The Potential Impact of AIDS on Population and Economic Growth Rates

by Lynn R. Brown

The Joint United Nations Programme on HIV/AIDS estimated that at the end of 1996 some 21.8 million adults and more than three-quarters of a million children were infected with human immunodeficiency virus (HIV), the agent that causes the deadly acquired immune deficiency syndrome, or AIDS. In almost all cases those infected by HIV develop AIDS, which is inevitably fatal. The likely result of these infections is nearly 22 million adult deaths over the next 5 to 10 years and three-quarters of a million children who will not see their fifth birthday. Fourteen million of these deaths will occur in Sub-Saharan Africa, and a further 5.2 million in South and Southeast Africa.

AIDS is a human tragedy and a major health problem. The scale of the disease is so large that it now raises questions about the impact of AIDS on the future development path of many of the world’s poorest developing countries. Through its effects on population levels and growth rates and on macroeconomic growth, AIDS may influence the prospects for achieving food security in the developing world by the year 2020.

Reported Incidence of AIDS

AIDS is most prevalent in Sub-Saharan Africa, where by the mid-1990s it had surpassed both measles and malaria to become the second leading cause of child mortality. AIDS is believed to be the leading cause of mortality between the ages of 15 and 39 in Botswana, Malawi, Uganda, Zambia, and Zimbabwe.

Two serotypes of the virus are currently recognized: HIV1 and HIV2. Generally, the prevalence of HIV1 in high-risk urban population groups is highest (above 40 percent) in a belt of countries running through East and Central Africa—Burundi, Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda, and Zambia. In the same high-risk population groups, rates above 40 percent are also found in Côte d'Ivoire, Cameroon, and Mali in West Africa.

HIV2 infection is largely concentrated in West Africa. More than 12.5 percent of the adult population in Angola, Côte d'Ivoire, and Mali is infected.
Apart from Africa, the spread of HIV continues unabated into many areas that were previously unaffected. In mid-1993, Asia had just 1 percent of AIDS cases worldwide, but just 12 months later it had 6 percent of the global total—a shift driven mainly by the rapid growth of AIDS in South and East Asia. Newly reported AIDS cases quadrupled in Thailand, tripled in Myanmar, and almost doubled in India between 1992 and 1993.

Data are scarce, but experts believe that by the year 2000 most new HIV infections will occur in Asia. The spread of the disease is particularly alarming in India. Among prostitutes in Vellore, India, HIV incidence rose from 0.5 percent in 1986 to 34.5 percent in 1990. Many experts believe that if the Indian epidemic continues on its present course, the consequences could be disastrous.

**The Demographic Impact of AIDS**

At the world level, AIDS is unlikely to suppress population size or growth rates. However, the impact of AIDS may be felt by some individual countries. For example, the U.S. Bureau of the Census predicts that in some countries populations in 2020 will be considerably smaller as a result of the AIDS pandemic—45 percent smaller in Uganda, 35 percent in Rwanda, and 30 percent in Malawi. Yet, even with this impact, most forecasts project that the populations of nearly all of the worst-affected African countries (Burkina Faso, Burundi, Central African Republic, Congo, Côte d'Ivoire, Kenya, Malawi, Rwanda, Tanzania, Uganda, Zaire, and Zambia) will at least double between 1990 and 2020. Although Zimbabwe has a high prevalence of AIDS, its population is predicted to grow by less than 50 percent by 2020.

One of the greatest potential tragedies of the AIDS epidemic will be the reversal in many African countries of hard-won downward trends in infant and child mortality rates. In Zimbabwe, the U.S. Bureau of the Census predicts that AIDS will cause infant mortality rates to more than double and child mortality rates to more than quadruple by 2010. Most forecasts also predict a significant decline in life expectancy as a result of AIDS.

