



“IN THE NAME OF GOD, THE MOST COMPASSIONATE, THE MOST MERCIFUL”

“VE JMÉNU BOHA MILOSRDNÉHO, SLITOVNÉHO”

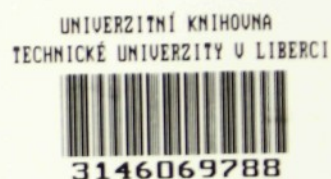
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**FACULTY OF ECONOMICS**

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**MACROECONOMICS IMPACT OF AIDS IN AFRICA**

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## Annotation

The aim of the study is to trace the effect of the AIDS on the economy, specially on the macroeconomics sector.

Africa was the selected example for this case, because Africa is the most effected place in the world, which is suffering for about two decades.

This diplom gives a brief information about AIDS and its combenaunts. The exploration, definition, types and its spread.

This work shows the level of the infactions, the size of the epidemic, its impact on the macroeconomics sectors, the governments, households, investment and other sectors. It also describes the economic mechanisem with the epidemic. The international resources which may affect the epidemic fight. Finally the expected required steps to stop this danger which threat the humanty existence.

I declare that this Diploma work has been done independent with using some literatures and knowledge of supervisor and consultation.

A handwritten signature in blue ink, written over a horizontal dotted line. The signature is stylized and appears to be a cursive representation of a name.

Liberec 23.05.2003

## Acknowledgement

I would like to express my thanks to my God, my mother and to all who assisted me in completing this project especially to Doc.Ing. Fárek Jiří, for being very helpful and his guidance all throughout the project.



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## **I. INTRODUCTION**

“War, uncertainly and disease are a tough combination for any economy,”

Said Mr. Stephen Roach, the chief economist at Morgan Stanley.<sup>1</sup>

We know the impact of the war on the global economy; if we returned to the last century we have enough experience of its wars’ consequences on global economy.

But the inquiry here is how is the diseases effect the economy?

In the past two years, development thinking has undergone a major shift, from viewing AIDS as purely a health issue to acknowledging that it must be tackled as part of a broader development agenda.

There is evidence of this new approach, referred to as “mainstreaming,” at the highest levels of development policy and assistance.

At a meeting of the development committee of the World Bank and the IMF in April 2001, ministers called for forcing on HIV/AIDS in development policies and increasing assistance to affected countries. Developing countries themselves have announced their intention of making AIDS a mainstream issue, most visibly in June 2001 during the United Nations General Assembly Special Session on HIV/AIDS.

Why is this shift in thinking so important? HIV/AIDS takes a heavy tool, both economic and human, as it undermines productivity, security, education, health care, civil service systems, social cohesion, and political stability. It’s shortening the life expectancy of working-age adults, dramatically increasing the numbers of infant and child death, shrinking the workforce, creating tens of millions of orphans, widening the gap between rich and poor, and reversing development gains.

AIDS threatens every man, woman and child in the world today. The pandemic is the most serious social, labour and humanitarian challenge of our time. Since the onset of the epidemic, almost 22 million people worldwide have died of AIDS, and another 36 million people are living with the HIV virus.

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<sup>1</sup> Morgan Stanley is an American company which is leader in providing financial advice and execution for institutional investors, corporations and governments around the world.



In Africa alone, 12 million men, women, and children—more than the entire population of Belgium have died to date.

The primary goal of the development is to promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and human dignity. This goal is being threatened by the HIV/AIDS pandemic at every point: in terms of discrimination in employment, the size and composition of the labour force, the productivity of enterprises, the costs of health and social security, the economic opportunities of women, and the rising numbers of orphaned children being thrown out of education and onto the labour market.

AIDS now affects every country in the world, but in Africa, especially in sub-Saharan African countries are the most effected.

By one of conservative estimate one-quarter of the population of Africa, 150 million people has been personally affected by the epidemic, The nine most heavily effected countries in the world are all in Africa and these figures show us how huge this threat in the present time:

- At least 12 million Africans have already died of AIDS, And AIDS is the first cause of death.
- Over 22 million Africans are currently with HIV or AIDS.
- There are almost 8 million African children under 14 who have lost their mothers or both parents to the AIDS epidemic, today in many communities there are not a family that has not lost some one because of AIDS.

In this work I'm trying to view macroeconomic impact of AIDS in Africa as an example of how the diseases are effecting the economy and other activities, that linked to the economy, and a series of specific indicators were selected on the basis of their transparency, robustness and usefulness. They represent the first step in defining a full set of indicators of the economic impact of AIDS. Based on current knowledge of the epidemic and its impact on society, and understanding how the HIV/AIDS epidemic will

impact on the macro-economy would be in order to motivate policymakers to commit resources to prevention and mitigation of the disease.

The following areas were chosen for the survey: the macroeconomic level, the household level, education, health, agriculture and business:

-The macroeconomic impact: Macroeconomic studies examine the effect of a specific event or chain of events on GDP or on society's total income. An alternative to GDP outcome measures is an estimation of the impact on HDI (Human Development Index).

-Household impact: An understanding of the impact of HIV/AIDS on households discloses the initial effects of the epidemic on society's smallest economic unit. It also indicates the most appropriate alleviation strategies, and elucidates the ways in which AIDS changes distribution of wealth.

-Education: A conceptual paper on the impact on education has been developed (Kelly 1999). We have used indicators from this framework paper that include the following:

- Absenteeism: mortality of teachers and other staff (supply side).
- Children taken out of school (demand side).

-Health: As in education, the important indicators cover supply (absenteeism and mortality of doctors, nurses, laboratory assistants), demand (HIV/AIDS measured as a proportion of all patients or bed occupancy rate), and the process (quality of services for all patients). Another frequently used measure of the impact on the health sector is the rising cost of AIDS-related expenditures as a proportion of the health budget. However, the major challenge within health care is how the



number of HIV-positive patients is estimated: HIV status is often unknown to patients and often not included in their records.

-Agriculture: The adverse effects of the epidemic on smallholder agriculture are often subtle enough to be invisible at the macro level, thus necessitating a systematic monitoring of impact at the micro level. Indicators for such monitoring include changes in intra-household labour allocation, changes in demand and supply of wage labour, and wage rates of unskilled agricultural labour. For the purposes of this review, we have selected commonly used indicators that measure changes in production or in supply of labour as a result of the epidemic.

- Business: The traditional outcome measure for businesses is production as measured in physical output or profit (revenues – costs); previous studies on the impact of AIDS have only explored the subsequent increased costs of production. These measure the costs of absenteeism due to morbidity, medical and funeral expenses, pensions, and replacement workers, including training.



## CHAPTER I

## **1.WHAT IS THE HIV/AIDS**

The acquired immunodeficiency syndrome (AIDS) was first recognized in 1981 and has since become a major worldwide epidemic. AIDS is caused by the human immunodeficiency virus (HIV). By leading to the destruction and/or functional impairment of cells of the immune system, notably CD4+ T cells, HIV progressively destroys the body's ability to fight infections and certain cancers.

### ***1.1.Definition of AIDS***

The Centres for Disease Control (CDC) currently defines AIDS in an adult or adolescent age 13 years or older as the presence of one of 26 conditions indicative of severe immune-suppression associated with HIV infection, such as *Pneumocystis carinii pneumonia (PCP)*, a condition extraordinarily rare in people without HIV infection. Most other AIDS-defining conditions are also 'opportunistic infections' which rarely cause harm in healthy individuals. A diagnosis of AIDS is also given to HIV-infected individuals with a CD4+ T cell count less than 200 cells per cubic millimetre (mm<sup>3</sup>) of blood. In children younger than 13 years, the definition of AIDS is similar to that in adolescents and adults, except that lymphoid interstitial pneumonitis and recurrent bacterial infections are included in the list of AIDS-defining conditions.<sup>2</sup>

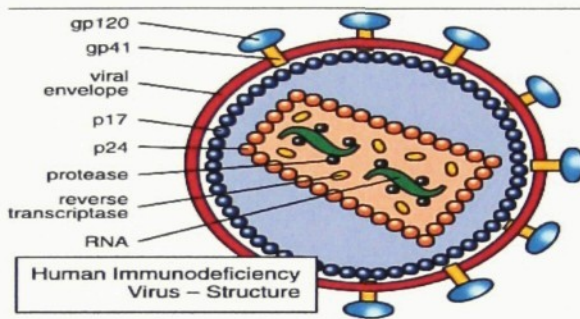
*The designation "AIDS" is a surveillance tool.* Surveillance definitions of AIDS have proven useful epidemiological to track and quantify the recent epidemic of HIV-mediated immune-suppression and its manifestations. However, AIDS represents only the end stage of a continuous, progressive pathogenic process, beginning with primary infection with HIV, continuing with a chronic phase that is usually a symptomatic, and leading to progressively severe symptoms and, ultimately, profound immunodeficiency and opportunistic infections and cancers.

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<sup>2</sup> Darby SC, Ewart DW, Giangrande PL, Dolin PJ, Spooner RJ, Rizza CR (1995) 'Mortality Before and After HIV Infection in the Complete UK Population of Haemophiliacs.UK Haemophilia Centre Directors Organisation', *Nature*, September 7, 377 (6544): 79-82.

This is a picture of HIV virus. This image represents the structure of human immunodeficiency virus (HIV). HIV is part of a family or group of viruses called lent viruses. Lent viruses other than HIV have been found in a wide range of nonhuman primates. These other lent viruses are known collectively as simian (monkey) viruses (SIV) where a subscript is used to denote their species of origin.

**Figure (1):** Human Immunodeficiency Virus Structure



**Source:** 'Mortality Before and After HIV Infection in the Complete UK Population of Haemophiliacs.UK. 1995

### 1.2.Types of AIDS

There are currently two types of HIV: HIV-1 and HIV-2. Worldwide, the predominant virus is HIV-1, and generally when people refer to HIV without specifying the type of virus they will be referring to HIV-1. Both HIV-1 and HIV-2 are transmitted by sexual contact, through blood, and from mother to child, and they appear to cause clinically indistinguishable AIDS.

However, HIV-2 is less easily transmitted, and the period between initial infection and illness is longer in the case of HIV-2<sup>3</sup>.

<sup>3</sup> Darby SC, Ewart DW, Giangrande PL, Dolin PJ, Spooner RJ, Rizza CR (1995) 'Mortality Before and After HIV Infection in the Complete UK Population of Haemophiliacs.UK



### *1.3. What caused the epidemic to spread so suddenly?*

There are a number of factors that may have contributed to the sudden spread including international travel, the blood industry, and widespread drug use.

#### *1.3.1. International Travel*

The role of international travel in the spread of HIV was highlighted by the case of 'Patient Zero'. Patient Zero was a Canadian flight attendant called Gaetan Dugas who travelled extensively worldwide. Analysis of several of the early cases of AIDS showed that the infected individuals were either direct or indirect sexual contacts of the flight attendant. These cases could be traced to several different American cities demonstrating the role of international travel in spreading the virus. It also suggested that the disease was probably the consequence of a single transmissible agent.

#### *1.3.2. The Blood Industry*

As blood transfusions became a routine part of medical practice, this led to a growth of an industry around meeting this increased demand for blood. In some countries such as the USA paid donors were used, including intravenous drug users. This blood was then sent worldwide. Also, in the late 1960's haemophiliacs began to benefit from the blood clotting properties of a product called Factor VIII. However, to produce the coagulant, blood from thousands of individual donors had to be pooled. Factor VIII was then distributed worldwide making it likely that haemophiliacs could become exposed to new infections.

#### *1.3.3. Drug Use*

The 1970s saw an increase in the availability of heroin following the Vietnam War and other conflicts in the Middle East, which helped stimulate a growth in intravenous drug

use. This increased availability together with the development of disposable plastic syringes and the establishment of 'shooting galleries' where people could buy drugs and rent equipment provided another route through which the virus could be passed on.

#### *1.4.AIDS around the world*

When AIDS first emerged as a disease over twenty years ago, few people could have predicted how the epidemic would evolve, and fewer still could have described with any certainty the best ways of combating it. Now, in the year 2002, it is known from experience that AIDS can devastate whole regions, knock decades off national development, widen the gulf between rich and poor nations and push already-stigmatised groups closer to the margins of society.

