and 85% of boys now aged 15 will die of AIDS.] ...

Social and Economic Impacts

The premature death of half of the adult population, typically at ages when they have already started to form their own families and have become economically productive, can be expected to have a radical effect on virtually every aspect of social and economic life. While it is difficult to measure the precise impact of HIV at a national level in most hard-hit countries, a great deal of information does exist about how the epidemic is affecting everything from households to the public and private sector of the economy.

Household Impacts

The few surveys of the impact of having a family member with AIDS show that households suffer a dramatic decrease in income. Decreased income inevitably means fewer purchases and diminishing savings.

...In urban areas in Côte d'Ivoire, the outlay on school education was halved, food consumption went down 41% per capita, and expenditure on health care more than quadrupled. When family members in urban areas fall ill, they often return to their villages to be cared for by their families, thus adding to the call on scarce resources and increasing the probability that a spouse or others in the rural community will be infected.

Families make great sacrifices to provide treatment, relief and comfort for a sick breadwinner. ... A common strategy in AIDS-affected households is to send one or more children away to extended family members to ensure that they are fed and cared for. Such extended family structures have been able to absorb some of the stress of increasing numbers of orphans, particularly in Africa. However, urbanization and migration for labour, often across borders, are destroying those structures. As the number of orphans grows and the number of potential caregivers shrinks, traditional coping mechanisms are stretched to breaking point. Households headed by orphans are becoming common in high-prevalence countries. Studies in Uganda have shown that following the death of one or both parents, the chance of orphans going to school is halved and those who do go to school spend less time there than they did formerly. Other work from Uganda has suggested that orphans face an increased risk of stunting and malnourishment. There is a consensus that help for orphans should be targeted at supporting families and improving their capacity to cope, rather than setting up institutions for the children. Orphanages may not be relevant to a long-term solution. Moreover, in a subsistence economy, children sent away from their village may lose their rights to their parents' land and other property as well as their sense of belonging to a family.

The Orphans Left Behind

So far, the AIDS epidemic has left behind 13.2 million orphans—children who, before the age of 15, lost either their mother or both parents to AIDS. Many of these children have died, but many more survive, not only in Africa (where 95% currently live) but in developing countries throughout Asia and the Americas.

Before AIDS, about 2% of all children in developing countries were orphans. By 1997, the proportion of children with one or both parents dead had skyrocketed to 7% in many African countries and in some cases reached an astounding 11%. In African countries that have had long, severe epidemics, AIDS is generating orphans so quickly that family structures can no longer

cope. Traditional safety nets are unravelling as more young adults die of this disease. Families and communities can barely fend for themselves, let alone take care of orphans. Typically, half of all people with HIV become infected before they turn 25, acquiring AIDS and dying by the time they turn 35, leaving behind a generation of children to be raised by their grandparents or left on their own in child-headed households.

Wherever they turn, children who have lost a mother or both parents to AIDS face a future even more difficult than that of other orphans. According to a report published jointly in 1999 by UNICEF and the UNAIDS Secretariat, AIDS orphans are at greater risk of malnutrition, illness, abuse and sexual exploitation than children orphaned by other causes. They must grapple with the stigma and discrimination so often associated with AIDS, which can even deprive them of basic social services and education.

Although the crisis is enormous and its impact devastating, countries and communities across Africa are rallying to react to the damage and to counter some of its worst impacts. In Malawi, the Government decided early on to support community-based programmes and has had a National Orphan Care Task Force since 1991. Across the country, community-based organizations are setting up child-care centres to improve the care of children and increase their learning opportunities. In Zambia, which has the second largest proportion of AIDS orphans in the world after Uganda, nongovernmental organizations are working hard to fill gaps by providing food, clothing and school fees to orphans and their families. In Zimbabwe, where 7% of all children under 15 are orphaned by AIDS, a National Policy on the Care and Protection of Orphans has been developed, which advocates that orphans should be placed in institutions only as a last resort and be cared for by the community whenever possible.

Uganda Women's Effort to Save Orphans (UWESO) was started in 1986 by Janet Museveni, wife of President Yoweri Museveni, in the aftermath of the country's lengthy civil war, functioning as a relief agency to assist orphans in resettlement camps and return them to their extended families. As the country became increasingly affected by the AIDS epidemic, UWESO shifted its emphasis to support for AIDS orphans; the organization, with its 35 branches countrywide, helps fund education and training for the children and runs a micro-finance scheme to help the caretakers—typically, female relatives of the children—to start up small businesses and trading activities.

