The Economic Impact of AIDS in Malawi

by
Dr. Lori Bollinger
John Stover
Dr. Martin Enock Palamuleni

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AIDS has the potential to create severe economic impacts in many African countries. It is different from most other diseases because it strikes people in the most productive age groups and is essentially 100 percent fatal. The effects will vary according to the severity of the AIDS epidemic and the structure of the national economies. The two major economic effects are a reduction in the labor supply and increased costs:

**Labor Supply**
- The loss of young adults in their most productive years will affect overall economic output
- If AIDS is more prevalent among the economic elite, then the impact may be much larger than the absolute number of AIDS deaths indicates

**Costs**
- The direct costs of AIDS include expenditures for medical care, drugs, and funeral expenses
- Indirect costs include lost time due to illness, recruitment and training costs to replace workers, and care of orphans
- If costs are financed out of savings, then the reduction in investment could lead to a significant reduction in economic growth

### LABOR FORCE STATISTICS

<table>
<thead>
<tr>
<th>Employment by Economic Sector</th>
<th>1991</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modern Sector</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture, hunting, forestry and fishing</td>
<td>241,597</td>
<td>6.2</td>
</tr>
<tr>
<td>Community/Social/Personal Services</td>
<td>84,724</td>
<td>2.3</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>69,300</td>
<td>1.9</td>
</tr>
<tr>
<td>Construction</td>
<td>40,007</td>
<td>1.1</td>
</tr>
<tr>
<td>Wholesale/Retail Trade</td>
<td>37,060</td>
<td>1.02</td>
</tr>
<tr>
<td>Transportation/Communications</td>
<td>32,585</td>
<td>0.9</td>
</tr>
<tr>
<td>Finance/Insurance/Real Estate</td>
<td>15,543</td>
<td>0.4</td>
</tr>
<tr>
<td>Electricity/Water</td>
<td>6,726</td>
<td>0.2</td>
</tr>
<tr>
<td>Mining</td>
<td>339</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>527,880</td>
<td>14.5</td>
</tr>
<tr>
<td><strong>Informal Sector</strong></td>
<td>3,121,888</td>
<td>85.5</td>
</tr>
<tr>
<td><strong>TOTAL EMPLOYED</strong></td>
<td>3,649,768</td>
<td>100.0</td>
</tr>
</tbody>
</table>


Liberalization policies begun in 1994/95 have helped the economy to grow; the reliance of the economy on agriculture, however, was emphasized when heavy rains caused crop damage in 1997 and early 1998.\(^1\)

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The economic effects of AIDS will be felt first by individuals and their families, then ripple outwards to firms and businesses and the macro-economy. This paper will consider each of these levels in turn and provide examples from Malawi to illustrate these impacts.

**Economic Impact of AIDS on Households**

The household impacts begin as soon as a member of the household starts to suffer from HIV-related illnesses:

- Loss of income of the patient (who is frequently the main breadwinner)
- Household expenditures for medical expenses may increase substantially
- Other members of the household, usually daughters and wives, may miss school or work less in order to care for the sick person
- Death results in: a permanent loss of income, from less labor on the farm or from lower remittances; funeral and mourning costs; and the removal of children from school in order to save on educational expenses and increase household labor, resulting in a severe loss of future earning potential.

- Recent projections indicate that the annual number of new AIDS cases will double from 64,260 in 1998 to 99,400 in 2005, reaching 136,350 each year by 2015. The number of new pediatric AIDS cases each year are projected to rise from 14,500 in 1998 to 21,240 in 2005, reaching 25,510 by the year 2015. The projections also show that the number of maternal orphans in Malawi will increase from about 250,000 in 1998 to 660,000 by the year 2005, and reach over one million by 2015.\(^2\) Orphans tend to have fewer resources expended on them for medical care and education; for example, a recent Demographic and Health Survey in the CAR found that the enrollment rate for orphans aged 7-14 was 39%, compared to an enrollment rate of 60% for children whose parents were both alive.\(^3\) The impact of the epidemic is expected to increase poverty rates, as poor households will have to use their limited income to pay for medical care.\(^4\)

- One method households report using as a coping mechanism for the effect of HIV/AIDS is to hire out household members as casual labor, also called doing *ganyu*. Although this practice helps to supplement the income lost through the decrease in other economic activities, it also has a negative impact on the labor supply available for the household.\(^5\)