Just as clearly, experience shows that the right approaches, applied quickly enough with courage and resolve, can and do result in lower HIV infection rates and less suffering for those affected by the epidemic. An ever growing AIDS epidemic is not inevitable; yet, unless action against the epidemic is scaled up drastically, the damage already done will seem minor compared with what lies ahead. This may sound dramatic, but it is hard to play down the effects of a disease that stands to kill more than half of the young adults in the countries where it has its firmest hold.

Already, 21.8 million people around the world have died of AIDS, 4.3 million of them children, by the end of 2001. Nearly twice that many - 42 million - are now living with HIV, the virus that causes AIDS, and most of these are likely to die over the next decade or so. The most recent UNAIDS/WHO estimates show that, in 2002 alone, 5 million people were newly infected with HIV.

The African countries south of the Sahara have some of the best HIV surveillance systems in the world. They show that the estimated number of newly infected adults and children in Africa reached 3.5 million by the end of 2002. As the rate of HIV infection in the general population rises, the same patterns of sexual risk result in more new infections simply because the chances of encountering an infected partner become higher



### *1.5.HIV/AIDS in Africa*

Only five years ago, HIV and labour in Africa described an “AIDS belt” across East and Central Africa, with relatively few cases in the west, south and north of Africa. “Today, seven countries in Africa’s southern cone have adult prevalence rates of over 20%; in Botswana, one in three adults are living with HIV/AIDS.

South Africa has the largest infected population not only in Africa but also in the world, and the fastest rate of new infections. In West Africa, infections are fewer but increasing. Côte d’Ivoire and Cameroon have adult prevalence rates of 10.7% and 7.3% respectively; in Nigeria over 2.5 million adults are living with HIV/AIDS though this represents only 5 % of the population. 10 countries in Africa were described as badly affected in 1995 – today are 29”<sup>4</sup>.

HIV/AIDS is the leading cause of death in Africa, having overtaken malaria and far exceeding deaths in war. “Life expectancy at birth in a number of African countries has fallen by an average of seven years, by over ten years in eight countries, and by 30 years in Botswana and Zimbabwe”<sup>5</sup>. And because of the long interval between infection and death, worse is still to come. Although most deaths are among adults, child mortality, especially for those under two, has also increased over recent years – by up to five times in some countries. For teenagers the future looks particularly bleak: in countries with HIV prevalence rates of 15% and over, at least a third of those now aged 15 will die of AIDS – and over half in Botswana, Kenya, South Africa, Zambia and Zimbabwe. Though the future for each individual is uncertain, the consequences of AIDS deaths for total population numbers are clear: for the 29 countries in Africa with prevalence rates of over 2%, total population is expected to reach 627 million by 2010 – that is nearly 50 million fewer than in the absence of AIDS. The populations of Botswana, Namibia and Zimbabwe are projected to be some 20% smaller than they would otherwise have been.

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<sup>4</sup> Bonnel R. Economic analysis of HIV/AIDS. Background Paper to the African Development Forum, 2000. World Bank UNAIDS.

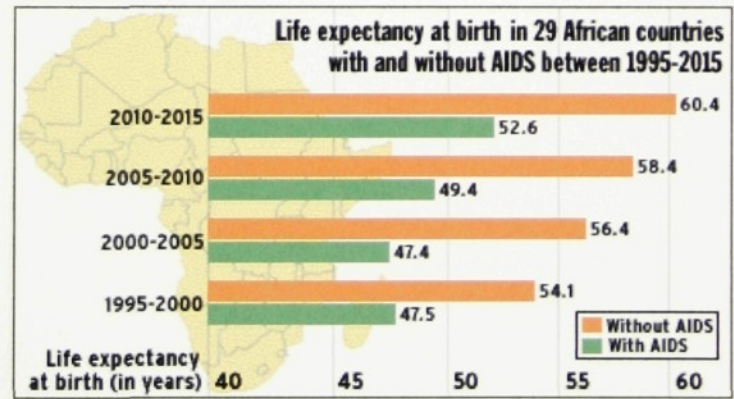
<sup>5</sup> Greener R. Impacts of HIV/AIDS on Poverty and Income Inequality. 2000. Botswana, Botswana Institute for Development Policy Analysis.



The implications for the structure of populations are even more severe than for their size. The most recent report on the epidemic describes a new shape replacing the traditional population pyramid in badly affected countries: what they call the “population chimney” because it is so much narrower than the pyramid as a result of AIDS deaths and children not born. In 20 years’ time in Botswana, for example, there will be more adults in their 60s and 70s than in their 40s and 50s. There will also, in many countries, be more men than women. Women are becoming infected at a younger age than men, and their infection rates are higher, within the next few years, men may outnumber women by an average of 11 to 9.

It is well known that those most susceptible to HIV infection are not the weaker members of society – the young and the old – who fall sick with diarrhoea, respiratory infections, or malaria. The majority of those who die of AIDS are adults in their productive, sexual and reproductive prime – in 1999, 80% of newly infected people in Rwanda, United Republic of Tanzania, Uganda and Zambia were between 20 and 49 years old. For this reason, the impact of HIV on the workforce is even more severe than its impact on the population in general (see below): by 2020, the population of the 28 most affected African countries will be about 9% smaller than without AIDS, but the workforce will be over 12% smaller.

Figure (2):



Source: UN, population Division, By ABC news, 2002

## CHAPTER II

## 2.ECONOMIC IMPACT OF AIDS

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 labour supply and increased costs:

### Supply of Labour

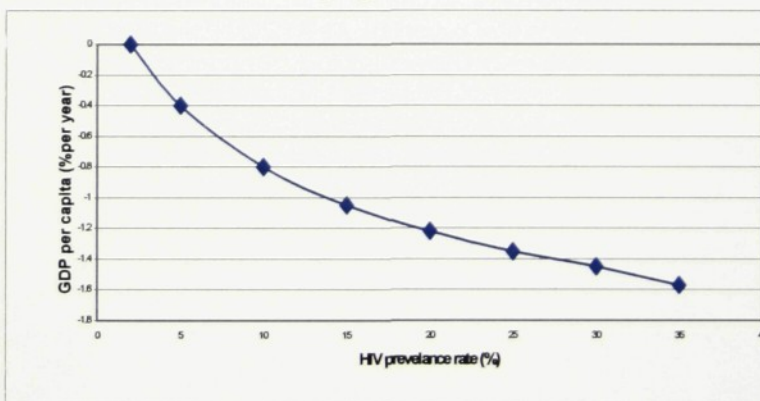
- The loss of young adults in their most productive years will affect overall economic output.
- If AIDS is more prevalent among the economic elite, then the impact may be much larger than the absolute number of AIDS deaths indicates.

### 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

**Figure (3):** Growth impact of HIV (1990-1997)  
(80 developing countries)



**Source:** The economic impact of AIDS in Africa, UNAIDS, 2000.  
L.Guinness and A. Alban



### *2.1. The impact of HIV/AIDS on the labour force*

Many countries in Africa are rich in natural resources, from fertile agricultural land to valuable minerals; but others have often exploited these, and the control and profits lost to Africa. Most countries therefore can only depend on their human resources –their people. The economy is built by the work of individuals who, collectively, make up the labour force. The development of these human resources entails the promotion of their skills and education and the protection of their health. The economy depends on the adequate supply and quality of the labour force.

Population Africa today is losing its prime labour force to HIV/AIDS. At first it was not thought that debilitation and death as a result of AIDS could be more than a local problem and a human loss. But enterprises, towns and governments are now starting to measure the cost in terms of lost productivity, health and social security costs, and even falling GDP.

Already including many of the poorest countries in the world, Africa has to bear both enormous direct costs and loss of income as a result of the depredations of AIDS on its active.

"The size of the labour force in high-prevalence countries will be between 10 and 30% smaller by 2020 than it would have been without HIV/AIDS.

The projected loss for Côte d'Ivoire is 12.8%, for Ethiopia 10.5%, for Malawi 16% and for Zimbabwe 29.4%. In the case of lower-prevalence countries the impact is smaller but still significant – well over 5% in most cases. These figures do not take into account the reduced capacity of many of those still in the labour force but sick from AIDS-related illnesses. The age and sex composition of the workforce is also expected to change as more orphaned children and widows seek employment; another trend might be the retention of workers beyond retirement age in order to keep experienced staff"<sup>6</sup>.

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<sup>6</sup> Dieninger, K.; Garcia, M. Subbarao, K. *AIDS-induced Orphan hood as a Systemic Shock: Magnitude, Impact, and Program Interventions in Africa*, October 2001.

*2.1.1. How does HIV/AIDS affect the workforce?*

- Reduced supply of labour.
- Loss of skilled and experienced workers.
- Changes in composition of labour force and early entry of children into employment.
- Increased pressure on women to earn income as well as care for the sick.
- Mismatch between human resources and labour requirements.
- Reduced productivity.
- Absenteeism and early retirement.
- Increased labour costs for employers.
- Loss of wage earners in a household.
- Reduced remittances from migrant workers.
- Increase in female-headed households.

The concern is not only with the size of the labour force, but also its quality. Many of those infected with HIV are experienced and skilled workers in both blue-collar and white-collar jobs. The loss of these workers, together with the entry into the labour market of orphaned children who have to support themselves, is likely to lower both the average age of many workforces and their average level of skills and experience. Between 1984 and 1992 in Zambia, 62% of deaths among managers were the result of AIDS-related illnesses: this rate was slightly higher than middle-level workers and slightly lower than lower-level workers. A survey of blood donors in Malawi found higher infection levels among the educated than unskilled workers. In South Africa, the ING Borings Bank projects that one-third of the semi-skilled and unskilled workforce will be HIV-positive by 2005, 23% of the skilled and 13% of the highly skilled workforce. It takes time to replace skilled workers because of the training or retraining necessary, and even longer to replace the experience lost as key workers are affected. In South Africa found that fewer than 40% of employers believed they had a good chance of replacing skilled workers.



