



The POLICY Project

The Economic Impact of AIDS in Benin

by

Dr. Lori Bollinger

John Stover

Dr. Louis-Jacques Martin-Correa

September 1999

The Futures Group International
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 - BENIN		
	Economically Active Labor Force: 1992	
Sector	Aged 10 years & over	%
AGRICULTURE		
Agriculture, hunting, forestry and fishing	1,147,746	55.9
INDUSTRY		
Mining and quarrying industries	661	0.03
Manufacturing industries	160,406	7.8
SERVICES		
Electricity, gas and water	1,176	0.06
Construction	51,655	2.5
Trade, restaurants and hotels	432,501	21.1
Transport, storage and communications	52,837	2.6
Finance, insurance, real estate and business services	3,106	0.15
Community, social and personal services	164,544	8.0
Activities not adequately defined	38,496	1.9
TOTAL EMPLOYED	2,053,128	100.0
Unemployed	99,239	
TOTAL LABOR FORCE	493,580	

In 1997, agriculture contributed about 38% of the gross domestic product in Benin, and accounted for about 56.9% of the economically active labor force at that time. Benin is usually self-sufficient in food staples, which consist of yams, cassava, and maize. Cotton is the principal cash crop, and accounts for about 81% of domestic exports. The manufacturing sector consists mainly of processing cotton and oil palm. The services

sector accounts for 36.3% of the total economically active labor force. Inter-regional trade plays an important part in the services sector; 42% of exports are actually re-

exports, predominantly through the port of Cotonou. The devaluation of the FCFA in 1994 benefited Benin by making agricultural exports more competitive.¹

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 Benin 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.
- A case study involving employees and their families of 14 firms in Benin examined the impact of HIV/AIDS on both households and firms. The case study found that households utilized different coping strategies to provide the necessary support for their members with HIV/AIDS. In the sample, there were a total of 85 deaths in 68 families, with 85.3% of the households experiencing deaths containing widows and/or orphans. The overall mortality rate at the time of the survey was 50.4% for the HIV/AIDS patients identified. There was a dramatic impact on the welfare of the employees in 83.6% of the cases, including a loss of savings, a decrease in hours at work, and, in some cases, bankruptcy. The effects of the illness on personal lifestyles include depression and grief, loss of interest in sex and living in general,

Resources utilized	Frequency	%
Begging	02	1.2
Spousal resources	21	12.4
Other	03	1.8
Personal	39	23.1
External – not family	17	10.1
Extended family	67	39.6
Borrowing	20	11.8
Total	169	100.0

loss of disposable income due to buying medicine, and loss of social life. The chart indicates the type of resources that families reported using in coping with the needs of HIV/AIDS patients. Most instances involved either assistance from extended family (39.6%), or utilizing personal resources (23.1%). When asked what kind of

help would be most desired, most families requested either money or medicines.

¹ Europa Year Book 1999, Volume 1 (1999) Europa Publications Limited (London, UK)

Households also reported that certain traditions are breaking down; for example, men are now waiting two to three years before marrying widows, to see whether the widows themselves become sick. The widows are thus finding it very difficult to care for themselves and their children during this waiting period.²

- A recent psychosocial analysis of case studies of the families caring for family members with HIV/AIDS found significant effects on the family, both in psychological and economic terms. The families reported that caring for the patients required many different pharmaceutical products, food supply that is rich and varied, and a healthy environment. Because prices for these goods are so high, families stated that they are unable to meet the costs to care properly for the patients. This, in turn, had a negative effect on the psychological well-being of the family and of the individual family members.³
- The number of AIDS orphans, or children 15 years old or younger who have lost at least one parent to AIDS, reached 22,128 in 1997.⁴ One study projects that the incidence of AIDS orphans will increase to between 290,000 and 534,000 by 2025, depending on the scenario.⁵

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 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.

- As of 1996, the HIV prevalence rate in antenatal clinics in the rural areas of Benin was 4.5%, while the rate was 1.7% in urban clinics. This statistic has important implications in Benin, since 64% of the population is classified as rural. The impact

² Ministère de la Santé Publique (1998) "Impact Socio-Economique du VIH/SIDA sur les Secteurs Porteurs de l'Economie au Bénin," Programme des Nations Unies pour le Développement, Cotonou, Juin 1998.

³ Onambele, GA (1997) "Participation de la Famille à la Prise en Charge Psychosociale des Personnes Atteintes du SIDA à Cotonou," Mémoire de Maîtrise, Département de Philosophie et Sociologie-Anthropologie, Université Nationale du Bénin, Année Académique 1996-97.