The Toll on Teaching

Education is an essential building block in a country's development. In areas where HIV infection is common, HIV-related illness is taking its toll on education in a number of ways. First, it is eroding the supply of teachers and thus increasing class sizes, which is likely to dent the quality of education. Secondly, it is eating into family budgets, reducing the money available for school fees and increasing the pressure on children to drop out of school and marry or enter the workforce. Thirdly, it is adding to the pool of children who are growing up without the support of their parents, which may affect their ability to stay in school.

Skilled teachers are a precious commodity in all countries, but in some parts of the world, they are becoming too sick to work or dying of HIV-related illness long before retirement. The Central African Republic, where around one in every seven adults is estimated to be infected with HIV, already has a third fewer primary school teachers than it needs. A recent study of the impact of HIV on the educational sector showed that almost as many teachers died as retired between 1996 and 1998. Of those who died, some 85% were HIV-positive, and they died an average of 10 years before reaching the minimum retirement age of 52. The study recorded that 107 schools had closed owing to staff shortages, and only 66 remained open. With the teacher short-age expected to worsen, researchers calculate that over 71,000 children aged 6–11 will be deprived of a primary education by the year 2005. A similarly dramatic impact has been found in Côte d'Ivoire, where teachers with HIV miss up to six months of classes before dying (compared with 10 days missed by teachers dying of other causes) and where confirmed cases of HIV/AIDS account for 7 out of 10 deaths among teachers.

In Zambia, deaths among teachers are very high and still rising rapidly. In the first 10 months of 1998, Zambia lost 1300 teachers—the equivalent of around two-thirds of all new teachers trained annually. AIDS may aggravate the existing disparity in educational access between town and countryside. In a national survey of 6–15-year-olds in 1996, over 70% of those living in cities were enrolled in school, compared with just over half of those in rural areas. Rural postings are already unpopular among teachers in many countries, and the Zambian study suggested that the need to be close to a source of health care—a town or city—acted as an extra disincentive to teachers to go to rural areas.

The Toll on Learning

It is commonly assumed that children drop out of school when their parents die, whether of AIDS or another cause. While there has been little rigorous research, a few studies can point to AIDS in the family as a direct cause of school drop-out. For example, in a study of commercial farms in Zimbabwe, where most farmworker deaths are attributed to AIDS, 48% of the orphans of primary-school age who were interviewed had dropped out of school, usually at the time of their parent's illness or death, and not one orphan of secondary-school age was still in school.

Information collected in large household surveys representative of the general population confirms the general assumption that children whose parents have both died are less likely to be in school than children who are living with one or both parents.

The impact of parental AIDS is not necessarily a direct one or seen only in children who have already been orphaned. A child's schooling may be temporarily interrupted by a shortage of cash occasioned by spending on a parent's ill-health or by periods of work in the home to help sick parents. By the time children are actually orphaned, they are likely to be over-age for their class, even if they are still in school. This was the case in both the Zimbabwean and Kenyan studies cited here. Being older than their classmates was in turn associated with a higher rate of dropping out of school for a number of other reasons, including pregnancy and the need to take paying work. Many of the marriages that led to drop-out were arranged, so it is quite possible that relatives or sick parents themselves saw marrying a girl off as a relatively painless way of ensuring that she would be cared for after their death. In at least one study of orphans in Kenya, boys tended to give economic reasons for dropping out of primary school (64% said they could not afford fees or needed to earn cash from fishing) while 28% of girls said that they had become pregnant and 41% had left to get married.

Health Sector Under Stress

Since the start of the epidemic, 18.8 million children and adults have fallen sick and died and almost twice that number are now living with HIV, with some 5.4 million newly infected people joining their ranks in 1999. As a consequence, the epidemic's impact on the health sector over the coming decade will be predictably greater than in the past two decades combined.

Already, however, the increased demand for health care from people with HIV-related illnesses is heavily taxing the overstretched public health services of many developing countries. In the mid-1990s, it was estimated that treatment for people with HIV consumed 66% of public health

spending in Rwanda and over a quarter of health expenditures in Zimbabwe. A recent study estimates that in 1997, public health spending for AIDS alone already exceeded 2% of gross domestic product (GDP) in 7 of 16 African countries sampled—a staggering figure in countries where total health spending accounts for 3–5% of GDP. In recent years, HIV-positive patients have occupied ... 39% of the beds in Kenyatta National Hospital in Nairobi, Kenya, and 70% of the beds in the Prince Regent Hospital in Bujumbura, Burundi. A related impact of the epidemic is that patients suffering from other conditions are being crowded out. The hospital sector in Kenya has seen increased mortality among HIV-negative patients, who are being admitted at later stages of illness.

