



**The POLICY Project**

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

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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

<b>LABOR FORCE STATISTICS</b>		
	<b>Economically Active Labor Force: 1986</b>	
<b>Sector</b>	<b>'000s</b>	<b>%</b>
<b>AGRICULTURE</b>		
Agriculture, hunting, forestry and fishing	13,259.0	44.9
<b>INDUSTRY</b>		
Mining and quarrying industries	6.8	0.02
Manufacturing industries	1,263.7	4.3
<b>SERVICES</b>		
Electricity, gas and water	130.4	0.4
Construction	545.6	1.8
Trade, restaurants and hotels	7,417.4	25.1
Transport, storage and communications	1,111.9	3.8
Finance, insurance, real estate and business services	120.1	0.4
Community, social and personal services	4,902.1	16.6
Activities not adequately defined	744.9	2.5
<b>TOTAL EMPLOYED</b>	<b>29,501.9</b>	<b>100.0</b>
Unemployed	1,263.6	
<b>TOTAL LABOR FORCE</b>	<b>30,765.5</b>	

Source: Europa World Year Book, 1998

The primary source of activity for the Nigerian population is agriculture, which occupied about 45 percent of the employed labor force in 1986, and was estimated to contribute 42.6% of GDP in 1995. Although cocoa is the main cash crop, it accounted for only 0.7% of total exports in 1995. Petroleum is the principal export, accounting for 97.4% of export earnings in 1995. Note that, however, only 6,800 Nigerians were employed in the mining industry in 1986. Nigeria is Africa's leading producer of petroleum, and also has substantial deposits of natural gas and coal.<sup>1</sup>

<sup>1</sup> The Europa World Yearbook, 1998. Europa Publications Limited 1998; London, United Kingdom.

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 Nigeria 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.
- In Nigeria, by the year 2000, infant mortality is projected to increase by 75 percent due to AIDS, while child mortality is expected to increase by 100 percent.<sup>2</sup>
  - It was estimated that approximately 184,000 children under the age of 15 became maternal orphans during the year 1997.<sup>3</sup>
  - A case study of 25 households associated with the Ashaka Cement Company was carried out over 1995-96. Although the primary purpose of the study was to assess the prevalence rate among workers in the factory and their family members, some of the economic impact on the households can be evaluated. Basically, even though the company paid for the medical expenses for the AIDS patients, the illnesses drained family resources. When the patient died, the family's source of livelihood was lost, creating major economic burden. Social stigmatization of those living with HIV/AIDS and their family members is very strong, giving rise to psychological burdens for the family, in addition to the economic burdens.<sup>4</sup>
  - Research projected that caring for infected family members, as well as the cost of their funerals, will have a significant impact on Nigerian households.<sup>5</sup> One study

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<sup>2</sup> Chiahemen, T (1997) "More Women than Men Are Infested With HIV, Says Mrs. Abacha," The Post Express, Wednesday, December 3, 1997, p. 3.

<sup>3</sup> Sokunbi, Y. (1997) "Children living in a world with AIDS...WAD in retrospect." Punch Newspaper, Wednesday, December 10, 1997, page 22.

<sup>4</sup> Nwaorgu, O (1999) Consultant's report, written communication.

<sup>5</sup> Eloike, T (1992) "Social and Economic Implications of AIDS in Nigeria." Paper presented at a 3-day National Seminar on Campaign Against the Spreda of AIDS at the Grassroots, organised by MAMSER Enugu at Nike Lake Hotel 2<sup>nd</sup> April.

found that 80 percent of the households who currently had a person living with AIDS did not have the basic hygienic environment that was necessary for their care.<sup>6</sup>

- Anecdotal evidence indicates that the extended family sells off assets in order to pay for treatment; one woman with AIDS recounted how her father had already sold off two cars in order to pay the N2,400 (approximately US\$27) monthly costs of her treatment.<sup>7</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 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.