**Table (1):** projected labour force with HIV/AIDS, 2005&2025 in 28 countries.

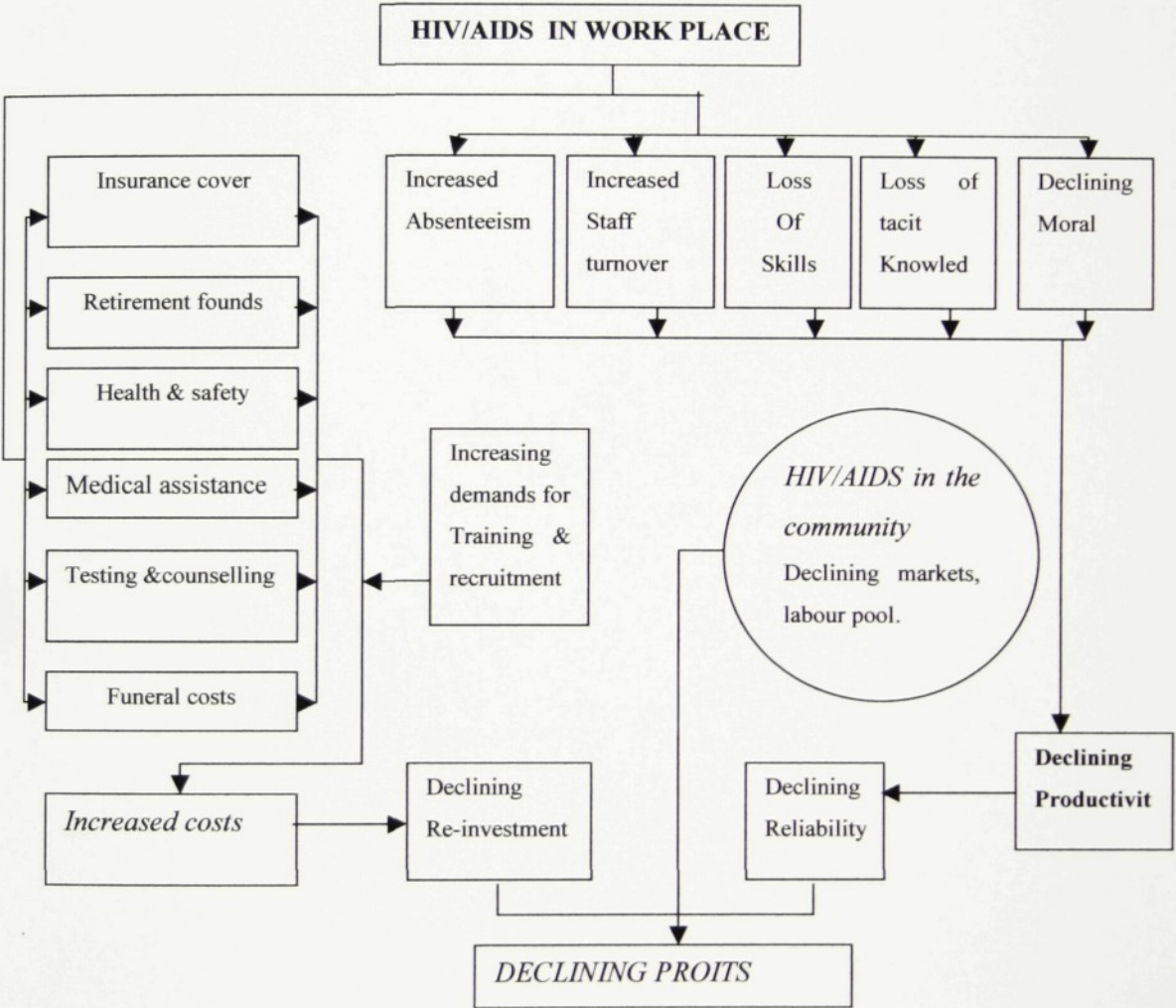
COUNTRY	Percentage loose, compared to situation without AIDS	
	2005	2025
BENEN	-0.2	-4.8
BOTSWANA	-1702	-30.8
BORKINA FASO	-8.1	-10.5
BURUNDI	-6.5	-10.5
CAMEROON	-5.5	-10.0
CENTRAL AFRICAN	-10.3	-14.4
CONGO	-7.9	-9.5
DEMOCRATIC OF CONGO	-6.7	-7.1
IVORY COAST	-9.0	-12.8
ERITREA	-2.8	-5.0
ETHIOPIA	-8.3	-10.5
GABON	-5.0	-9.7
GUINEA-BISSAO	-4.4	-10.2
KENYA	-8.6	-20.2
LESOTHO	-4.8	-10.6
LIBERIA	-2.0	-5.3
MALAWI	-10.7	-16.0
MOZAMBIQUE	-9.0	-24.9
NAMIBIA	12.8	-35.1
NEGERIA	-3.8	-7.5
RWANDA	-10.7	-9.6
SIERRA LEONE	-6.1	-6.6
SOUTH AFRICA	-10.8	-24.9
TANZANIA	-9.1	-14.6
TOGO	-7.4	-10.6
UGANDA	-16.3	-15.8
ZAMBIA	-4.7	-2.3
ZIMBABWAI	-19.7	-29.4

**Source:** ILO, POPILO population and labour force projection, 2000, UN population Division, And World Population prospects, The1998 Revision, Volume III, analytical Report.



2.2 The impact of HIV/AIDS on enterprises.

Figure(2): IMPACT OF HIV /AIDS ON A COMPANY



Source: The business response to HIV/AIDS: impact and lessons learned, UNAIDS, The Prince of Wales Business leaders forum and the Global Business on HIV/AIDS, 2000.

The enterprise is at the heart of the economic development of a nation in that it is the means of structuring work and transforming it not only into individual profit and local benefit, but also into national growth. The idea of the enterprise is broadly interpreted here, encompassing farms, workshops, factories, offices and indeed many activities of the informal sector. It is almost inevitable that most of the rather scanty information about the effects of HIV/AIDS on commercial activity comes from larger companies and from enterprises, but as business people start to count the costs of the pandemic, there is an increase advocacy among them both to recognize and to analyse these costs. Even though few enterprises can, or will, give reliable data on the numbers of HIV-infected workers, there are other indicators. Most formal enterprises are in urban areas and rates of infection are likely to reflect those of the community in which they are based; zero-prevalence rates in a number of towns are above 25%, suggesting similar levels of infection in offices, factories and hospitals.

There are perhaps two main reasons why many enterprises have been slow to understand how badly HIV/AIDS is affecting them and to attempt to respond.

The first One is that – especially without a lead from government, and compounded by secrecy and denial – it simply took time to realize that what was happening in one factory was not an isolated problem but part of a wider phenomenon. A recent survey of South African employers shows that not only do many of them underestimate the present levels of infection in their enterprises but also they appear to have little understanding that the impact of HIV could worsen rapidly<sup>7</sup>.

The second is the costs of HIV/AIDS for enterprises are both direct and indirect – many of the “hidden” costs have only recently become apparent. A useful flow chart appears in *The business response to HIV/AIDS: Impact and*

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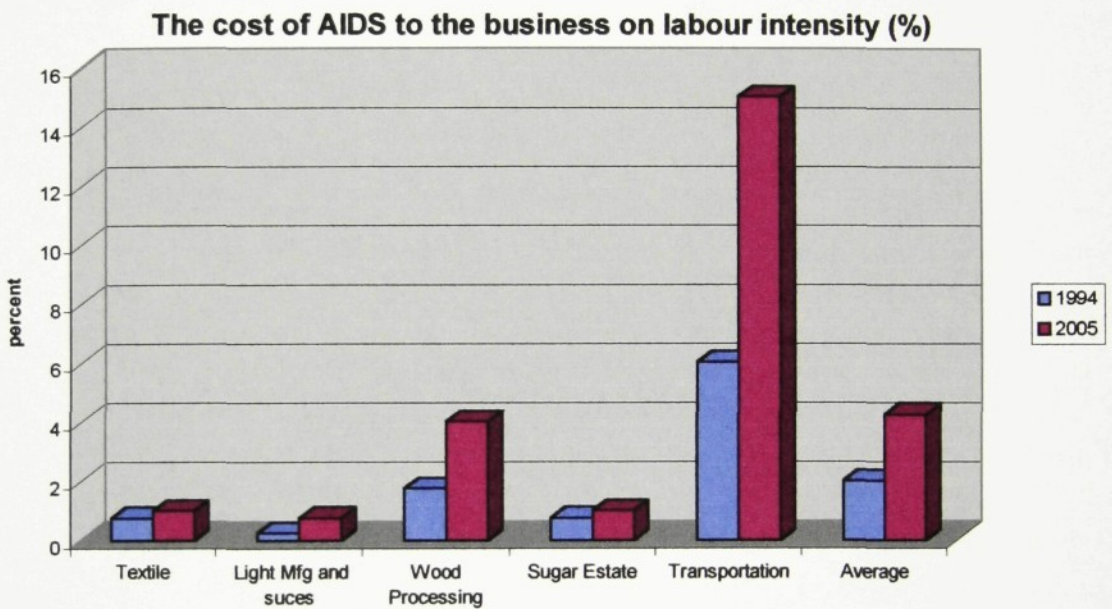
<sup>7</sup> The business response to HIV/AIDS: impact and lessons learned, UNAIDS, The prince Of Wales Business leaders forum and the Global Business on HIV/AIDS, 2000.



*lessons learned*<sup>8</sup> (shown in figure 4): what is striking is not only how many those costs are, but how they reinforce each other to the detriment of the enterprise's profitability and potentially its survival.

### 2.3.Labour costs

**Figure (5):**



**Source:** Socio-Economic Impact of HIV/ AIDS in Africa, 2000.

The greater the social benefits provided by the enterprise, from health care to life insurance, the more they are now costing as a result of HIV/AIDS. The less an enterprise provides, the more pressure on individual workers, usually the most poorly paid, to cope privately – through family and community networks; this rebounds on the enterprise through increased absenteeism and perhaps earlier loss of workers than if heath care was available.

HIV/AIDS increases costs in a number of ways:

<sup>8</sup> last resource



- *Insurance cover:* Premiums on life and health insurance are already rising as the risks of large and early payouts increase – in Zimbabwe, life insurance premiums quadrupled over a two-year period.
- *Health care:* Where medical services are provided, these direct costs are rising rapidly.” A flower farm in Kenya experienced a tenfold rise in health costs for employees between 1985 and 1995: profits were so badly affected that the owners sold the company”<sup>9</sup>.

Some companies extend medical services to employees’ dependants and these have been particularly badly hit. The INDENI Petroleum Refinery in Ching’ambo, Zambia, found that by 1991 it was already paying out more for medical services than it was making in profits; in addition, the company was paying salaries to the relatives of sick workers and funeral grants. A sugar estate in Kenya experienced a tenfold increase in health costs (1995-97) and a fivefold increase in spending on funerals.

- *Funeral costs:* These are increasing massively, especially in companies that provide funeral costs, because they are compounded by the absenteeism of employees: an agricultural extension worker in Zimbabwe estimated that funerals took up three days a month, or 10 per cent of his working time”<sup>10</sup>. Costs may be even higher in some countries than others where, as in Uganda, custom dictates that people should be buried in the village of their origin. Community-based savings and insurance groups, such as the iddir in Ethiopia, which save for funeral

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<sup>9</sup> Dieninger, K.; Garcia, M. Subbarao, K. *AIDS-induced Orphan hood as a Systemic Shock: Magnitude, Impact, and Program Interventions in Africa*, October 2001.

<sup>10</sup> Dwasi, Jane. *Impact of HIV/AIDS on Natural Resource Management in Africa: Case Studies of Botswana, Kenya, Namibia, Tanzania, and Zimbabwe*, 2002.

expenses, are also facing financial collapse due to the increase in AIDS-related deaths.

- *Recruitment, training and retraining.* The matching of skills to labour needs is a complex process, which can only become longer and more expensive as the turnover of staff increases in an enterprise

The situation may not simply involve replacing missing workers but the reorganization of production, the restructuring of tasks and skills needs the monitoring of human resources, and training or retraining new or existing personnel. Related costs may include the need to invest in new different machinery or equipment, and the possibility that more highly skilled workers will seek higher wages.

#### ***2.4. The impact of HIV/AIDS on governments.***

### **MACROECONOMIC EFFECTS AND THE IMPLICATIONS FOR LABOUR**

The impact on governments and nations has many strands that are extremely difficult to identify separately and untangle. As a human tragedy and health problem, HIV/AIDS was already a challenge in its earliest days: early goals included the need to mobilize ministries of health, investigate transmission routes, and provide both information and reassurance. But before even such a limited response was truly in place, it became clear that the reach of the pandemic, especially at its epicentre in Africa, was both wider and deeper. As the national budget-holder, provider of key services, and policy-maker, governments now find that the consequences of the epidemic are affecting every sector of responsibility.

#### ***2.4.1. Slowing economic growth***

“Studies in Cameroon, Kenya, Swaziland, United Republic of Tanzania and Zambia have found that GDP may be reduced by as much as 25 per cent over 20 years. A recent report by the Botswana Institute for Development Policy Analysis estimates that Botswana’s



economy will be nearly a third smaller in ten years time than if it had not been affected by AIDS”<sup>11</sup>.

The economic pressures stemming from HIV-related sickness and deaths accumulate:

- Reduced earnings, savings, disposable income, investment and market demand.
- Disincentive to foreign investment.
- Lower government revenues from individuals and enterprises.
- Increased health care and social security costs.
- Productivity and production losses due to absenteeism, staff turnover and reduced levels of skills.
- A declining human capital as experienced workers are lost, teachers die and children leave school.

#### *2.4.2. Pressure on public spending*

The macroeconomic impact of HIV/AIDS is the result of lost revenues combined with increased costs for government. Two key costs are health services and social security.

- **Health services.** The health sector has obviously been under pressure since HIV was first identified. In order to understand the financial burden of the medical response it is worth noting that, apart from the actual care of the sick, health service responsibilities have included: epidemiological and behavioural

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<sup>11</sup> Dwasi, Jane. Impact of HIV/AIDS on Natural Resource Management in Africa: Case Studies of Botswana, Kenya, Namibia, Tanzania, and Zimbabwe, 2002

surveillance; blood safety; voluntary counselling and testing; vaccine development; and the planning and management of initial prevention responses. The tidal wave of need for care quickly stretched under-funded and inadequate services beyond their limits in terms of personnel, hospital beds, medicine and funds.

