



**The POLICY Project**

# **The Economic Impact of AIDS in Mozambique**

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September 1999

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*in collaboration with:*  
Research Triangle Institute (RTI)  
The Centre for Development and Population  
Activities (CEDPA)

*POLICY is a five-year project funded by the U.S. Agency for International Development under Contract No. CCP-C-00-95-00023-04, beginning September 1, 1995. The project is implemented by The Futures Group International in collaboration with Research Triangle Institute (RTI) and The Centre for Development and Population Activities (CEDPA).*

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				
Sector	Economically Active Labor Force: 1980 <sup>a</sup>		Employment by Industry: 1988 <sup>b</sup>	
	'000s	%	'000s	%
<b>AGRICULTURE</b>				
Agriculture, hunting, forestry and fishing	4,755	85.3	16.9	8.4
<b>INDUSTRY</b>	346.8	6.2		
Mining and quarrying industries			4.9	2.4
Manufacturing industries			17.0	8.4
<b>SERVICES</b>				
Electricity, gas and water			2.9	1.4
Construction	42.1	0.8	21.5	10.7
Trade, restaurants and hotels	112.2	2.0	6.4	3.2
Transport, storage and communications	77.0	1.4	29.3	14.5
Finance, insurance, real estate and business services				
Other services	243.5	4.4	2.7	1.34
<b>TOTAL</b>	<b>5,576</b>	<b>100.0</b>	<b>201.6</b>	<b>100.0</b>
Source: a – Europa World Year Book, 1998; b - United Nations, Statistical Yearbook, 1995, table 29				

Mozambique is heavily reliant on agriculture, where the informal, subsistence agriculture segment accounts for over 85% of the labor force. The main subsistence crop is cassava, while the main export products are cotton, cashew nuts, and shrimps and prawns. Food

processing was the most important component of the industrial sector.<sup>1</sup> It is believed that over 60% of the population in Mozambique live in extreme poverty, defined as "...the

<sup>1</sup> Europa World Year Book 1998, Volume 2 (1998) Europa Publications Limited (1998).

income level below which a minimum nutritionally adequate diet is not affordable.” Although poverty was pronounced before the civil war, the war certainly exacerbated the poverty.<sup>2</sup>

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 Mozambique 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.
- The Health Ministry has calculated that, through December 1996, there are at least 146,000 orphans due to AIDS in the Mozambique. This number is expected to increase to as many as 400,000 orphans by the year 2000.<sup>3</sup>
  - The impact of the movement of troops from west Africa is thought to be part of the cause of the spread of HIV-2 in Mozambique, as military personnel have higher prevalence rates and tend to exhibit risky behavior.<sup>4</sup>

### **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 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

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<sup>2</sup> AIDS Analysis Africa (1997) “Country Profile: Mozambique,” 7(5): Feb/Mar 1997.

<sup>3</sup> AIDS Weekly Plus (1997) “HIV/AIDS takes toll in Mozambique,” pp. 23-4, June 30, 1997.

<sup>4</sup> AIDSCAP (1995) “Workshop on the Status and Trends of the HIV/AIDS Epidemics in Africa: Final Report,” co-sponsored by the Francois-Xavier Bagnoud Center for Health and Human Rights of the Harvard School of Public Health, December 1995.

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.

- A leader of a development project supported by GTZ was asked what the potential impact of HIV/AIDS was on the project. He replied, “We will not be able to increase nor to stabilise agricultural yields...” and that “...it will be necessary to educate and train additional counterparts.”<sup>5</sup>

### **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.

Factors Leading to Increased Expenditure	Factors Leading to Decreased Revenue
Health care costs	Absenteeism due to illness
Burial fees	Time off to attend funerals
Training and recruitment	Time spent on training
	Labor turnover

- The perceived effect of HIV/AIDS varies depending on the sector and on the individual; one engineering project in Maputo stated that they had not noticed any impact of HIV/AIDS in their region or in the country, while another development project in Manica felt there had been an impact both in their area and nationwide.<sup>6</sup>
- Legal reforms to protect the rights of people living with HIV/AIDS are being developed currently in Mozambique. New laws protecting the labor rights and social services for civil servants were recently introduced, and efforts are being made to require private firms to have similar policies.<sup>7</sup>

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

<sup>5</sup> Hemrich, G and B Schneider (1997) “HIV/AIDS as a cross-sectoral issue for Technical Cooperation,” GTZ, Eschborn, Germany, May 1997, p. 28.

<sup>6</sup> Hemrich, G and B Schneider (1997) “HIV/AIDS as a cross-sectoral issue for Technical Cooperation,” GTZ, Eschborn, Germany, May 1997, p. 28

<sup>7</sup> Barreto, A, B de Hulster, A Pinto (1998) “Legal reform in Mozambique, an opportunity to introduce protective laws for PLWHA in Mozambique,” Inf Conf AIDS; 12:959 (abstract no. 44106).