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A recent study examined the impact of HIV/AIDS on food security through weekly interviews in 123 peasant households. Case histories were developed on how the households coped with illness, deaths, and social obligations. Household food security was measured by calculating cash income and maize production. The author found that because AIDS increases the pressures on the households, the normal redistribution and reciprocity arrangements that have allowed households to share resources during periods of food shortage are severely threatened.6

**Economic Impact of AIDS on Agriculture and Fisheries**

Agriculture is the largest sector in most African economies accounting for a large portion of production and a majority of employment. Studies done in Tanzania and other countries have shown that AIDS will have adverse effects on agriculture, including loss of labor supply and remittance income. The loss of a few workers at the crucial periods of planting and harvesting can significantly reduce the size of the harvest. In countries where food security has been a continuous issue because of drought, any declines in household production can have serious consequences. Additionally, a loss of agricultural labor is likely to cause farmers to switch to less-labor-intensive crops. In many cases this may mean switching from export crops to food crops. Thus, AIDS could affect the production of cash crops as well as food crops.

Fisheries play a significant role in food provision in Malawi; Capture Fisheries alone supplies 40% of the total supply of protein for the country. A case study of the fisheries industry found that government officials in the fisheries programme are becoming more and more concerned about the increasing mortality in the staff of the fishing crews. The mortality leads to increased turnover rates and the need to train new staff to replace those who have died. Absenteeism has also become a problem, because of both AIDS-related morbidity and funeral attendance.7

In Malawi, 10% of GDP comes from estate agriculture. A recent study evaluated the costs of HIV/AIDS on a tea estate there (see table at right). Overall, the costs related to HIV accounted for 3.4% of the estate’s gross profit during the 1995/96 fiscal year. The study found that the costs are determined by the levels of both employee benefits and of skilled labor necessary for production. It is predicted that, in the longer term, the

<table>
<thead>
<tr>
<th>Cost of HIV/AIDS on a Tea Estate in Malawi</th>
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</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Provision of medical services</td>
</tr>
<tr>
<td>Funeral costs</td>
</tr>
<tr>
<td>Death in service benefits</td>
</tr>
<tr>
<td>Absence</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

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negative impact on the supply of skilled labor will be the strongest effect of HIV/AIDS. The study concludes that it will become increasingly difficult to recruit skilled people, even at the national level.

<table>
<thead>
<tr>
<th>Structure of Malawian Smallholder Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms &lt;1 ha</td>
</tr>
<tr>
<td>Farms &lt; 0.5 ha</td>
</tr>
<tr>
<td>Female-headed farms: National South</td>
</tr>
<tr>
<td>Farms &lt;1 ha with female head</td>
</tr>
<tr>
<td>Home remittance as % cash income</td>
</tr>
</tbody>
</table>

- An early study by the FAO predicted that smallholder agriculture in Malawi would be particularly vulnerable to the effect of HIV/AIDS. Because many farms are quite small, less than one hectare, and headed by females, they are already vulnerable to external shocks, such as the effects of drought or crop disease. They are also quite dependent on hired labor. Those women who are married depend on their husbands for sending home remittance income. This income is particularly important for the poorer households; a report in 1989 found that 29% of farms under 0.7 hectares in size consumed all of their production within four months of harvest; they are dependent on other sources for food after that time.

**Economic Impact on Firms**

AIDS may have a significant impact on some firms. AIDS-related illnesses and deaths to employees affect a firm by both increasing expenditures and reducing revenues. Expenditures are increased for health care costs, burial fees and training and recruitment of replacement employees. Revenues may be decreased because of absenteeism due to illness or attendance at funerals and time spent on training. Labor turnover can lead to a less experienced labor force that is less productive.