“By the mid-1990s HIV treatment was already consuming 66 % of health spending in Rwanda and over a quarter in Zimbabwe; the figures are expected to rise to 70% in Zimbabwe by 2005, and to reach 60% in Kenya.

In seven of 16 African countries where total health spending is in the range of 3 % to 5% of GDP, it was found in 1997 that spending for AIDS alone exceeded 2 % of GDP. Over recent years HIV-positive patients have occupied over 70% of beds at the Prince Regent Hospital in Bujumbura, Burundi.

The dangers of personnel shortfalls have been mentioned but few countries appear to be monitoring the situation. As the demand for HIV-related care increases, patients with other conditions may be admitted later or not treated.

Other infections may spread more easily: the World Bank estimates that 25% of people without HIV who die of tuberculosis would not have been infected in the absence of the HIV epidemic”<sup>12</sup>.

- Social security. Is a goal for many countries but one that is far from being achieved. Some formal sector employment such as government service or jobs in large, possibly foreign, companies may include sickness benefits and pensions, but the great majority of the workforce in Africa is not covered by any form of medical let alone unemployment insurance. Efforts to achieve social protection for workers have been set back by the increased demands on the system caused by HIV/AIDS. The other side of the social security picture is investment: life insurance and pension funds are important sources of capital for the government as well as the private sector. A reduction in contributions, and an increase in

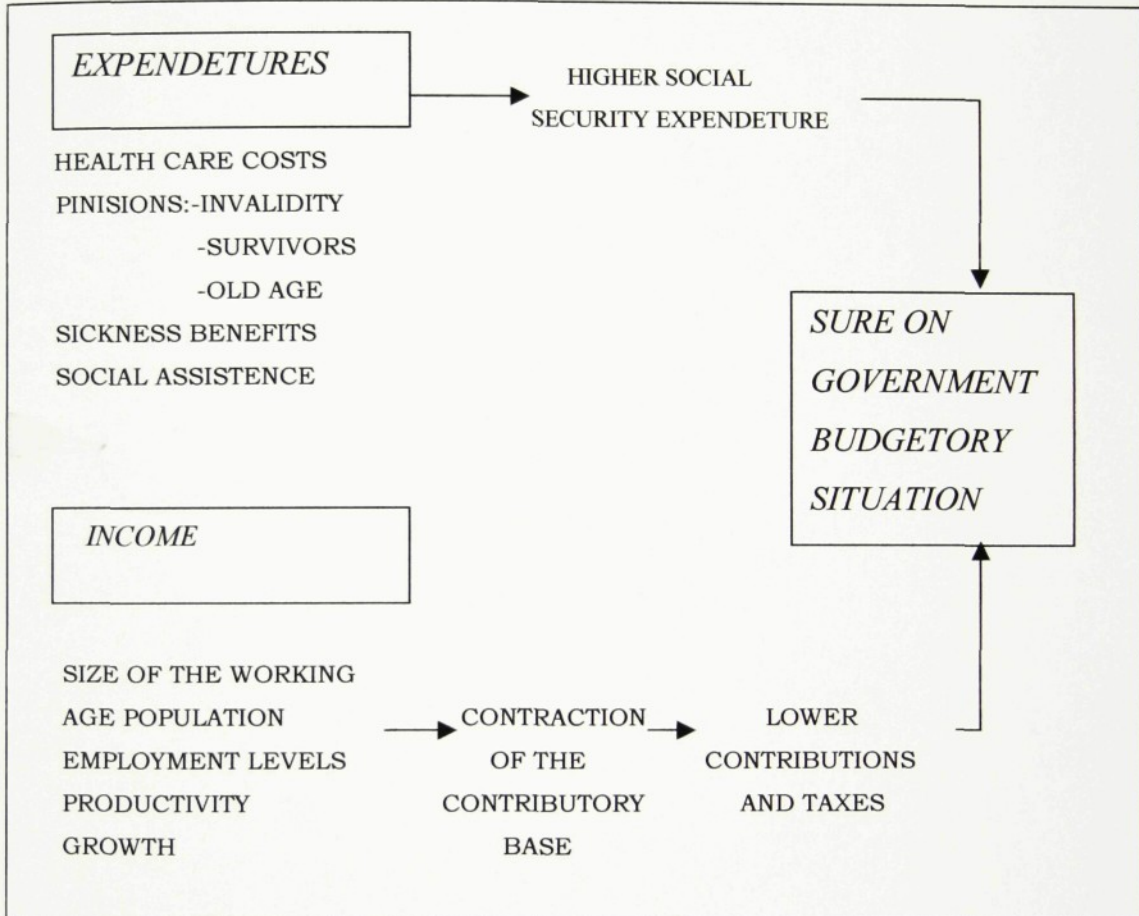
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<sup>12</sup> Bonnel R. *Economic analysis of HIV/AIDS*. Background Paper to the African Development Forum, 2000. 2000. World Bank UNAIDS.



payments – both inevitable consequences of HIV/AIDS – will result in a reduced supply of capital to invest.

**Figure (6):** The impact of HIV/AIDS on the social security system.



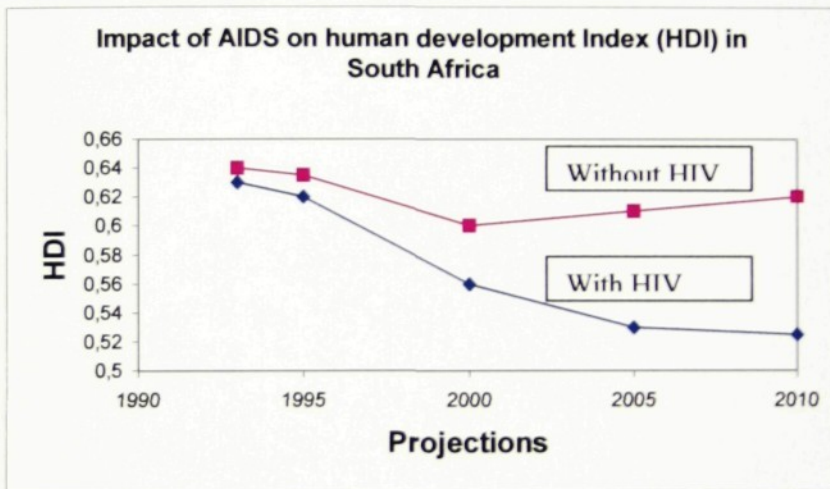
**Source:** ILO work on modelling the impact of HIV/AIDS on social security, 2000

Social protection – including occupational safety and health, income protection and the development of social security systems – is one of the ILO’s core responsibilities and the Organization is now working on adapting both its methodology and its programmes in this sector to the new demands caused by HIV/AIDS.

### 2.4.3. The threat to development targets

In that HIV/AIDS impacts on all areas of social and economic development – from the capacity of the household to provide for the needs of its members to the capacity of governments to protect the rights of their people to health, education and income security – it is clear that it also puts back hopes in many countries of achieving international development targets.

**Figure (7):**



**Source:** HIV/AIDS in Africa: socio-economic impact and response, UNAIDS, 1999.

#### 2.4.3.1. Child mortality

Targets for a two-thirds reduction in child deaths have been severely compromised by HIV/AIDS because of mother-child transmission of the virus: downward trends in child mortality in several countries began to be reversed in the mid-1980s.

Half a million children may have died already in Africa, and another million are living with HIV/AIDS; the gap between infection and death is generally shorter in children than in adults.



#### 2.4.3.2. Education

The achievement of free and universal primary education on the continent by 2015 is also unlikely, in part as a result of HIV/AIDS. Education is increasingly recognized as a key to development but it is emerging as a sector at particular risk from the epidemic.

*On the one hand*, high levels of infection are being found among teachers: “between 40 % and 50 % in some countries. Six teachers died every week in Côte d’Ivoire between 1996 and 1998; 1,300 teachers died in Zambia in the first ten months of 1998, two-thirds of the number trained each year. The Central African Republic has a third fewer primary school teachers than it needs; 107 schools have closed due to staff shortages and only 66 are still open. Almost as many teachers died as retired between 1996 and 1998; their deaths were an average of ten years earlier than the minimum retirement age of 52”<sup>13</sup>.

*On the other hand*, children are also being deprived of their right to be educated when their families take them out of school as a way of coping with AIDS in the household. This may be to save money, as school fees have been widely introduced, as part of structural adjustment, or it may be that their labour is needed – to help look after sick family members or to take over their tasks. Once orphaned, children’s chances of staying in school fall still further.

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<sup>13</sup> Kelly M.J. What HIV/AIDS can do to education and what education can do to HIV/AIDS. October 1999. Johannesburg, All Sub-Saharan Africa Conference on Education for All.

Figure (8): Primary schoolchildren who lost a teacher to AIDS, 1999.



Source: UNAIDS, UNICEF.1999.

In a study of commercial farms in Zimbabwe, half the orphans interviewed had dropped out of school, usually at the time of a parent's illness or death; no orphans of secondary-school age were still at school.

#### 1.HIV/AIDS and teacher supply: Evidence from Africa<sup>14</sup>

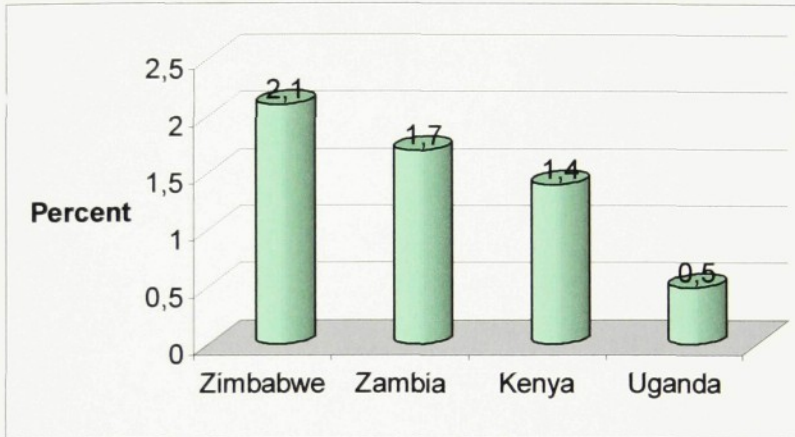
- In the Central African Republic 85% of teachers who died between 1996 and 1998 were HIV-positive, and on average died 10 years before they were due to retire (UNAIDS 2000a).
- In Zambia 1,300 teachers died in the first 10 months of 1998, compared with 680 teachers in 1996 (Kelly 1999).
- In Kenya teacher deaths rose from 450 in 1995 to 1,500 in 1999 (reported by the Teaching Service Commission), while in one of Kenya's eight provinces 20 to 30 teachers die each month from AIDS (Gachuhi 1999).

<sup>14</sup> Kelly M.J. What HIV/AIDS can do to education and what education can do to HIV/AIDS. 6 October 1999. Johannesburg, All Sub-Saharan Africa Conference on Education for All 2000.



- HIV-positive teachers are estimated at more than 30 percent in parts of Malawi and Uganda (Coombe 2000b), 20 percent in Zambia (Kelly 2000a), and 12 percent in South Africa (Coombe 2000a).

**Figure (9):** Average annual percentage of teachers who will die from  
Selected Sub-Saharan African countries, 2000–10



**Source:** World Bank 2000.

## 2. Absenteeism

HIV/AIDS increases teacher absenteeism. Less time for teaching and disruption of class schedules has meant reduced quality and quantity of education. Several factors contribute to absenteeism.

- First, for infected teachers the illness itself causes increasing periods of absence from classes because of the progressive nature of the disease. According to a World Bank (1999) analysis, an infected teacher or education officer is likely to lose 6 months of professional time before developing full-blown AIDS, and a further 12 months after developing the disease. In Zambia, for example, a person is estimated to average 12 to 14 AIDS-related sickness episodes before the terminal illness (Kelly 2000a). A related problem is that to avoid or postpone the decline in remuneration that results from prolonged absence, infected teachers do not take formal

sick leave. They are thus absent, but are not replaced with substitutes, as they remain formally in post earning a full salary. Substitution for these teachers requires a doubling of expenditures.