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.
  - The health sector in Mozambique is not prepared for the HIV/AIDS epidemic. Mozambique has the lowest number of doctors per capita in Africa, and 46% of the primary health posts were destroyed by 1990 in the civil war.<sup>8</sup> Currently, there are 6 counselling centers in Mozambique, although none offers voluntary testing service.<sup>9</sup>
- **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.
  - There are three major ports in Mozambique; selected surveillance data of workers with tuberculosis in these areas have found higher HIV prevalence rates than in the rest of the country, confirming the higher risk these workers are thought to face. Surveillance data from the central corridor road from Beira to Zimbabwe found prevalence rates of 30.3%.<sup>10</sup>
- **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

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<sup>8</sup> AIDS Analysis Africa (1997) "Country Profile: Mozambique," 7(5): Feb/Mar 1997.

<sup>9</sup> UNAIDS (1998) "1998 Mozambique Country Profile," UNAIDS

<sup>10</sup> AIDS Analysis Africa (1997) "Country Profile: Mozambique," 7(5): Feb/Mar 1997.

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.

- In 1994, there were 44,044 miners employed through The Employment Bureau of Africa, the main miners' organization. They are primarily employed as migrant workers for the mines in South Africa. Most of the miners are primarily young and male, and are housed in single-sex hostels in South Africa, placing them at high risk for HIV-transmission.<sup>11</sup>
- **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.
- **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.

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<sup>11</sup> AIDS Analysis Africa (1997) "Country Profile: Mozambique," 7(5): Feb/Mar 1997.

- 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.
  - Life expectancy is now projected to be only 46.4 years in the year 2000 in Mozambique because of the impact of AIDS. In the absence of AIDS, life expectancy was 53 years in the year 2000.<sup>12</sup>
  - War delayed the beginning of the epidemic in Mozambique, compared to its neighbors, due to the resulting isolation and restriction of movement both internally and externally to the country. Since the General Peace Accord was signed in 1992, certain regions have seen a sharp increase in HIV prevalence rates. The regions most highly affected are near the international borders and main transport routes. The return of some of the international refugees, who had taken refuge in nearby countries with high HIV prevalence, also contributed to the spread of the virus in Mozambique.<sup>13</sup> It is estimated that over 1.5 million people fled Mozambique during the 1980s because of the civil war, most of which lived in refugee camps. It was estimated that over 2.5 million people were displaced within the country.<sup>14</sup>
  - Providing triple combination antiretroviral therapy to HIV-positive adults in Mozambique would cost 67% of the GDP, according to one recent estimate.<sup>15</sup>

### **What Can Be Done?**

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<sup>12</sup> AIDS Weekly Plus (1997) "HIV/AIDS takes toll in Mozambique," pp. 23-4, June 30, 1997.

<sup>13</sup> Agha, S, A Karlyn, D Meekers. (1999) "The Promotion of Safer Sex Among High Risk Individuals in Mozambique." PSI Research Division Working Paper No. 21, Population Services International, Washington DC.

<sup>14</sup> AIDS Analysis Africa (1997) "Country Profile: Mozambique," 7(5): Feb/Mar 1997.

<sup>15</sup> Hogg, R, KJ Craib, A Weber, A Anis, MT Schechter, JS Montaner, MV O'Shaughnessy (1998) "One world, one hope: the cost of making antiretroviral therapy available to all nations," Int Conf AIDS. 1998; 12:830 (abstract no. 444/42283).

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.
- The Mozambican Association for the Development of the Family (AMODEFA), an NGO operating in Mozambique, has been leading workshops in schools, workplaces, and neighborhoods throughout Mozambique to increase awareness of HIV and STDs, in order to prevent new infections.<sup>16</sup>
- Over 75% of the government's budget comes from external donors; these donors have not placed HIV/AIDS prevention programs on their priority list, and thus the government finds it difficult to do so, in spite of having had a national program since 1988.<sup>17</sup>
- **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.
- The World Bank and MONASO (the AIDS-NGO umbrella organization) are working together to include STD/AIDS prevention activities for the Roads and Coastal Shipping (ROCS) Project.<sup>18</sup>

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<sup>16</sup> "HIV/AIDS ravages southern African nation. Mozambique," (1997) Sex Weekly Plus. 1997 Jun 30:9-10.

<sup>17</sup> Barreto, A, B De Hulsters, L Fransen (1996) "Is a multisectorial approach to the STD/HIV/AIDS epidemic an option in post-war Mozambique?" Int Conf AIDS. 1996 Jul 7-12; 11(2):375 (abstract no. Th.C.4789).

<sup>18</sup> UNAIDS (1998) "1998 Mozambique Country Profile," UNAIDS.

- **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.
  - A project in Zambezia through Save the Children UK is underway to address the needs of AIDS orphans.<sup>19</sup>
  - A hot line for HIV/AIDS “Linha Aberta” was opened by MONASO and provides both information about HIV/AIDS and general support to families with HIV/AIDS patients.<sup>20</sup>
- **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.*

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<sup>19</sup> UNAIDS (1998) “1998 Mozambique Country Profile,” UNAIDS

<sup>20</sup> UNAIDS (1998) “1998 Mozambique Country Profile,” UNAIDS