- Little quantitative evidence exists for the impact of AIDS on agriculture in Nigeria; however, three different surveys among 17 different states found an average of 8-10 cases per week in rural areas.<sup>8</sup> One other study of Gadar Tuaburuwa, a village in Kano State, found the prevalence rate there to be 16 percent in 1997, compared to a national average of about 4.5 percent in 1996. Thus the epidemic has certainly reached the rural areas; given that about 65 percent of Nigeria's population is rural, the potential impact on agriculture is significant.<sup>9</sup> The current prevalence rate is estimated to be between 8 and 10 percent.<sup>10</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.

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<sup>6</sup> Soyinka, F. 1998. "Needs assessment and care programme for people living with HIV/AIDS (PLWA), in resource constrained and hostile environment." Int Conf AIDS. 1998; 12:98 (abstract no. 12424).

<sup>7</sup> Akway, C, N Odemena, G Davies and J Maduka. (1998) "Matters arising," Sunday Champion, April 26, 1998, p. M1.

<sup>8</sup> Obioha, (1997)

<sup>9</sup> Akintoye, S (1997) "New HIV genotype found in Nigeria." The Guardian, November 11, 1997, p. 15.

<sup>10</sup> Norom, J (1999) Personal communication.

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 the Ashaka Cement Company can also be utilized to infer some of the economic impact of HIV/AIDS for the firm. At the beginning of the study of 25 households, 18 of the male and 5 of the female employees were AIDS patients; of these, 7 males and 2 females had died by the end of the period. Over 18 months, most of them were either hospitalized, sick at home, or at outpatient clinics while they were being paid for work not done. Costs to the company included lost hours of work due to: illness; caring for other ill family members; and funeral attendance time. Workers at Ashaka factory come from different parts of Nigeria; therefore, when staff died it was expensive to repatriate the corpse for burial and to resettle family members to their villages. In addition, large sums were spent on medical needs of sick staff and their relatives, including expenditures on retroviral drugs.<sup>11</sup>
- The Shell Petroleum Development Company has an AIDS policy which prohibits discrimination based on HIV status, and provides support and counselling to HIV-positive staff.<sup>12</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 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

<sup>11</sup> Nwaorgu, O (1999) Consultant's report, written communication.

<sup>12</sup> Roberts, M, B Rau, A Emery. 1997. Private Sector AIDS Policy Businesses Managing HIV/AIDS: A Resource for Businesses in Designing HIV/AIDS Prevention Policies and Programs. The AIDSCAP Electronic Library (Family Health International/AIDSCAP, Durham, North Carolina)

is crucial to the development of a productive workforce essential for economic development.

- Approximately 1-2 percent of hospital beds in teaching hospitals are occupied by AIDS patients. The cost of this treatment, estimated to be about N55,000 (approximately US\$600) per month, is affordable for few in Nigeria. Further infections may be spread within the private health sector, as screening of blood for HIV and hepatitis transfusions does not take place, due to maintenance costs for blood screening machines,<sup>13</sup> as well as the high cost of the test itself, at N1,000 (US\$11.11) in public hospitals. This lack of screening has a further impact on health workers, as those who handle blood products are becoming infected at higher rates than those who do not.<sup>14</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.
- Earlier research examined the transport system in Nigeria and the potential impact of the spread of AIDS on this sector. The sexual contact between truckers and “market women” along the road was found to be deeply entrenched in the transport system, supplemented by trade for food and other commodities. Drivers earned a fairly high salary, about US\$1,500 in 1992, while the market women earned much less, about US\$50 per year, making condom use difficult to negotiate.<sup>15</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 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.

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<sup>13</sup> “Special Report,” THISDAY, The Sunday Newspaper, March 28, 1999, p. 31.

<sup>14</sup> Akway, C, N Odemena, G Davies and J Maduka. (1998) “Matters arising,” Sunday Champion, April 26, 1998, p. M1-2.

<sup>15</sup> Orubuloye, IO, P Caldwell, JC Caldwell. 1992. “The role of high-risk occupations in the spread of AIDS: truck drivers and itinerant market women in Nigeria.” Health Transition Working Paper No. 10, National Centre for Epidemiology and Population Health, Australian National University, Canberra, Australia.