<table>
<thead>
<tr>
<th>Factors Leading to Increased Expenditure</th>
<th>Factors Leading to Decreased Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care costs</td>
<td>Absenteeism due to illness</td>
</tr>
<tr>
<td>Burial fees</td>
<td>Time off to attend funerals</td>
</tr>
<tr>
<td>Training and recruitment</td>
<td>Time spent on training</td>
</tr>
<tr>
<td>Labor turnover</td>
<td></td>
</tr>
</tbody>
</table>

- A formal cost-benefit analysis of the impact of HIV/AIDS was applied to an urban-based industry in Blantyre, Brown and Clapperton Limited. During the calendar year

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8 Jones, C. 1997. What HIV cost a tea estate in Malawi. AIDS Analysis Africa; 7(3): 5-7. The 1995 end-of-period exchange rate for US $/UK pounds (1.55) from the IMF International Financial Statistics was used to convert results reported in pounds to dollars.


In 1995, the effect of HIV/AIDS was estimated to be between K360,000 and K1,449,000, or between 1.5% and 6.0% of operating profit.\(^\text{11}\)

- A detailed analysis of the Lonrho Companies examined the impact of HIV/AIDS in terms of direct and indirect costs. Absenteeism did not seem to be increasing due to HIV/AIDS, but other effects are felt, as seen in the table to the left. Between 1991/92 and 1995/96, the crude death rate increased from about 6/1000 to over 19/1000. Changes in death in service benefits paid reflect this increasing number of deaths; between 1994/95 and 1995/96, the amount increased by over 100 percent. Overall, it was estimated that the cost of HIV/AIDS was about 1.1% of total costs for the company, and consisted of 3.4% of gross profits. Based on the age distribution of AIDS cases in the company, the authors predict that the main effect in the future will be the loss of senior staff, who will be difficult to replace.\(^\text{12}\)

For some smaller firms, the loss of one or more key employees could be catastrophic. In others, the impact may be small. Firms in some key sectors, such as transportation and mining, are likely to suffer larger impacts than firms in other sectors. In poorly managed situations the HIV-related costs to companies can be high. However, with proactive management these costs can be mitigated through effective prevention and management strategies.

### Impacts on Other Economic Sectors

AIDS will also have significant effects in other key sectors. Among them are health, transport, mining, education and water.

- **Health.** AIDS will affect the health sector for two reasons: (1) it will increase the number of people seeking services and (2) health care for AIDS patients is more expensive than for most other conditions.\(^\text{13}\) Governments will face trade-offs along at least three dimensions: treating AIDS versus preventing HIV infection; treating AIDS

\[\text{Impact of HIV/AIDS on Lonrho Companies} \]

<table>
<thead>
<tr>
<th>Category</th>
<th>1991/92</th>
<th>1995/96</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude death rate</td>
<td>6.07/1000</td>
<td>19.41/1000</td>
<td>220%</td>
</tr>
<tr>
<td>Crude early health retirement</td>
<td>n/a</td>
<td>n/a</td>
<td>226%</td>
</tr>
<tr>
<td>1994/95</td>
<td>1.3% of pension members</td>
<td>1.9% of pension members</td>
<td>46%</td>
</tr>
<tr>
<td>Death in service benefits paid</td>
<td>US$93,335</td>
<td>US$189,424</td>
<td>103%</td>
</tr>
</tbody>
</table>

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versus treating other illnesses; and spending for health versus spending for other objectives. Maintaining a healthy population is an important goal in its own right and is crucial to the development of a productive workforce essential for economic development.

- In 1993, the average annual cost in Malawi for treating a child with either probable or possible AIDS was US$59.33. This cost was calculated based on an assumption of four admissions per child per year. Of the total annual cost, drugs accounted for US$4.80, or 8 percent of the total. Staff salaries accounted for the other 82 percent of the total average cost.14

- In 1992, the total lifetime health care cost in Malawi for caring for an adult patient with AIDS was estimated to be US$143 (K515). If it is assumed that 65 percent of adults with AIDS are treated, the total direct costs of caring for AIDS patients to the health sector were estimated to be US$4.6 million (K16.5 million) in 1992. This figure accounted for about 20% of the total Malawi Ministry of Health curative health budget. Furthermore, if 65 percent of AIDS cases continued to be treated, it was projected that between US$28 million and US$40 million (K100-144 million) would have to be spent on health care by the year 2000, because of the increase in the number of AIDS patients. This figure would require between 27-38 percent of the total Ministry of Health curative health budget.15

- By 1993, AIDS had become the most frequent diagnosis and most frequent cause of death in Mangochi hospital. The average stay for an AIDS patient was 18.7 days, which increased occupancy rates significantly, as well as drug costs.16 Overall, estimates indicated that there were eight patients for every five hospital beds in the Central and District hospitals.17