- Second, teachers with sick families take time off to attend funerals or to care for sick or dying relatives. In several countries head teachers have reported problems with female teachers, in particular, arriving late or leaving work early. A recent survey in Botswana found that absenteeism among female teachers averaged 6.6 percent, compared with 3.3 percent for male teachers, and that funeral attendance was the second biggest factor (after illness) in AIDS-related absenteeism in schools, accounting for 7 to 12 percent of episodes of absenteeism. Funerals also result in several days of absence at a time.
- Third, teacher absenteeism and non-performance are also a result of the psychological effects of the epidemic. The trauma can be devastating, with repeated episodes of grief and mourning. Teachers may be deeply affected by having to care for sick relatives and losing friends and family to AIDS, with the added financial burden of medical and funeral expenses. In Zambia more than two-thirds of a survey sample of teachers with relatives who were ill with or had died of AIDS were unable or unwilling to talk about the problem with friends or family. Such isolation, as well as fear about their own HIV status, takes its toll on teachers and on their ability to teach (Kelly 2000a).

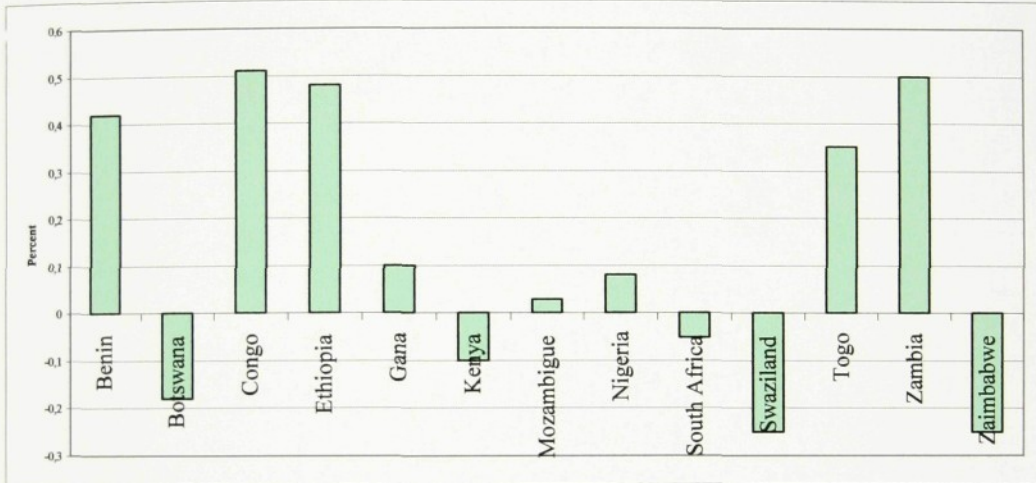
### 3.Demand (For Education)

The impact of the epidemic on demand for education is less clear. The school-age population will be smaller than in the absence of AIDS, but will nonetheless continue to grow.



Reduced numbers of adults of childbearing age due to AIDS and lower fertility among surviving adults—not infection and mortality among children—have the largest impact on The numbers of children (figure-10).

**Figure (10):** Percentage change in school-age (5 to14 year old) population  
Between 2000 & 2015, selected African countries



**Source:** U.S Census Bureau.

The size of the school-age cohort is heavily influenced by fertility rates, and in many countries the relationship between HIV prevalence and the change in size of the 5- to 14-year-old age group appears to be weak.

Estimates by the U.S. Census Bureau suggests that only 6 of the 26 countries worst affected by AIDS will show an actual reduction in the school-age population by 2015 (figure 10). In countries hardest hit by the epidemic, however, such as Zambia and Zimbabwe, the number of children of primary school age will be 20 percent lower by 2010 than pre-AIDS projections (UNAIDS 2000g).

Other countries that have medium or declining levels of fertility can expect to experience significant declines in the school-age cohort as the epidemic progresses. AIDS mortality does not have its primary effect on school-age children. The majority of children dying of AIDS are young children who have contracted the disease from mother-child

transmission. An estimated 3.8 million children have been infected with HIV since the epidemic began, and more than two-thirds have died. UNAIDS estimates that in 1999, was 570,000 children under the age of 15 became infected, and that 330,000 to 670,000 children under 14 have died of AIDS, the vast majority of them in Sub-Saharan Africa (UNAIDS 2000a). During this time, approximately four times as many adults (aged 15 to 49) died of AIDS.

HIV infection rates among children and adolescents:

1. Throughout the world, HIV infection prevalence is lowest in the 5- to 14-year-old age Of children born with HIV because of vertical transmission from the mother, fewer Than half survive to school age.
2. Children born uninfected are unlikely to become infected until they reach adolescence and become sexually active.
3. Prevalence among 15- to 19-year-old girls in Africa is often more than twice that of boys.
4. Older children and young adolescents who contract HIV when they become sexually active are most likely to die in there 20s or early 30s.

HIV/AIDS may have an important impact on enrolment rates. While the evidence does not uniformly point to lower enrolment among AIDS orphans, demand does appear to be adversely affected among poorer families, particularly at the secondary and tertiary levels, and the epidemic makes many families poorer (World Bank 1999).

In some countries orphans in foster homes may also be disadvantaged in access to education, as well as to health care and adequate nutrition (Deininger, Garcia, and Subbarao 2001).

In some cases lower demand is also the result of children dying of AIDS because of mother child transmission (estimated in Zimbabwe to be as high as 70% of all under-five child deaths).

Generally, however, most children born uninfected are unlikely to become infected until they reach adolescence or become sexually active. Thus for most countries, increases in the school-age population are expected.



### *2.5. 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 labour 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 labour, resulting in a severe loss of future earning potential.

Studies in Tanzania, Cote d'Ivoire, Uganda, and Ethiopia have documented the tremendous burden of loss of income, large health care expenditures, and consumption of savings to pay for funeral and mourning costs:

- In Tanzania<sup>15</sup>, a study of adult mortality found that 8% of total household expenditure went to medical care and funerals in households that had an adult death in the preceding 12 months.
- In households with no adult death the figure was only 0.8%. In addition to increased expenditures, many households experienced a reduction in remittances if the adult member worked outside the home.

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<sup>15</sup> Dead Over, Martha Ainsworth, et al. 1996. *Coping with AIDS: The Economic Impact Of Adult Mortality from AIDS and Other Causes on Households in Kagera, Tanzania.*

- In partial compensation for these financial setbacks, many households were forced to remove children from school in order to reduce education-related expenditures and have the children help with household chores.
- In Cote d'Ivoire,<sup>16</sup> households with an HIV/AIDS patient spent twice as much on medical expenses as other households. Furthermore, 80% of the expenditures went to the AIDS patient, rather than to other household members who are ill. When the person with AIDS died or moved away, average consumption fell by as much as 44% during the following year.
- In Uganda,<sup>17</sup> 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.
- In Ethiopia,<sup>18</sup> a study of 25 AIDS-afflicted rural families found that the average cost of treatment, funeral and mourning expenses amounted to several times the average household income.

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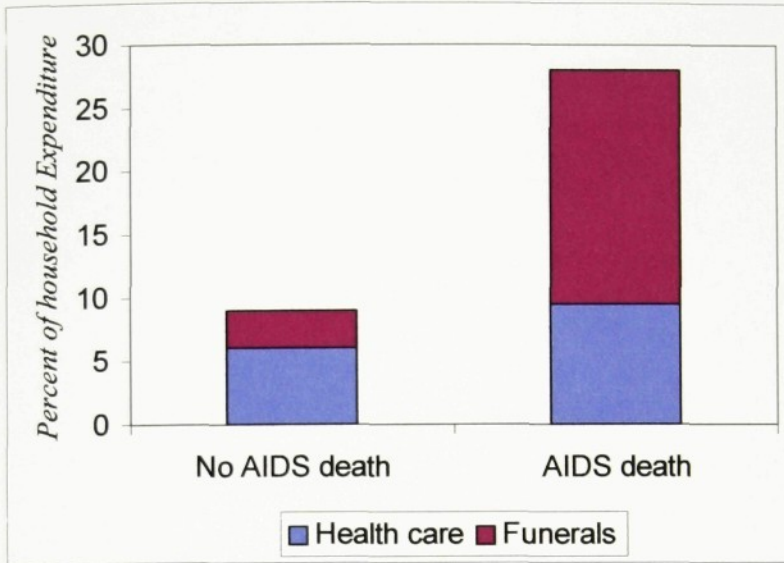
<sup>16</sup> Bechu, N. 1998. The impact of AIDS on the economy of families in Cote d'Ivoire: Changes in Consumption among AIDS-affected households. In M Ainsworth, L Fransen, And M Over, Eds.

<sup>17</sup> Menon, R, MJ Wawer, JK Konde-Lule, NK Sewankambo, and C Li. 1998. The economic impact Of adult mortality on households in Rakai district, Uganda. In M Ainsworth, L Fransen, and M Over, Eds.

<sup>18</sup> Demeke, M. 1993. The Potential Impact of HIV/AIDS on the Rural Sector of Ethiopia. Unpublished Manuscript, January 1993.



**Figure (11):** Funeral & Health Care Expenditures Increase when An Adult in the Household Dies.



**Source:** The Economic Impact of AIDS, The Futures Group International, Glastonbury, CT, 1999.

## 2.6. 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 labour 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 labour is likely to cause farmers to switch to less-intensive-intensive crops. In many cases this may mean switching from export crops to food crops.<sup>19</sup> Thus, AIDS could affect the production of cash crops as well as food crops.

<sup>19</sup> AIDS and STDs Control Programme, 1998. Ministry of Health and Child Welfare, 1998. *HIV/AIDS in Zimbabwe*. Harare: National AIDS Coordination Programme, 1998.

A study done by the Zimbabwe Farmers Union (ZFU) showed that the death of a breadwinner due to AIDS will cut the production of maize in small scale farming and communal areas by 61%. Similar results were obtained for other crops (see table).

The fall in output results from losses of intensive and remittances and the need to spend scarce resources on medical expenses.

**Table (2):** Reduction in outlaid-affected  
Households, Zimbabwe.

Crops	Reduction in output
Maize	61%
Cotton	47%
Vegetables	49%
Groundnuts	37%
Cattle Owned	29%

**Source:** (Kwaramba 1997)



## ***2.7.Impacts on Other Economic Sectors***

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

### ***2.7.1. Health***

AIDS will affect the health sector for two reasons:

- It will increase the number of people seeking services.
- Health care for AIDS patients is more expensive than for most other conditions.

The number of AIDS patients seeking care is already overwhelming health care systems. In many hospitals in Africa, AIDS patients now occupy half of hospital beds. AIDS is also an expensive disease. The graph shows projected expenditure on AIDS as a percentage of public health spending for three African countries<sup>20</sup>. On average, treating an AIDS patient for one year is about as expensive as educating ten primary school students for one year. Governments will face trade-offs along at least three dimensions:

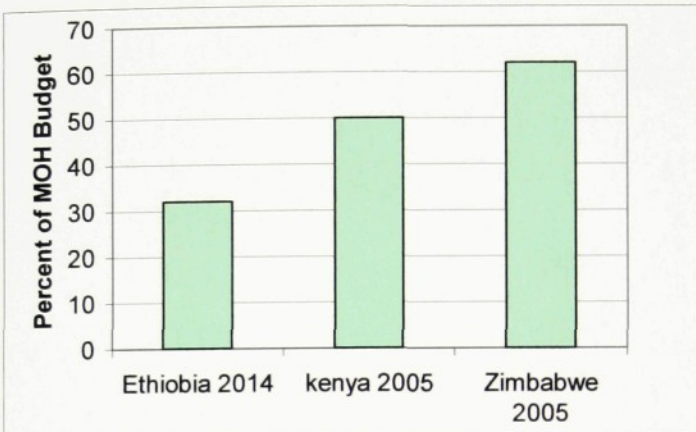
- Treating AIDS versus preventing HIV infection.
- Treating AIDS versus treating other illnesses.
- Spending for health versus spending for other objectives.

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.

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<sup>20</sup> Ministry of Health, 1998. *AIDS in Ethiopia, Second Edition*, Addis Ababa: Epidemiology and AIDS Department, 1998. NASCOP, 1998. *AIDS in Kenya, Fourth Edition*. Nairobi: National AIDS and STDs Control Programme, 1998. Ministry of Health and Child Welfare, 1998. *HIV/AIDS in Zimbabwe*. Harare: National AIDS Coordination Programme, 1998.