- Very few Nigerians are employed by the mining sector, which consists primarily of petroleum production, a capital-intensive industry. Thus the impact of AIDS on this sector in Nigeria will be minimal. Those that are in the industry, however, were found to be at high risk of infection, and were responsive to an employer-based intervention program.<sup>16</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.
- 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.

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<sup>16</sup> Faleyimu, BL, OA Fagade, SO Ogunniti, AI Faleyimu, LA Ubuane. 1998. "Sexual networking and AIDS awareness program at the workplace: the case of oil locations in Nigeria. Int Conf AIDS 1998; 12:892 (abstract no. 544/43230).

- 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.
- The latest surveillance report from the National AIDS and Sexually transmitted diseases Control Programme (NASCP) shows that 20 percent of the current AIDS cases are civil servants, 18 percent are housewives and businessmen, 11 percent are farmers, and 8 percent are students.<sup>17</sup> Thus the government sector will be strongly affected after these employees begin to die.

### **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.
  - The announcement by the family of a prominent Nigerian musician, Fela Anikulapho Kuti, that he had died of AIDS on August 2, 1997, had an enormous impact on both awareness and acceptance of AIDS in Nigeria.<sup>18</sup>
  - An intervention for commercial sex workers, called The Calabar Project, began in 1987. It combined peer education and low-priced condoms in order to reduce

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<sup>17</sup> Note that these percentages do not sum to 100; no further information as to breakdown by occupation was available. "Special Report," THISDAY, The Sunday Newspaper, March 28, 1999, p. 31.

<sup>18</sup> Akparanta-Emenogu, A (1997) "Need for information on HIV/AIDS,"

HIV infection. By 1993, more than 60% of women stated that they were now using condoms every time.<sup>19</sup>

- The Nigerian Youth AIDS Program responded to concerns of students about discomfort in asking questions about HIV by establishing a radio call-in show.<sup>20</sup> Another successful effort to reach young people was the training of 800 adolescents in decision making skills in a slum community, to avert HIV infections through reducing drug usage and unprotected sex.<sup>21</sup>
- The State Health Commissioner of Jigawa stated in 1999 that, over the last four years, the state government had spent N6 million (US\$7,500) in control efforts.<sup>22</sup> The Nigerian government announced late in 1998 that it would release a further N30 million (US\$375,000) to utilize in the fight against AIDS.<sup>23</sup> One reporter states, however, that although the then President General Babangida had committed N20 million annually beginning in 1991, and had required each of the 36 states and 665 local authorities to spend N1 million and N500,000 on AIDS programs each year, "...not one of these commitments has been fulfilled."<sup>24</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.
- **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 cost-effectiveness study in Nigeria comparing hospital medical care with home-based medical care found the care in a home setting was 38% of the total cost in the hospital: US\$511.25 versus US\$1,345.00. An added advantage was the

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<sup>19</sup> Williams, EE. 1994. "Women of courage: commercial sex workers mobilize for HIV/AIDS prevention in Nigeria. AIDSCAPTIONS; 1(2):19-22. May 1994.

<sup>20</sup> "New Paths in HIV/AIDS Prevention," AIDS Captions Volume III, Number 2, July 1996.

<sup>21</sup> Adedayo, SD (1998) "Integrated adolescent reproductive health for out of school girls in Makoko Riverine Community, Nigeria," Int Conf AIDS. 1998; 12:664 (abstract no. 33370).

<sup>22</sup> Ozi-Usman, Y (1999) "Jigawa Expresses Worry over AIDS," THISDAY, Thursday, April 22, 1999, p. 4.

<sup>23</sup> "Killing the Future Today," The Post Express, Thursday, October 1, 1998.

<sup>24</sup> Falobi, O. 1999. "New AIDS policy in Nigeria raises the stakes – but optimism remains scarce," AIDS Analysis Africa; 9(5): Feb/Mar 1999: 10-11.

friendlier atmosphere in the home, which had a beneficial impact on the psychological well-being of the patients.<sup>25</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>25</sup> Fakande, I, O Malomo. 1998 "Home care of AIDS patients from the medical and nursing viewpoint – a project in Ife-Ijesa zone, Osun State, Nigeria. Int Conf AIDS 1998; 12:858 (abstract no. 42423).