**The Economic Impact of AIDS**

AIDS imposes both direct and indirect costs on national economies. The cost of treating individuals infected with HIV and AIDS varies tremendously and exceeds per capita gross national product in a number of countries (Table 1).
<table>
<thead>
<tr>
<th>Country</th>
<th>Average direct cost</th>
<th>GNP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(US$)</td>
<td>(1992 US$)</td>
</tr>
<tr>
<td>Kenya (1992)a</td>
<td>938</td>
<td>310</td>
</tr>
<tr>
<td>Korea (1993)</td>
<td>2,010</td>
<td>6,790</td>
</tr>
<tr>
<td>Malawi (1989)a</td>
<td>210</td>
<td>210</td>
</tr>
<tr>
<td>Malaysia (1993)</td>
<td>3,000</td>
<td>2,790</td>
</tr>
<tr>
<td>Rwanda (1989-90)</td>
<td>358</td>
<td>250</td>
</tr>
<tr>
<td>Tanzania (1990)</td>
<td>290</td>
<td>110</td>
</tr>
<tr>
<td>Zimbabwe (1991)</td>
<td>614</td>
<td>570</td>
</tr>
</tbody>
</table>


Notes: Average estimates are based on type and quality of treatment sought.

a.1991 dollars.

AIDS also weakens economies indirectly, striking several key areas at once. For example:

- When a worker becomes too sick to work, his or her earnings are lost to the economy. In addition, the savings from those earnings, which could have gone to investments in economic growth, are lost. In Kenya, it is estimated that 10 years of productive life are lost with each new case of AIDS.

- Resources are shifted from productive investment to health sector expenditures and health care. For example, shifting funds to combat AIDS may lower investment in both education and primary health care, with consequences for future economic growth. By shortening life spans, AIDS also lowers the returns to public investment in both health and education.
As AIDS reduces economic growth, the competition intensifies for both national and international resources. Investment in agricultural research, health (to tackle diseases other than AIDS), education, safe water, and sanitation is likely to fall.

AIDS is particularly devastating to economic growth because the disease strikes adults in their most productive years. Furthermore, in the early years the epidemic seemed to spread fastest among people with above-average education and skills, further sharpening the economic impact.

In the 1980s in Rwanda, women whose partners had higher income levels and worked in higher-paid and higher-skilled occupations were also more likely to be HIV-positive than women whose partners were less well off. Similarly, in Uganda, men and women with secondary education were more than twice as likely to be HIV-positive as men and women with no education. In Kenya, the average annual income of a worker with AIDS was estimated to be 31 percent higher than the average national income.

Despite the higher initial impact of AIDS on urban elites, in the long run AIDS will hit the poor hardest. Richer people will be more receptive to education campaigns through the mass media, more able to purchase condoms, and more likely to live in environments that encourage condom use. AIDS will worsen the poverty of poor people by depriving them of their only productive resource—their labor.

AIDS and Food Security

HIV/AIDS is intimately connected to food security in a cyclical relationship. The consequences of food insecurity, specifically inadequate intake of calories and nutrients, render individuals more susceptible to HIV infection and cause them to progress faster from HIV infection to AIDS and, ultimately, to death. HIV/AIDS, in turn, hinders countries’ ability to achieve national food security through its effects on population and economic growth.

For most of the African economies considered in this study, population growth rates are unlikely to fall below 2 percent by 2020, unless the onslaught of AIDS continues unchecked. Thus, it seems that AIDS will do relatively little, by way of reductions in population growth, to reduce the demand for food.

At the same time, AIDS will diminish the potential to increase domestic food production in order to improve food security. Governments under pressure to cover rising health care costs are likely to sacrifice spending on budget items such as agricultural research, which is a key factor in the
development of new agricultural technology. In addition, governments are likely to focus their health spending at the tertiary level in cities rather than at the primary level in rural areas, making rural inhabitants more vulnerable to disease. Finally, by imposing heavy costs on national economies, AIDS will make it more difficult for developing countries to import the food they need to feed their people.

No country can afford to be complacent in the face of apparently low HIV seroprevalence levels. Many African countries can testify to the cost of ignoring the spread of HIV infection in the early stages. To arrest the AIDS pandemic in Africa, and to prevent fledgling epidemics in South and East Asia from becoming pandemics, the broader development community, not just the health sector, must address the scourge of AIDS.

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“A 2020 Vision for Food, Agriculture, and the Environment” is an initiative of the International Food Policy Research Institute (IFPRI) to develop a shared vision and a consensus for action on how to meet future world food needs while reducing poverty and protecting the environment. Through the 2020 Vision initiative, IFPRI is bringing together divergent schools of thought on these issues, generating research, and identifying recommendations. The 2020 Briefs present information on various aspects of the issues.