⁴ Ministère de la Santé Publique (1998) "Impact Socio-Economique du VIH/SIDA sur les Secteurs Porteurs de l'Economie au Bénin," Programme des Nations Unies pour le Développement, Cotonou, Juin 1998.

⁵ Le Programme National de Lutte contre le SIDA, L'Unité de Planification de la Population, Le Ministère de la Santé, de la Protection Sociale et de la Condition Feminine, and Le Ministère du Plan, de la Restructuration Economique et de la Promotion de l'Emploi (1998) *Le SIDA Au Bénin*, 2nd édition, 1998.

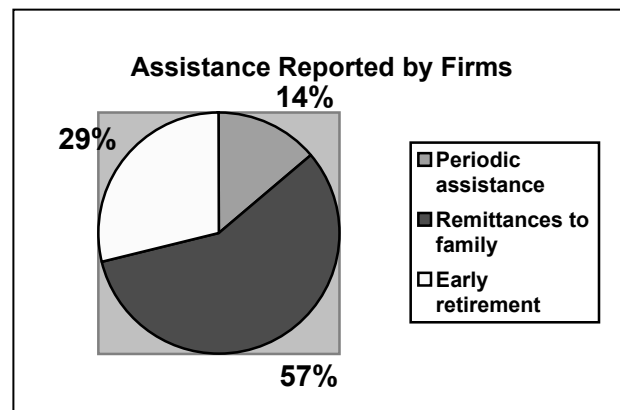
is projected to have a negative effect on agricultural production, affecting food security for rural areas and the country as a whole.⁶

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 case study of fourteen firms discussed above also evaluated the effects of HIV/AIDS on employers. Of those surveyed, 92% felt themselves to be well-informed about HIV/AIDS, and 37% had detected at least one case in their firm. One of the important results of this study is the discovery that, of those employees who had been identified as HIV-positive, 50% had positions that were identified as either “strategic” or “important” to the firm. Thus, the loss of these key employees will have a strong effect on the operations of the firms surveyed. The firms have noticed increased absenteeism, sometimes adding up to as much as three months out of the year for an employee. Most firms report that they are maintaining salary levels of ill employees, but are either decreasing the amount of work required by them, or changing their jobs to something less taxing. According to the families, five of the firms dismissed at least one ill employee. Formal assistance given to the families is reported by 86% of the firms; this assistance is reported as increasing costs for 43% of those firms, and decreasing profits for the other 57%. The type of assistance given can be seen in the



⁶ Le Programme National de Lutte contre le SIDA, L’Unite de Planification de la Population, Le Ministere de la Sante, de la Protection Sociale et de la Condition Feminine, and Le Ministere du Plan, de la Restructuration Economique et de la Promotion de l’Emploi (1998) *Le SIDA Au Benin*, 2nd edition, 1998.

pie chart; 57% of the firms report giving money to the families, 29% report offering early retirement to the worker, and the other 14% report periodic assistance.⁷

- Another study examined fifteen different firms throughout Africa, three of which were identified only as being located in Western Africa. These three firms included a telecommunication firm, an agriculture-based firm that owns and operates a sugar processing plant, and a railway company, providing both passenger and freight rail services. None of the three companies has a formal HIV/AIDS prevention program, although the company physicians in the first two firms both plan on starting one, and the railway company does hold periodic “open house” meetings about HIV/AIDS and its prevention. In general, none of the three companies has felt much of an impact from HIV/AIDS, with only a couple of cases reported in each firm. The agriculture-based company is aware that its workers are at risk due to the migratory nature of some of its labor force; the railway company is aware of the higher risk due to the mobility of its labor force. The telecommunications company is concerned about finding skilled workers to replace current workers, as the company trains its workers, both formally and informally. All three of the companies have the potential of experiencing a financial impact should prevalence rates increase, as the employee benefits packages include medical care and funeral expenses.⁸