**Figure (12):** Potential AIDS Treatment Coasts as a Parent  
Of the Ministry of Health Budget



**Source:** The Economic Impact of AIDS, The Futures Group International, Glastonbury, CT, 1999.

### 2.7.2. 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.

A survey of bus and truck drivers in Cameroon found that<sup>21</sup>:

- They spent an average of 14 days away from home on each trip.
- 68% had sex during the most recent trip.
- 25 % had sex every night they were away.
- Most transport managers are highly trained professionals who are hard to replace if they die.

<sup>21</sup> *AIDS Analysis Africa*, Vol. 4 (5), September/October 1994.



Governments face the dilemma of improving transport as an essential element of national development while protecting the health of the workers and their families.

### *2.7.3. Mining*

The mining sector is a key source of foreign exchange for many countries. Most mining is conducted at sites far from population centres 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.

### *2.7.4. 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.

### *2.7.5. Natural Resource Management:*

The Forestry Department of Kenya has estimated that since 1988 it has lost an average of 36 employees a year (2-4 employees/month) due to HIV/AIDS.

Environment professionals such as wildlife veterinarians, silviculturists The Forestry Department of Kenya has and plant pathologists are highly educated professionals, with the cost of training replacement personnel as high as \$40,000 per person<sup>22</sup>.

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<sup>22</sup> Dwasi, Jane. Impact of HIV/AIDS on Natural Resource Management in Africa: Case Studies of Botswana, Kenya, Namibia, Tanzania, and Zimbabwe, 2002.

## *2.8. Summary of 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 labour and worker benefits are small. Other studies have found significant macroeconomic impacts.
- Studies in Tanzania, Cameroon, Zambia, Swaziland, Kenya and other sub-Saharan African countries have found that the rate of economic growth could be reduced by as much as 25 percent over a 20-year period.

There are several mechanisms by which AIDS affects macroeconomic performance:

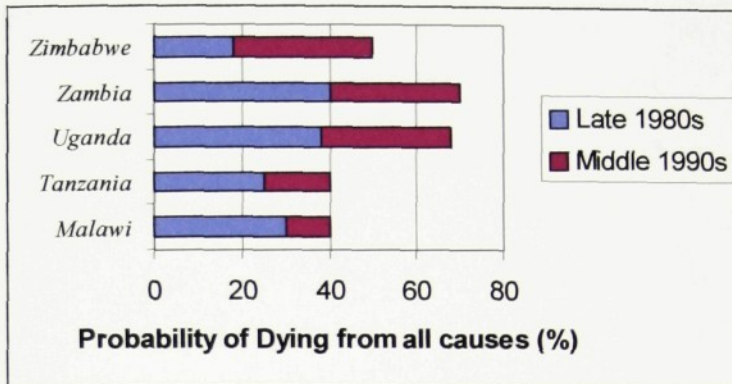
1. AIDS deaths lead directly to a reduction in the number of workers available. These deaths occur to workers in their most productive years. As younger, less experienced workers replace these experience workers, worker productivity is reduced. The graph illustrates the magnitude of the problem in five African countries<sup>23</sup>. It shows the increase in mortality among men of working age from the late 1980s to the mid-1990s. Most, if not all, of this increase is due to AIDS.

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<sup>23</sup> UNAIDS, 1998. Report on the global HIV/AIDS epidemic, June 1998. Geneva: UNAIDS, WHO. 1998.



**Figure (13):** Increase in Mortality among Men 15 - 16



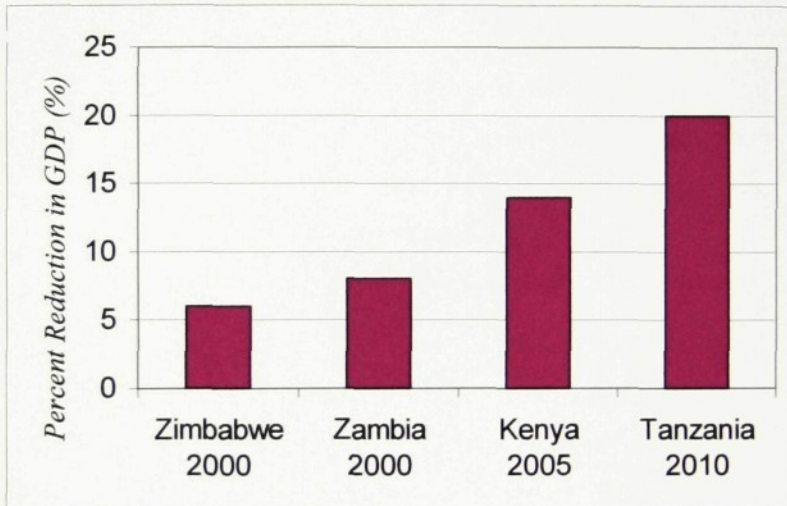
**Source:** The Economic Impact of AIDS, The Futures Group International, Glastonbury, CT, 1999.

2. A shortage of workers leads to higher domestic production costs. Higher production costs lead to a loss of international competitiveness, which can cause foreign exchange shortages.
3. Lower government revenues and reduced private savings (because of greater health care expenditures and a loss of worker 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.
4. Reduced worker productivity and investment leads to fewer jobs in the formal sector.
5. As a result some workers will be pushed from high paying jobs in the formal sector to lower paying jobs in the informal sector.
6. The overall impact of AIDS on the macro-economy is small at first but increases significantly over time.

A World Bank study examined the macroeconomic impact of AIDS in 30 sub-Saharan African countries<sup>24</sup>.

This study concluded that the net effect is likely to be a reduction of the annual growth rate of GDP of 0.8 to 1.4% points per year and a 0.3% point reduction in the annual growth rate of GDP per capita.

**Figure (14):** Percent Reduction in Future GDP due to AIDS



**Source:** The Economic Impact of AIDS, The Futures Group International, Glastonbury, CT, 1999.

- A simulation model of the economy of Cameroon concluded that as much as 2 percentage points could have reduced the annual growth rate of GDP during the 1987-1991 period because of AIDS<sup>25</sup>.

<sup>24</sup> Over, Mead, 1992. "The Macroeconomic impact of AIDS in Sub-Saharan Africa," The World Bank Technical Working Paper No. 3., 1992.

<sup>25</sup> Kambou, Gerard, Shantayanan Deverajan and Mead Over. 1992. "The Economic Impact of AIDS in an African Country: Simulations with a Computable General Equilibrium Model of Cameroon", *Journal of African Economies*, Volume 1, Number 1.



- A study of the macroeconomic impacts of AIDS in Zambia found that by 2000 the GDP would be 5 to 10 percent lower because of AIDS than it would be if there were no AIDS affecting the population. The authors concluded, "...Without unprecedented infusions of free foreign aid to mitigate the effects of AIDS, the economy of Zambia will suffer considerable damage."<sup>26</sup>
- An assessment of the macroeconomic impacts of AIDS in Tanzania by the Government of Tanzania, the World Bank and the World Health Organization in 1991 found that total GDP would be 15 to 25% smaller in 2010 because of the impact of AIDS.<sup>27</sup>
- A study of the impact of AIDS on the economy of Kenya projected that GDP will be 14% lower in 2005 than it would have been without AIDS. GDP per capita will be 10% less in 2005.<sup>28</sup>

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<sup>26</sup> Forgy, Larry. 1993. "Mitigating AIDS: The Economic Impacts of AIDS in Zambia and Measures to Counter Them," REDSO/ESA, February 1993.

<sup>27</sup> Cardington, JT, 1992. Modeling the Macroeconomic Effects of AIDS, with an Application to Tanzania, World Bank Economic Review, 7(2): 172-189.

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## CHAPTER III



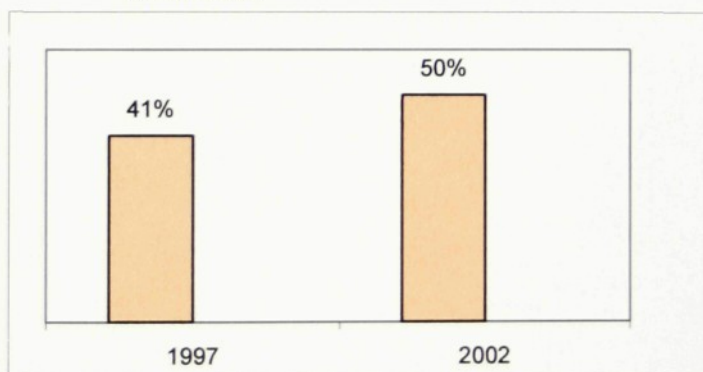
### 3. THE CHALLENGE OF HIV/AIDS

As the world enters the third decade of AIDS, it is becoming clearer than ever that this is the most devastating disease humanity has ever faced. Driven by stigma and inequality the global epidemic makes ever-deeper inroads into human security.

“This year, for the first time in the epidemic’s history, the number of women living with HIV has risen to 50% of the global total”<sup>29</sup>.

- In sub-Saharan Africa, women represent almost 6 in 10(58%) living with HIV/AIDS.
- In the USA, women represent 30% of new infection<sup>30</sup>.

**Figure (15):** Women as % of adults living with HIV/AIDS Worldwide.



**Source:** Kaiser Family foundation. February 2003.

<sup>29</sup> AIDS epidemic update Joint United Nations Programme on HIV/AIDS (UNAIDS)  
World Health Organization (WHO) December 2002

<sup>30</sup> Kaiser Family foundation. February 2003

We need to remind ourselves of ways in which stigma and inequality push women to the end of the treatment queue, exacerbate HIV risks, sustain sexual violence and deprive girls of schooling. Yet we also need to remember that women's organizing in care, support and community education has been one key to success against the epidemic.

In Africa, AIDS has had a catastrophic effect on food security. With millions killed by AIDS, and millions more left ill, whole communities have been left defenceless when drought arrives. There are urgent appeals under way to support these badly affected communities, and the UN system and others are working to ensure that when food assistance is provided, there will also be specific attention to AIDS care and prevention.

The good news is that even the most severe HIV epidemic can be turned back, when HIV prevention and care are tackled seriously through community-wide efforts with the full support of governments, community organizations, religious institutions, and business. In every continent across the world, from cities and rural areas, we have examples of safe behaviours resulting in markedly lower HIV rates. The extension of access to care is slowly gaining momentum, and brings hope to millions.

The World AIDS Campaign for 2002-2003 is a big challenge to fight discrimination related to HIV/AIDS wherever we find it – in workplace, in town or village, in school, in place of worship? Only, when we make the virus our common enemy, not those affected by it.

The Human Immunodeficiency Virus (HIV), which causes AIDS, was first identified in 1981.

Since then, HIV has spread around the world, causing one of the most severe global epidemics of modern time. The initial response was led by the public and non-profit sectors, which have mobilized increasing human and financial resources to combat the disease, for which there is as yet no cure. Increasingly, the private sector is becoming aware of the impact that HIV/AIDS is having on its workforce, production systems, markets and the local communities in which it operates.

Significant drug developments have been made in antiretroviral therapy that has been able to prolong life for many in the more developed countries, but there is still no cure. Moreover, for the majority in developing countries the costs of treatment are currently too high and the care infrastructure insufficient. Research into vaccines is currently being



undertaken, yet there is little expectation amongst medical specialists of any vaccines being available for at least 10 years. As a result, recent efforts have been undertaken to extend research into drugs and behavioural changes to reduce the virulence and prevalence of the opportunistic diseases.

### **3.1. THE GLOBAL AND REGIONAL TRENDS**

Two decades after HIV/AIDS emerged as a new virus, it has now reached almost every country in the world. UNAIDS figures, reported in December 2002, estimated that globally there were<sup>30</sup>:

1. Number of people living with HIV/AIDS Total 42 million

- Adults 38.6 million
- Women 19.2 million
- Children under 15 years 3.2 million

2. People newly infected with HIV in 2002 Total 5 million

- Adults 4.2 million
- Women 2 million
- Children under 15 years 800 000

3. AIDS deaths in 2002 Total 3.1 million

- Adults 2.5 million
- Women 1.2 million
- Children under 15 years 610 000

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<sup>30</sup> AIDS epidemic update Joint United Nations Programme on HIV/AIDS (UNAIDS)  
World Health Organization (WHO) December 2002

Breaking these figures down reveals that around half of all people who become infected with HIV do so before they reach the age of 25 and most will die of AIDS or related illnesses before they are 35.

