The Economic Impact of AIDS in Uganda

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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

<table>
<thead>
<tr>
<th>LABOR FORCE STATISTICS</th>
<th>Employment: 1980</th>
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<tbody>
<tr>
<td>Sector</td>
<td>000s</td>
</tr>
<tr>
<td>AGRICULTURE</td>
<td>5,290</td>
</tr>
<tr>
<td>INDUSTRY</td>
<td>272</td>
</tr>
<tr>
<td>SERVICES</td>
<td>600</td>
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<tr>
<td>TOTAL EMPLOYED</td>
<td>6,162</td>
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Most employment in Uganda is dependent on agriculture, which contributed 46% of GDP in 1996; by 1996, the agricultural sector still accounted for 83.1% of total employment. In addition to producing cereals at the subsistence level, fishing and raising livestock are both important activities, particularly in the rural areas. Over 90% of Uganda’s population live in rural areas. The government has been trying to diversify its export base, which has been heavily reliant on coffee, and as such subject to international price fluctuations. Although mining currently plays a very small part in the economy, newly-exploited gold reserves are beginning to be more important; Uganda is believed to have the second-largest gold deposits in the world. The services sector, particularly trade, accounted for 38.4% of GDP in 1996, although it only employed about 9.7% of the labor force in 1990. The government has had success in canceling international debt, and in imposing a value-added tax in 1996/97 in order to raise revenue.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 Uganda 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.

- An FAO study found that, in the three districts visited, there were more widows than widowers due to HIV/AIDS. Widows faced more difficult economic circumstances because of a variety of factors: inheritance laws that left them with nothing; a lack of cash income previously provided by the husband; and a lack of opportunity due to stigma as the prevailing belief is that women are responsible for transmitting STDs. Most women coped through lengthening their working day to make up for labor shortages and loss of income.\(^2\)

- In a World Bank study, the economic impact of HIV-related deaths was stronger than other types of death, as households lost much of their savings in order to pay health care and funeral expenditures. Asset ownership declined when the death of an HIV+ member occurred, but remained stable when the death was of an HIV- member.\(^3\)

- Children were being withdrawn regularly from school, both because of the lack of finances to pay schooling expenses, and because the children were needed as farm laborers. If children had been orphaned by AIDS, they were withdrawn from school immediately.\(^4\) One early survey of 1,133 households in Kampala found that 47% of households with orphans did not have enough money to send the children to school,

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while only 10% of households without orphans did not have enough money. The increasing number of AIDS orphans means that soon their needs will be beyond the capacity of the surviving guardians.

- Women active in the informal sector in the Owino trading market were unable to continue with their trading activities because of caregiver responsibilities. In some instances, their informal businesses collapsed due to the needs of the AIDS patients.

- After the husband dies, one study found that there are few, if any, assets left after paying medical and funeral expenses. For some households, this means that a food shortage and subsequent malnutrition are experienced.

- In south west Uganda, one study found that 27 of 30 families had difficulties in providing care for AIDS patients; caring ended up being the responsibility of those with the least support from extended family.

- The financial costs of caring for patients with HIV/AIDS can be enormous, relative to total household income. In Rakai district, households have reported spending up to a third of their total annual income on medical care for one month, or for one funeral. Another survey found that burial expenses and expenditures on treatment for terminal AIDS patients were greater than average monthly income, causing many households to sell property in order to pay for these costs (see table above).

<table>
<thead>
<tr>
<th>Impact of AIDS on Families 1996</th>
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<tr>
<td>Average household monthly incomes</td>
</tr>
<tr>
<td>Average burial expenses</td>
</tr>
<tr>
<td>Average medical costs on terminal patients</td>
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<tr>
<td>% of households selling property to cover costs</td>
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**Economic Impact of AIDS on Agriculture**

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

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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.

- An early field study of the impact of HIV/AIDS found that, through 1989/90, there was little effect on agricultural production in the 130 households surveyed. The authors hypothesized that certain agricultural systems were most vulnerable to the effects of HIV/AIDS, and the areas with the highest HIV prevalence had different agricultural systems. They projected that there would be a stronger effect once HIV/AIDS had reached the other systems.12

- In Gwanda, a village in the Rakai district, the FAO found that many previously cultivated areas are now lying fallow, due to labor shortages. Furthermore, within four years, the crops cultivated had changed entirely from coffee and banana, two profitable crops, to cassava and sweet potato, which are subsistence crops. This switch was due to labor shortages, as well. Households had also switched from raising cattle to raising pigs, which is less labor-intensive. Difficulties were also reported in getting crops to market, as women do not ride bicycles due to cultural reasons. These small, yet extremely important additions to the household cash supply are sorely missed. The poorest households were those most affected by the changes described above.13

- Another FAO study found that members of households where the male head had died of AIDS had increased their average working day by two to four hours in order to make up for both the decreased labor supply and drop in remittance income. They also had to decrease the amount of land under cultivation, and had started to switch to less labor-intensive crops, which also tended to be less nutritious. In fact, the assistant medical superintendent of Uganda’s Lacor Hospital observed that, “…severe protein deficiency, which was never a problem in the past, has in the last three years become the main reason for child admission to the hospital.”14

- The selling off of livestock in Uganda has led in some areas to a substantial reduction in revenue from the sale, because the increased supply depresses prices.15 In addition

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to a lack of livestock, some afflicted families are now having problems in buying the most basic form of technology used in Uganda, the hand hoe.\textsuperscript{16}