- As of 1999, people with HIV/AIDS or HIV/AIDS related conditions occupied over 70 percent of the hospital beds in Malawi.18

- **Transport.** The transport sector is especially vulnerable to AIDS and important to AIDS prevention. Building and maintaining transport infrastructure often involves sending teams of men away from their families for extended periods of time, increasing the likelihood of multiple sexual partners. The people who operate

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transport services (truck drivers, train crews, sailors) spend many days and nights away from their families. Most transport managers are highly trained professionals who are hard to replace if they die. Governments face the dilemma of improving transport as an essential element of national development, and thus creating risky conditions for workers, while protecting the health of the workers and their families.

- Casual observation by senior management in Chilumba, Malawi suggested that increases in HIV prevalence were related to the construction of roads and dams there, as commercial sex workers are attracted to the sites where young men predominate. In particular, the authors speculate that: “In the wake of the [most recent] project, HIV seropositivity rates in the local population rose.”

- **Mining.** The mining sector is a key source of foreign exchange for many countries. Most mining is conducted at sites far from population centers forcing workers to live apart from their families for extended periods of time. They often resort to commercial sex. Many become infected with HIV and spread that infection to their spouses and communities when they return home. Highly trained mining engineers can be very difficult to replace. As a result, a severe AIDS epidemic can seriously threaten mine production.

- An earlier study determined that Malawi lost approximately US$27.3 million from loss of migrant miner income in the early 1990s. In 1989, South Africa requested that Malawian miners be tested for HIV before they were allowed to work in South African mines. The Malawian government refused to allow the testing; as a result, the Malawian miners were no longer employed in the South African mines, and could no longer remit income.

- **Education.** AIDS affects the education sector in at least three ways: the supply of experienced teachers will be reduced by AIDS-related illness and death; children may be kept out of school if they are needed at home to care for sick family members or to work in the fields; and children may drop out of school if their families can not afford school fees due to reduced household income as a result of an AIDS death. Another problem is that teenage children are especially susceptible to HIV infection. Therefore, the education system also faces a special challenge to educate students about AIDS and equip them to protect themselves.

- One World Bank report suggests that one-quarter to one-half of teachers will die of AIDS by 2005.

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• **Water.** Developing water resources in arid areas and controlling excess water during rainy periods requires highly skilled water engineers and constant maintenance of wells, dams, embankments, etc. The loss of even a small number of highly trained engineers can place entire water systems and significant investment at risk. These engineers may be especially susceptible to HIV because of the need to spend many nights away from their families.

• There have been deaths from AIDS in Malawi for key personnel in water engineering; “…Malawi is suffering from the losses of highly qualified engineers that cannot easily be replaced.”

**Macroeconomic Impact of AIDS**

The macroeconomic impact of AIDS is difficult to assess. Most studies have found that estimates of the macroeconomic impacts are sensitive to assumptions about how AIDS affects savings and investment rates and whether AIDS affects the best-educated employees more than others. Few studies have been able to incorporate the impacts at the household and firm level in macroeconomic projections. Some studies have found that the impacts may be small, especially if there is a plentiful supply of excess labor and worker benefits are small.

There are several mechanisms by which AIDS affects macroeconomic performance.

• AIDS deaths lead directly to a reduction in the number of workers available. These deaths occur to workers in their most productive years. As younger, less experienced workers replace these experienced workers, worker productivity is reduced.

• A shortage of workers leads to higher wages, which leads to higher domestic production costs. Higher production costs lead to a loss of international competitiveness which can cause foreign exchange shortages.

• Lower government revenues and reduced private savings (because of greater health care expenditures and a loss of worker income) can cause a significant drop in savings and capital accumulation. This leads to slower employment creation in the formal sector, which is particularly capital intensive.

• Reduced worker productivity and investment may lead to fewer jobs in the formal sector. As a result some workers may be pushed from high paying jobs in the formal sector to lower paying jobs in the informal sector.