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

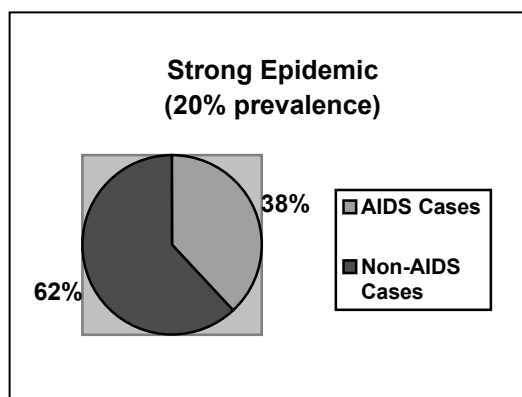
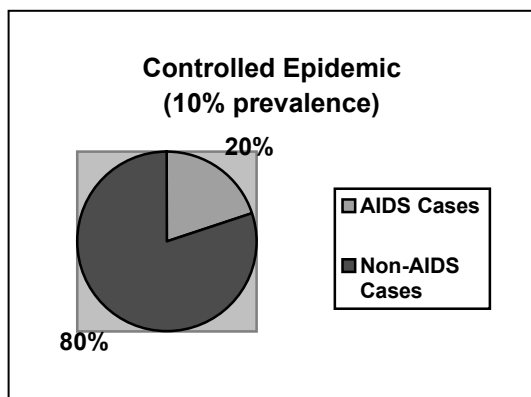
AIDS will also have significant effects in other key sectors. Among them are health, transport, mining, education and water.

- **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.

⁷ Ministère de la Santé Publique (1998) “Impact Socio-Economique du VIH/SIDA sur les Secteurs Porteurs de l’Economie au Bénin,” Programme des Nations Unies pour le Développement, Cotonou, Juin

⁸ Roberts, M and B Rau (1997) “Private Sector AIDS Policy African Workplace Profiles: Case Studies on Business Managing HIV/AIDS,” The AIDSCAP Electronic Library (Family Health International/The AIDS Control and Prevention Project, Durham, North Carolina).

- One set of projections estimates that the impact of a “controlled” epidemic, or one where the prevalence reaches only 10% of the population, will utilize 20% of hospital resources by the year 2025. If, instead, the epidemic is a “strong” epidemic, with prevalence rates of 20%, the number of AIDS cases will consume 38% of total hospital resources. Total costs are projected to increase from 97 million FCFA in 1995 to between 448.3 million FCFA (“controlled”) and 815 million FCFA (“strong”) by 2025.⁹



- The annual costs of medical care for both HIV and AIDS patients were estimated recently for the Ministry of Health, in order to calculate a provisional budget; these estimates are presented in the table below. The total costs incurred when the patient is diagnosed as seropositive is 200,000 FCFA, while once the patient begins to experience illnesses related to AIDS, the annual medical costs increase to 515,000 FCFA.¹⁰

Annual Estimated Cost of Medical Care for HIV/AIDS Patients (FCFA)		
Type of Cost	Seropositive	AIDS-related illnesses
Biological/radiological treatment	60,000	90,000
Medical treatment		
- Consultations	40,000	40,000
- Medicines	50,000	170,000
- Hospitalization		110,000
Other		
- Relocation	25,000	80,000
- Unforeseen	25,000	25,000
TOTAL	200,000	515,000

⁹ Le Programme National de Lutte contre le SIDA, L’Unite de Planification de la Population, Le Ministere de la Sante, de la Protection Sociale et de la Condition Feminine, and Le Ministere du Plan, de la Restructuration Economique et de la Promotion de l’Emploi (1998) *Le SIDA Au Benin*, 2nd edition, 1998.

¹⁰ Ministere de la Sante Publique (1998) “Impact Socio-Economique du VIH/SIDA sur les Secteurs Porteurs de l’Economie au Benin,” Programme des Nations Unies pour le Developpement, Cotonou, Juin 1998.

- **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.
- **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.
- **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.
- In Benin, overall population is projected to increase to 14 million people by 2025, without the impact of AIDS. Including the impact of AIDS in the projections reduces the population to 12.9 million by 2025 if the epidemic reaches about 10% prevalence in the population, while the population is projected to decrease to 12 million by 2025 if prevalence reaches 20% in the overall population. Most of the deaths will occur in adults aged between 15 and 49, the economically active population. The same study predicts a negative impact on the tourism industry in Benin.¹¹
- An estimate of the total direct costs of AIDS in 1996 was US\$217,600, the total costs for the 1,280 cases that had been reported at that time. This results in an average direct cost of AIDS per patient in Benin of US\$170.¹²

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:

¹¹ Le Programme National de Lutte contre le SIDA, L'Unite de Planification de la Population, Le Ministere de la Sante, de la Protection Sociale et de la Condition Feminine, and Le Ministere du Plan, de la Restructuration Economique et de la Promotion de l'Emploi (1998) *Le SIDA Au Benin*, 2nd edition, 1998.

¹² Fourn, L and S Ducic (1996) "Epidemiological portrait of acquired immunodeficiency syndrome and its implications in Benin," *Sante*; 6(6):371-6, Nov-Dec 1996.

- **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.
- **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.