- There are reports of agricultural extension agents reducing their work week due to a rise in morbidity and mortality of AIDS, and funeral attendance.\textsuperscript{17}

**Economic Impact of AIDS 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>
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<tbody>
<tr>
<td>Health care costs</td>
<td>Absenteeism due to illness</td>
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<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>
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<td></td>
<td>Labor turnover</td>
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- Most firms pay burial costs such as coffins, transport of the body and a number of mourners, and 6-12 months payment of death gratuity. One sugar company in Uganda estimates this cost to total US$500 per employee, which greatly reduces their funds for investment.\textsuperscript{18}

- The loss of skilled labor professionals as well as managerial expertise and experienced workers due to HIV/AIDS has also had an impact on businesses in Uganda. In one banking institution in Kampala, five senior staff died from AIDS in one year. Between 1989-93, out of 250 government officials sent abroad for further studies on government sponsorship, 12 died; at least ten of these deaths were AIDS-related. This represents a substantial loss of investment in human capital by the government.\textsuperscript{19}

Two technical cooperation projects could not be turned over to the Ugandan government because key personnel had died and had to be replaced before the transfer took place.²⁰

The Uganda Railway Corporation has been hard hit by AIDS among its employees, experiencing a labor turnover rate of 15 percent per year in recent years. The annual hospital bill for the Corporation had increased by 1992 to US$77,000, while the cost per patient had increased from US$69 in 1988 to US$300 in 1992. Although this was the average cost across all patients, the escalation is probably due to the impact of AIDS.²¹

For some smaller firms the loss of one or more key employees could be catastrophic, leading to the collapse of the firm. 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. Governments will face trade-offs along at least three dimensions: treating AIDS versus preventing HIV infection; treating AIDS 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.

- By 1993, over 50% of the admissions in Rubaga hospital, the third largest hospital in Kampala, were HIV-positive. The mortality rate of these patients was 17.4%, while the mortality rate for the HIV-negative patients was 5.8%. Hospital occupancy rates will increase substantially due to AIDS patients in the near future. Thus alternative means of caring for AIDS patients have been explored. In one study, home care was the most cost-effective way of caring for patients, costing US$5-7 per home visit, compared to hospital care of US$12-13 per admission. Ties to the community were also strengthened through this type of care.²²

- **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 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 while protecting the health of the workers and their families.

- Diaries were kept by 51 traders of sexual contacts during their travels for 26 weeks. Researchers found that a small proportion of the traders accounted for a large amount of the high-risk behavior associated with STDs and HIV/AIDS transmission. Eighty-two percent of the contacts for casual sex were made by only 14 of the men; six of these men had 11 or more new partners in a 16-week period. There appeared to be little sexual mixing between the high prevalence urban areas and low prevalence rural areas.23

- **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.

- **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.

- A survey of 450 students in 15 secondary schools and 9 lecturers from Makarere University found that the major cause of morbidity and mortality for teachers was

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AIDS and AIDS-related illnesses. The quality of education will be affected because of the difficulty of replacing trained teachers.24

- **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.

### 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 leads to fewer jobs in the formal sector. As a result some workers will be pushed from high paying jobs in the formal sector to lower paying jobs in the informal sector.

- The overall impact of AIDS on the macro-economy is small at first but increases significantly over time.

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• Providing triple combination antiretroviral therapy to HIV-positive adults in Uganda would cost 61% of the GDP, according to one recent estimate.  

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• AIDS will reduce both the size and growth of Uganda’s labor force so that, by the year 2010, there will be approximately 2 million fewer people, or about 12% less, due to the impact of AIDS. It is believed that, in 1995, 20% or more of the urban workforce in both government and private enterprise were already infected with HIV.  

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• Yet one researcher observes that, despite the high prevalence rates Uganda has suffered, it is also a very fast growing economy; thus the overall macroeconomic impact may not be strong. “Economists point to the black plague which killed up to 30% of Europe’s population, yet created enormous economic prosperity for those who survived.”  

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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. 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.  

• Uganda is one of the countries to demonstrate declining trends in HIV infection, although rates are still high. A recent study found that the most likely explanation for this declining trend is behavior change among young men and women in urban areas. Prevention activities have relied on both government and donor


support; donors spent about US$63.2 million in 1996/97 and accounted for 66% of recurrent health sector spending.28

- In contrast to earlier findings of the efficacy of establishing STD clinics to prevent new HIV infections, recent research in Uganda found that this intervention had no effect on the incidence of new HIV infections.29

- **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.

- In the Rakai district, the communities have set up their own programs to help families cope with the impact of HIV/AIDS. They have started informal cooperative production and marketing efforts, which seem to be effective. It is thought that the lack of efficacy is due to the two areas having different types of epidemics and different treatment protocols.30

- A community-based program was set up to assist orphans in the Luwero district, where 20.8 percent of children were orphans in 1994. As of 1995, 30 schools had been given supplies, 1,183 orphans had had school fees waived for two years, and a total of 61 guardian groups responsible for 995 orphans had been given assistance with income-generating projects.31

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• **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.

• Programs such as the “Trickle Up Program” and the UNDP/Uganda “Micro-Projects Programme to Combat AIDS” have provided small grants to support small business start-ups, and activities such as shelter for homeless families, orphan care including education, and other activities relating to women’s health and nutrition. In addition to the economic benefits these activities have generated, a strong positive psychological effect on people living with AIDS was observed.32

* 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.

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