The shifting and growing demand on health care systems is underscored by the exploding tuberculosis epidemic in the countries most heavily affected by HIV. As... HIV weakens people's immune systems it makes them far more vulnerable to developing active tuberculosis.

Tuberculosis has become the leading cause of death among people with HIV infection, accounting for about a third of AIDS deaths worldwide. Hospital data from Africa show that up to 40% of HIV-infected patients have active tuberculosis. With a greater number of HIV-positive people developing active tuberculosis, there is also a greater risk that the tubercle bacillus will pass to others in the community. The World Bank has estimated that 25% of HIV-negative persons dying of tuberculosis in the coming years would not have been infected with the bacillus in the absence of the HIV epidemic. Each of these new tuberculosis infections represents a further cost to the health sector.

The development of new therapies for HIV-infected persons and of vaccines will further raise health sector costs in infrastructure, drugs, training, and personnel expenditures. At the same time, HIV-related illness and premature death among health care workers themselves will continue to create costs of another kind for the health sector. Sickness and death due to AIDS is growing rapidly among health care personnel, but few countries have as yet fully understood the epidemic's impact on human resources in their health sector. A study in Zambia showed that in one hospital, deaths in health care workers increased 13-fold over the 10-year period from 1980 to 1990, largely because of HIV. As in other sectors of the economy, rising rates of HIV infection in health care workers will increase rates of absenteeism, reduce productivity, and lead to higher levels of spending for treatment, death benefits, additional staff recruitment and training of new health personnel.

Impact on Agriculture

Agriculture is one of the most important sectors in many developing countries, particularly when measured by the percentage of people dependent on it for their living.

Although the sector may produce only 20% of a country's wealth (measured as a percentage of the gross national product), it might provide a living or survival for as much as 80% of the country's population. Indirectly, it provides a livelihood for still other parts of the population, such as processing workers on sugar estates (see 'The Bottom Line', below).

The effect of AIDS is devastating at family level. As an infected farmer becomes increasingly ill, he and the family members looking after him spend less and less time working on his family's crops. The family begins to lose income from unmarketed or incompletely tended cash crops, has to buy food it normally grows for itself, and may even have to sell off farm equipment or household goods to survive.

The vicious circle is compounded by the high costs of health care, whether the sick person turns to a traditional healer or to the health services. A 1997 study by the Food and Agriculture Organization of the United Nations (FAO) showed that in the mid-west of Côte d'Ivoire, care for male AIDS patients cost on average about US\$ 300 a year, representing a quarter to a half of the net annual income of most small-scale farms.

The time lost by family members must also be taken into account. For instance, the repeated absence of another member of the farm to accompany the patient to a healer also reduces the farm's production. And when the most debilitating phases of AIDS coincide with key farming periods such as sowing or clearing, the time spent nursing a sick person and lost to farm labour is sorely missed. A recent survey in the rural Bukoba district of the United Republic of Tanzania found a radical shift in the allocation of labour time: a woman with a sick husband spent 60% less time on agricultural activities than she would normally do.

Altogether, the effects on production can be serious. In West Africa, many cases have been reported of reduced cultivation of cash crops or food products. These include market gardening in the provinces of Sanguié and Boulkiemdé in Burkina Faso and cotton, coffee and cocoa plantations in parts of Côte d'Ivoire. A recent study in Namibia by the FAO concluded that the impact on livestock is considerable, with a heavy gender bias: households headed by women and children generally lose their cattle, thus jeopardizing the food security of the surviving members.

But even the poorer male-headed households experience a decrease in livestock when a wife dies. In Zimbabwe, the output of communal agriculture (much of it subsistence farming) has fallen by 50% over the past five years owing largely, though not solely, to the AIDS epidemic, according to a report published in 1998. Maize production has seen a decline of 54% of harvested quantity and a further drop of 61% in marketed output. The number of hectares under cotton has decreased by about 34% and marketed output by a further 47%, and the production of ground-nuts and sunflowers has fallen by 40%. The Southern Africa AIDS Information Dissemination Service (SAfAIDS), an AIDS-related nongovernmental organization in Zimbabwe, warned that a food crisis could erupt in Zimbabwe within the next 20 years as the group of people of productive age shrinks and the areas under cultivation diminish as a result.