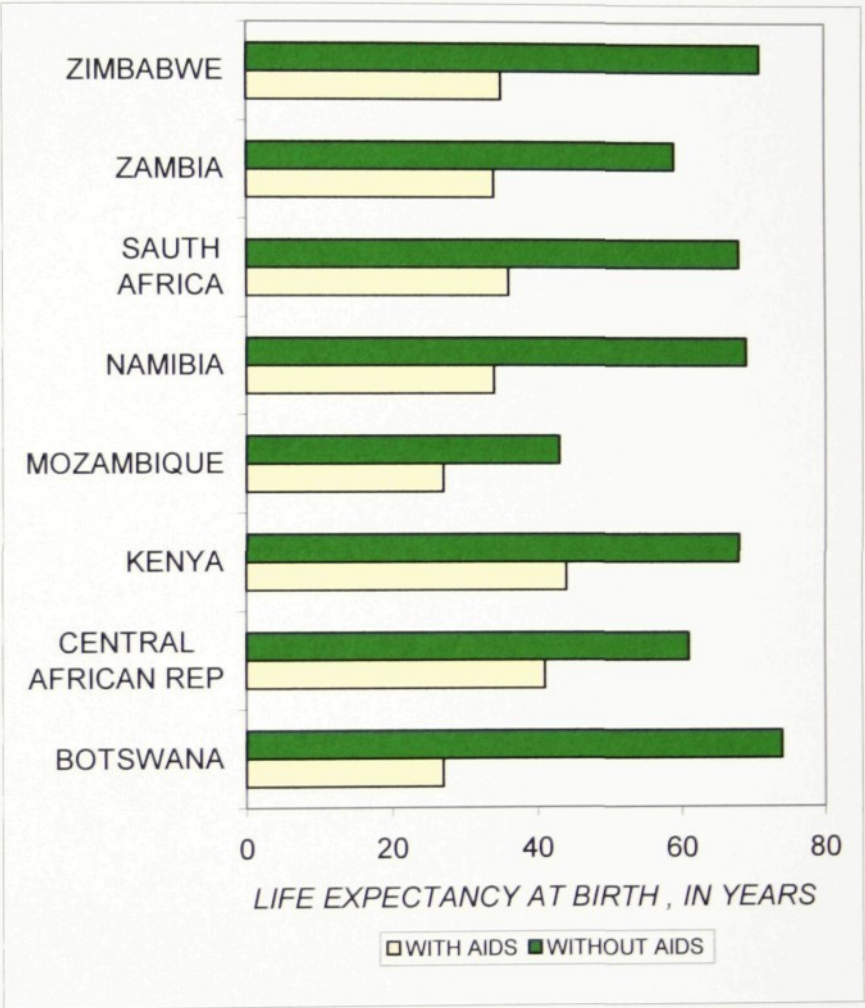
This means that HIV/AIDS is affecting some of the most creative and economically active people.

In addition, some 95% of people with HIV/AIDS live in developing countries, where the ability to provide prevention and care is more limited. As Figure (16) shows, the result will be to reduce significantly the life expectancies within many of these countries. The U.S. Bureau of Census has predicted that by the year 2010, eight to 31 years of life will have been lost in those countries most affected by HIV/AIDS in sub-Saharan Africa. HIV/AIDS is also leading to the resurgence of other diseases, such as tuberculosis (TB), increasing public health threats and reducing the gains made over many years of health programmes.

In the more developed countries, the gains made in reducing the rate of spread of HIV/AIDS through aggressive awareness campaigns is being eroded by possible complacency, a result of the successes of life-prolonging antiretroviral therapy. In Eastern Europe there are worrying signs, with the newly independent states of the former Soviet Union seeing the proportion of the population living with HIV/AIDS double between 1997-99, largely through unsafe injection of drugs.



**Figure (16):** Projected impact of AIDS on life expectancy in select countries by 2010.



Source: U.S. Bureau of Census, 2000, 2002.

### **3.2. FACTORS INFLUENCING THE SPREAD OF HIV/AIDS**

There are a significant number of factors that have contributed to the spread of HIV/AIDS, not least poverty, illiteracy, and the status of women. However, two key factors that have been critical to the global spread of the disease are of particular relevance to business:

- Ignorance and denial
- Increase in mobility and industrialization.

#### *3.2.1. Ignorance and denial*

Many people, particularly in the developing world, remain either uninformed or misinformed about the nature of HIV/AIDS and have little access to available preventive measures. Misconceptions abound about HIV transmission, such as transmission through sharing of food, cups and clothes, kissing and mosquito bites as well as non-transmission through a single unprotected sexual encounter and sex with healthy-looking partners. These and similar misconceptions are common in every part of the world. Such erroneous beliefs have led people not only to ostracize those who are infected, but also to fail to take precautions to protect themselves, thus unwittingly contributing to the spread of the disease.

Through its marketing and other channels, in addition to its extensive reach and influence, business is one of the world's great sources of information and therefore is in some ways uniquely positioned.

How business chooses to address and depict HIV/AIDS issues can be a major force in changing attitudes, particularly among young people.



### *3.2.2. Increase in mobility and industrialization*

The rapid spread of the disease is directly linked with the development of the global economy and the significant growth in international trade and travel. Without such extensive and interlinked transportation systems, the disease would never have moved as quickly as it has.

Increases in migration and international travel/transit have made large numbers of people around the world more vulnerable to HIV/AIDS. Certain groups, due to the nature of their professions, are particularly vulnerable to HIV infection, such as those in the transport sectors. In the developing world, males in particular are moving from villages to cities to find work. Industrial enterprises such as mines, oilfields, and road- and dam-building projects attract migrant labour, particularly people from the burgeoning youthful populations living on the edge of poverty. Urbanization only further exacerbates the situation. In these circumstances, the resulting breakdown in traditional values and rise in multi-partner sexual relations increase the likelihood of infection.

Globalisation of production and economic liberalization have encouraged companies to search for new workforces and markets around the world. This in turn has contributed to the pattern of migration towards particular areas of employment, with men typically working in heavy industry and women in light manufacturing. This gender differentiation has promoted the migration of sex workers to these localities, for example to the shipbuilding areas in Gujarat, India, and the mining regions of South Africa.

Such situations can affect anyone, including business workforces, customers, and the communities in which they are active. For this reason, the vulnerability of populations to HIV/AIDS is an important consideration for the private sector.

### **3.3. THE PUBLIC AND NON-PROFIT SECTOR RESPONSE**

Not surprisingly, the main response to the epidemic so far has come from public sector agencies since HIV/AIDS is a public health and development issue of the highest order. In the early years, the main aims were to:

- Identify and understand HIV in its various forms.
- Clearly identify the means of transmission.
- Protect the public blood supply.
- Carry out prevention education, information and communication campaigns to the general public and those whose circumstances put them at particular risk.
- Research new drugs, vaccines and treatments, seeking a cure.

Create codes of conduct for governments, employers and others to protect human and employment rights of those with HIV/AIDS.

Work remains to be done in all these areas. The vast majority of human and financial resources committed to fighting HIV/AIDS are deployed by the public sector, but non-profits – or as they are more commonly known in the developing world, non-governmental organizations – have also played a vital role in combating HIV/AIDS. They can provide real expertise in social research, care for those with the disease, and public education campaigns for specific groups and the wider public. While their activities may be small in relative terms compared with public sector agencies, they often undertake highly innovative work. The direct contact that NGOs have with vulnerable populations allows them to influence public policy through example and lobbying. They tend to work closely with the public sector, but are becoming increasingly important to businesses as they seek to find ways to respond to HIV/AIDS.

The growing involvement by business referred to above is largely a result of the increasingly tangible impacts that HIV/AIDS is having on business operations worldwide.

This impact and the important role it has in convincing businesses to engage in the response to HIV/AIDS.

### ***3.4. The main impact of HIV/AIDS***

About This section we can see three points:



- a) HIV/AIDS has an impact at all levels of the economic system - macro, meso and household - and these interrelated impacts feed on each other to create a vicious cycle.
- b) HIV/AIDS impact at all levels is evidenced by three main indicators:
- The loss of manpower and skills.
  - Changes in the population structure and the erosion of whole production and consumption bands, with consequent distortion of resource allocation due to changes in demand for goods and services.
  - Deterioration in management capacity and governance.
- c) The most direct impact of HIV/AIDS mortality and morbidity is at the household level, the base building blocks of the economy. It reduces their ability to work, generate adequate income, save and invests, and increases their dependency on the state. These factors change the extent and nature of demand for the services and output of different sectors such as agriculture, education and health, and will place unprecedented strain on social service delivery.

In addition, the lead-time involved in replacing skilled manpower losses due to HIV/AIDS and the associated loss of experience and institutional memory, will reduce sectorial capacity to produce goods and services and meet the needs of households and the macro-economy. This will in turn reduce or slow economic growth.

The destructive erosion of HIV/AIDS is not occurring on neutral ground:

Its advent coincides with a number of complicating socio-economic and development factors, and its primary impact is to exacerbate these as well as existing and residual levels of societal and sectorial dysfunction.

It is unfortunately true that many high-prevalence countries also suffer residual problems of limited human resource capacity, suggesting that this lack of sustainable management capacity and associated systems may overlay a vicious cycle of vulnerability.

The assumption that technology alone may resolve these problems is also misleading and requires instead a systematic process of training and empowerment, based on need, rather than simple supply-driven interventions.

Indeed, the move to technology enhanced economic growth has slowed, and in some sectors obliterated job creation in the developing world, providing an uncomfortable reminder that development has its costs. Globalisation and changing trade dynamics too have contributed significantly in some developing economies to deepening poverty and unemployment, and economic gaps may in fact be widening along these fracture lines, further stressing the micro and meso economy.

Sectorial level actions could be most effective in economic mitigation. They are the link between macro policies and programs and the ultimate beneficiary – the household.

Stronger sectorial systems could help and implementing policies and Programs.

The sectors play a key role in:

- I. Providing stronger support to households to meet their needs (orphan care, health services, micro and small scale enterprise) more adequately.

This will influence their decisions on savings, investments and productivity. The World Bank has documented examples of the successes of stronger sectorial policies and their impact at the grassroots-level recently in Uganda. In that country, the education sector, with more inclusive and equitable policies, has reached the orphans better than the health sector with no such policies

Similarly, besides medical and social care, support for micro-enterprise and micro-finance activities for affected families and communities are growing.

However various studies have indicated that for sustainability and success, these activities depend on the extent to which they are linked to growth sectors.

- II. Contributing better to national output as a result of increased efficiency through better management of sectorial resources.
- III. Adopting policies that may bring about behaviour change. Examples include improvement in girls' education, women's empowerment and the provision of housing for families posted away from home.



## CHAPTER IV

#### **4.WHAT ELSE CAN BE DONE?**

In many countries, infections are heavily concentrated among injecting drug users and their partners and among commercial sex workers, most of whom are poor.

Even in Africa, where the epidemic is now widespread, it appears that HIV infection rates are starting to fall among more educated women while continuing to rise among those with little or no schooling.

Fortunately, policymakers now have at their disposal a new tool--- the Poverty Reduction Strategy Paper (PRSP)--- that greatly facilitates mainstreaming the fight against HIV/AIDS.

The donor community as a framework for technical and financial support can use the PRSP, which sets out a country's approach to poverty reduction. Moreover, its usefulness has been dramatically enhanced in recent years by the availability of debt relief for the world's poorest countries.

##### ***4.1.Poverty reduction tool***

What exactly are the PRSPs?

They are documents in which low income countries describe the policies and programmes they expect to put in place to promote growth and reduce poverty, the associated external financing need, major search of financing. Each country prepares its own (PRSP) with input from domestic stockholders and external development partners.

To be effective, a country's poverty reduction strategy should be led by the country itself;

Aim for faster economic growth that specifically addresses the needs of the poor.

Reflect a comprehensive understanding of poverty and its determinants.

Help identify the public actions that have the greatest impact on poverty.

Establish outcome indicators that are set and monitored by the government, with domestic and external input.