• According to Cohen (1997), the infant mortality rate in Malawi will be 40% higher by 2010 due to the impact of AIDS, the child mortality rate will double, and life

expectancy will decrease from 56.8 to 29.5 years. Overall, population growth will be reduced from 2.2% to 0.1%, because of the effect of AIDS.23

- A simulation model of the Malawian economy examined the macroeconomic impact of AIDS, and projected the future impact. The impact is measured by comparing major economic indicators without taking AIDS into account to the same indicators in two simulations that include AIDS, a medium and an extreme scenario. Results indicate that the average growth in real GDP will be as much as 1.2-1.5% lower, compared to the no-AIDS scenario. By 2010, the size of the economy will be reduced from K5.03 billion (constant 1985 Kwacha) to as little as K3.46 billion.24

- Providing triple combination antiretroviral therapy to HIV-positive adults in Malawi would cost 84% of the GDP, according to one recent estimate.25

- A recent World Bank study suggests that the rate of AIDS deaths for personnel in key sectors such as education, health, and the military, will be a minimum of one-quarter and as much as half of the staff.26 As much as 60% of an individual’s productive life may be lost due to AIDS; projections indicate that a productive life may be reduced to only 9.7 years out of a potential 25.3 years.27

What Can Be Done?

AIDS has the potential to cause severe deterioration in the economic conditions of many countries. However, this is not inevitable. There is much that can be done now to keep the epidemic from getting worse and to mitigate the negative effects. Among the responses that are necessary are:

- **Prevent new infections.** The most effective response will be to support programs to reduce the number of new infections in the future. After more than a decade of research and pilot programs, we now know how to prevent most new infections. An effective national response should include information, education and communications; voluntary counseling and testing; condom promotion and availability; expanded and improved services to prevent and treat sexually transmitted diseases; and efforts to protect human rights and reduce stigma and discrimination.

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Governments, NGOs and the commercial sector, working together in a multi-sectoral effort can make a difference. Workplace-based programs can prevent new infections among experienced workers.

- Recent analysis estimated that investing in IEC campaigns, condom distribution, and STD control in Malawi could result in a 10% reduction in new HIV infections. Thus an investment of US$5 million in AIDS prevention programs has a benefit-cost ratio of 3.8:1; that is, investing US$5 million now results in future savings of US$19 million.\(^{28}\)

- **Design major development projects appropriately.** Some major development activities may inadvertently facilitate the spread of HIV. Major construction projects often require large numbers of male workers to live apart from their families for extended periods of time, leading to increased opportunities for commercial sex. A World Bank-funded pipeline construction project in Cameroon was redesigned to avoid this problem by creating special villages where workers could live with their families. Special prevention programs can be put in place from the very beginning in projects such as mines or new ports where commercial sex might be expected to flourish.

- **Programs to address specific problems.** Special programs can mitigate the impact of AIDS by addressing some of the most severe problems. Reduced school fees can help children from poor families and AIDS orphans stay in school longer and avoid deterioration in the education level of the workforce. Tax benefits or other incentives for training can encourage firms to maintain worker productivity in spite of the loss of experienced workers.

- **Mitigate the effects of AIDS on poverty.** The impacts of AIDS on households can be reduced to some extent by publicly funded programs to address the most severe problems. Such programs have included home care for people with HIV/AIDS, support for the basic needs of the households coping with AIDS, foster care for AIDS orphans, food programs for children and support for educational expenses. Such programs can help families and particularly children survive some of the consequences of an adult AIDS death that occur when families are poor or become poor as a result of the costs of AIDS.

A strong political commitment to the fight against AIDS is crucial. Countries that have shown the most success, such as Uganda, Thailand and Senegal, all have strong support from the top political leaders. This support is critical for several reasons. First, it sets the stage for an open approach to AIDS that helps to reduce the stigma and discrimination that often hamper prevention efforts. Second, it facilitates a multi-sectoral approach by making it clear that the fight against AIDS is a national priority. Third, it signals to individuals and community organizations involved in the AIDS programs that their

efforts are appreciated and valued. Finally, it ensures that the program will receive an appropriate share of national and international donor resources to fund important programs.

Perhaps the most important role for the government in the fight against AIDS is to ensure an open and supportive environment for effective programs. Governments need to make AIDS a national priority, not a problem to be avoided. By stimulating and supporting a broad multi-sectoral approach that includes all segments of society, governments can create the conditions in which prevention, care and mitigation programs can succeed and protect the country’s future development prospects.