The Bottom Line: HIV Is Hurting Business

Given the proportion of adults infected with HIV and dying from associated diseases in Africa, it is inevitable that the business sector, as well as families, schools and other sectors, will feel the cost. Yet many companies (in common with many governments) have ignored the early warning signs and have not acted against HIV until sickness and deaths become too common to ignore. While experience suggests that HIV prevention is most effective when it is introduced very early on, before the virus gets a grip and the population of infected people becomes uncontrollably large, business people have taken some persuading. Interviews conducted in engineering and construction companies in Gaborone, Botswana, found resistance to the idea of implementing HIV prevention and planning measures even though 39% of people of working age in the city were estimated to be infected in 1998.

Some companies in Africa have already felt the impact of HIV on their bottom line. Managers at one sugar estate in Kenya said they could count the cost of HIV infection in a number of ways: absenteeism (8000 days of labour lost due to sickness between 1995 and 1997 alone), lower productivity (a 50% drop in the ratio of processed sugar recovered from raw cane between 1993 and 1997) and higher overtime costs for workers obliged to work longer hours to fill in for sick colleagues.

Direct cash costs related to HIV infection have risen dramatically in this same company: spending on funerals rose fivefold between 1989 and 1997, while health costs rocketed up by more than 10-fold over the same period, reaching KSh 19.4 million (US\$ 325 000) in 1997. The

company estimated that at least three-quarters of all illness is related to HIV infection. Indeed, illness and death have jumped from last to first place in the list of reasons for people leaving a company, while old-age retirement slipped from the leading cause of employee drop-out in the 1980s to just 2% by 1997....

HIV in the Workplace: the Business Response

In Botswana's relatively recent HIV epidemic, the tidal wave of deaths has yet to break. Recognizing that a massive increase in sickness and death is on its way, several companies joined forces to fund the Botswana Business Coalition on AIDS in order to share information about prevention and care in the workplace and keep up to date on legal and ethical issues raised by the epidemic.

The Coalition also works in close collaboration with the Government and trade unions to coordinate approaches to policy and HIV prevention programmes in the workplace. The Government's occupational health service provides training to companies that wish to initiate HIV prevention in the workplace.

Experience has shown that there are effective measures that businesses can take to respond to the epidemic. A study in 40 Zimbabwean factories demonstrated that strengthened prevention efforts in the workplace can reduce HIV transmission (and the future costs associated with it) when compared with workplaces that have weaker prevention programmes. In all 40 factories, workers were given information about preventing HIV and were offered voluntary counselling and HIV testing. In half the factories, workers could also choose to speak privately with one of the peer educators—workers who had been specially trained to discuss HIV prevention with their colleagues, make condoms available, and provide information about sexually transmitted infections and where they could be treated.

Discouragingly, the number of new HIV infections actually rose over the two-year period of the study in both groups of factories and in all age groups. But the good news for the managers of factories with peer educators was that the rise was 34% less in these factories than in the others. This substantial reduction was achieved at a cost of around US\$ 6 per employee—less than the cost of one set of protective overalls.

Since untreated syphilis, gonorrhoea and other sexually transmitted infections increase the risk of acquiring and passing on HIV, companies seeking to prevent HIV in the workforce have a clear

interest in making sure that these infections are treated quickly and effectively. Many companies have their own clinics at which workers can be treated for free. Companies that consider this option too expensive might reflect on the findings of a company survey in Botswana, which showed that workers lost several hours waiting at government clinics where free external treatment was available. The associated lost productivity probably cost the company much more than providing private treatment would have done.

In fact, some studies suggest that providing services to the wider community can have as much of an effect on the health of the workforce as providing them to the workers alone. In a study in South Africa, a mine-sponsored service for treating sexually transmitted infections in sex workers in the surrounding community led to a significant reduction in the number of infections among the miners themselves. Over the same period, in another mining community where there was no special prevention effort, sexually transmitted infections among miners increased.

Government policy can encourage companies in the private sector to invest in HIV prevention in the workforce, for example by providing tax breaks for those with active prevention programmes. Some development agencies now require an assessment of the impact of AIDS in every development project, and a few governments, for example that of Botswana, are considering including AIDS prevention in the workplace as a requirement for any large tender.

Source: *Report on the Global HIV/AIDS Epidemic*. 2000. UNAIDS: Joint United Nations Programme on HIV/AIDS.

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