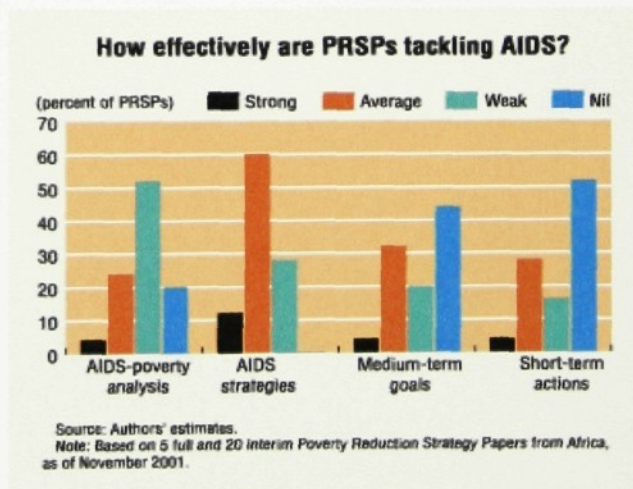


Partly to qualify for debt relief under the Heavily Indebted Poor Countries (HIPC) Initiative, launched by the IMF and the World Bank in 1996, about 40 low-income countries took the first steps toward elaborating a full PRSP during 2000-01 by preparing an interim PRSP in which they began to analyse the extent and causes of poverty and the main actions needed to combat it, and outlined the process for producing a full strategy. By the end of 2001, 8 countries had completed and published full PRSPs, and many others were working to complete their full PRSPs.

Recently, the UNAIDS Secretariat reviewed the first generation of 25 full and interim PRSPs prepared by sub-Saharan African countries to get a sense of how well they are dealing with HIV/AIDS. The review was based on four criteria:

- Analysis of the relationship between AIDS and poverty.
- Inclusion of the main strategies from the country's national AIDS plan.
- Use of medium-term AIDS prevention and care goals and indicators for monitoring poverty.
- Incorporation of monitor able short-term actions to fight HIV/AIDS (see the figure).

**Figure (17):**



Source: Finance & Development. IMF. 2002

### What was the verdict?

The initial signs were promising, but far more could be done to fully exploit the potential of PRSPs. The countries rated highest on inclusion in the PRSPs of approaches for fighting AIDS drawn from their national AIDS plans. Their analysis of the relationship between AIDS and poverty was generally weak, however, even in countries where research has been done on the social and economic impact of the epidemic. The elaboration of short-term actions and medium-term goals on AIDS was also generally weak or even nonexistent. The review did not examine the quality of national and local participation.

Clearly, future PRSPs can provide a sounder basis for making decisions about AIDS funding if they pay more attention to the links between AIDS and poverty. Poverty strategies can draw on the growing evidence of the impact of HIV illness and AIDS deaths on household production and incomes, school attendance, and child nutrition. In addition, the main AIDS prevention and care strategies need to be more clearly defined, for example, working through schools and peer counsellors to change the sexual behaviours of young people and using nongovernmental organizations (NGOs) to reach commercial sex workers and their clients with information, condoms, and care for other sexually transmitted infections. The identification of medium-term AIDS goals and indicators in each country should build on the targets already agreed upon as part of the Millennium Development Goals, including reducing the incidence of new HIV infections among 15-24-year-olds and of infections transmitted from pregnant women to their unborn children.

Uganda, one of Africa's worst affected countries, has become the continent's success story and can serve as a model for others. It has succeeded in reducing the HIV prevalence rate in young women from 25 percent in 1992 to 8 percent today. Uganda's PRSP describes the impoverishing effects of AIDS on women, orphans, and households. It highlights strategies for reducing new HIV infections, mitigating the health and socio-economic effects of the epidemic, and improving Uganda's capacity to respond to the problem. The PRSP then sets an overall target for reducing HIV prevalence in the adult



population, as well as more detailed objectives and targets, such as reducing violence against women and improving access to AIDS counselling, care, and social support.

Mozambique's PRSP is also worthy of emulation. The paper explicitly links AIDS to growth prospects and household poverty. It then lays out strategies to combat the epidemic in education, agriculture, and health; sets short-term targets for program implementation that can be assessed over the next four years; and estimates the costs of these actions.

#### ***4.2. Resources from debt relief***

Another major development in the last few years has been the availability of—and potential to marshal—new resources in the fight against AIDS through the HIPC Initiative. This Initiative was enhanced in 2000 to make more funds available to more countries more quickly. As of early 2002, 24 countries had concluded debt-relief agreements under the Initiative, with substantial debt-service savings. On an annual basis, these countries will pay about \$0.8 billion less in 2001-03 than they did in 1998-99.

How much of these savings are going toward health care—keeping in mind that all eligible HIPCs must prepare PRSPs to ensure that savings go toward poverty reduction? Early indications suggest that, on average, HIPCs will spend about 25 percent of their annual interim debt relief on health care. As for AIDS, data from 10 low-income African countries from this group (Benin, Burkina Faso, Cameroon, Madagascar, Mali, Mauritania, Mozambique, Tanzania, Uganda, and Zambia) suggest that, together, they are budgeting some \$32 million for AIDS activities, or about 5 percent of their HIPC savings, in 2001. In some other HIPCs, however, little or no money from debt-relief proceeds has been specifically allocated to HIV/AIDS.

Perhaps the most promising development is that, in many of the HIPC agreements, governments have committed themselves to key actions against AIDS. Global NGOs have played an important role in providing impetus to this movement.

#### *4.3. What else can be done?*

Looking ahead, the international community needs to focus on five areas:

First, policymakers should improve the quality and presentation of HIV/AIDS prevention and care efforts in poverty reduction strategies.

Guidelines and examples of good practice are available and should be updated as more is learned. The standard AIDS outcome indicators, such as the rate of new infections in young women, already endorsed by developing countries at the UN special session on AIDS in June 2001 could be usefully adopted in the PRSP.

National AIDS commissions and their various partners, including the World Bank, UN agencies, local research institutions, and NGOs, can bring these guidelines and indicators to the attention of ministries of finance, which typically lead the PRSP process at the country level.

Second, international development institutions should vigorously support the development of national capacities to design, implement, and monitor AIDS strategies as part of the PRSP and debt-relief processes.

Early work by UNAIDS and its partners to create networks of English-speaking and French-speaking specialists is starting to bear fruit. These capacity-building initiatives need to be sustained and extended beyond Africa.

Third, despite the many legitimate competing claims on their budgets for primary education, basic water supplies, and other areas, countries should devote a



larger percentage of debt-relief savings to HIV/AIDS than the typical 3-10 percent observed to date in countries with very high levels of HIV infection.

To avoid a social and economic catastrophe from AIDS in Africa, for example, it is estimated that \$3-4 billion a year will have to be spent to mount a major counterattack on the pandemic. If 20 percent of debt-relief savings were allocated to HIV/AIDS in the first 18 African countries to reach HIPC agreements, the total amount would be nearly \$200 million—not enough but still an important contribution to the several billion dollars required.

Fourth, countries should strive to cost their national AIDS plans fully, develop realistic financing schemes to back these plans, and ensure that this financing is reflected in annual national budgets and in medium-term public expenditure frameworks.

Few countries have costed their national AIDS plans, and those that have done so have not incorporated them in their national budgeting systems. Some positive signs have begun to emerge in, for example, Burkina Faso and Mozambique, where some AIDS activities have been included in PRSP budget tables. Further steps in this direction will help make senior public officials fully aware of the HIV/AIDS problem, increase accountability for spending and results in fighting the pandemic, and improve the chances that national AIDS programs will receive funding from national governments and donors on a sustained basis.

Fifth, the international community will need to increase its financial support for AIDS programs in the poorest countries to complement domestic spending through debt relief and other sources.

The costs of an adequate response to the pandemic globally are so vast—around \$10 billion a year—that neither additional resources generated through debt relief nor reallocations from existing government spending programs will suffice in most developing countries.

Ongoing initiatives to put HIV/AIDS squarely at the centre of the world's development agenda have enormous potential for mobilizing the vastly increased political and financial resources required to bring the epidemic under control and to care for affected individuals and communities. PRSPs and debt relief are two such initiatives that offer hope. These, combined with other new mechanisms—such as the Global Fund for AIDS, Tuberculosis, and Malaria, which is expected to begin its operations in the first half of 2002—must be understood and exploited if the international community is to build and sustain an adequate response to AIDS.



## 5.CONCLUSION

AS we saw an economy might be thought of as a consequence of the collective activity of large numbers of people and will therefore be affected by any epidemic or failure of public health that undermines the ability of people to work.

The HIV/AIDS epidemic does this in a number of different ways:

At aggregate, corporate, household, and government levels.

**First,** HIV/AIDS causes mortality to rise, particularly among the working age population.

**Second,** HIV infection causes affected people to become sick more often and also fuels parallel epidemics, such as tuberculosis.

The mechanisms are often referred to as “channels,” whereby HIV/AIDS can be expected to reduce the growth rate of GDP below what it would otherwise have been. It is, however, important to note that population growth will also be reduced by HIV/AIDS. There is no *a-priori* reason to assume that the impact on GDP will be greater than that on population. For this reason, the impact on per capita GDP, or average incomes, may not necessarily be negative.

Lower economic growth will also affect consumption demand, which suggests that the market for firms depending on local consumers will grow more slowly due to AIDS. Furthermore the widespread impacts on the labour market (via labour supplies, productivity, and labour demand) are likely to affect wages and employment, both of which could either rise or fall depending on how the other variables interact.

Although macroeconomic impact is often conceived in terms of GDP, it is important to note that GDP (or even per capita GDP) is not a measure of welfare. Socially unproductive activities such as increased household and government expenditure on health care related to HIV (often termed “defensive” expenditure) will be counted as a

part of GDP, even though they are not part of what would normally be thought of as productive activity. Impact should perhaps be measured in terms of a more satisfactory indicator of socially productive economic activity.

The HIV/AIDS epidemic has a heavy macroeconomics impact, owing in part to the high costs of treatment, which divert resources from productive investments.

The most serious impacts of HIV/AIDS are felt at the level of households, that are more likely to fall into poverty; of firms, that face higher employment costs and of governments, that are likely to face falling revenue and rising expenditure demands. The extent of these effects will form important research areas in the coming years and are probably more important than further studies of impact on aggregate GDP.

And is necessary to understand how the HIV/AIDS epidemic impacts on the macro-economy, to motivate policymakers to commit resources to prevention and mitigation of the disease.

I concluded that, the most studies of macroeconomic impact indicate that the ranges of probable impacts are well within the range of variation that could be expected from changes in economic management. It is, therefore, not likely that further studies of macroeconomic impact alone will yield useful information.

There are three areas where better information is urgently needed.

**The first** of these is to improve our understanding of the impact of HIV/ AIDS on household poverty, and the possible policy interventions that are required.

This will require more work of a quantitative nature than researchers have attempted in the past, and will need to move beyond simulation exercises to well-founded empirical studies.

**The second** area would be to improve our understanding of the relative importance of the different impact channels, in order to inform the policies required to counter them.



This is likely to involve exercises based upon the construction of CGE models, rather than the partial equilibrium or econometric approaches that have formed the majority of studies to date. The impact of possible demographic and behavioural changes resulting from treatment or vaccination programs will also need to be taken into account.

**A third** and related area will be to improve our understanding of the budgetary impacts to government, and how these interact with the economy as a whole.

This is particularly important in an environment where expensive treatment programs are becoming common, and where targeting issues for drug treatments or possible future vaccines are becoming increasingly important.

**Finally**, the war against diseases is not restricted on the doctors as a health instrument, but also on the economists who are making the economic policies to improve and to emendate the economic tendency to achieve socio-economic welfare.

**ABBREVIATIONS**

AIDS	Acquired Immunodeficiency Syndrome.
CDC	The Centre for Disease Control
GDP	Gross Domestic Product
HDI	Human Development Index.
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus.
ILO	International Labour Office
IMF	International Monetary Fund
NGOs	Nongovernmental organizations
PCP	Pneumocystis Carinii pneumonia
PRSP	Poverty Reduction Strategy Paper
SIV	Simian (monkey) Viruses
TB	Tuberculosis
UNAIDS	United Nations Programme on HIV/AIDS
WB	World Bank
WHO	World Health Organization



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