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Issue paper on

A Development Disaster: HIV/AIDS as a Cause and Consequence of Poverty

(Revised version)

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Introduction

This paper, commissioned by the Swedish Parliamentary Commission on Global Development (GLOBKOM), is a revised and updated edition of a paper written for Sida (Swedish International Development Cooperation Agency) in 1999.

The main purpose of the paper is to discuss socio-economic consequences of the HIV/AIDS pandemic, with emphasis on the worst affected countries in Sub-Saharan Africa. Since poverty is both a cause and a consequence of HIV/AIDS, the paper begins with a brief overview of a number of socio-economic factors related to poverty and inequality which facilitate the spread of the virus.

Part 1 Socio-economic Causes of HIV/AIDS

1.1 General

While HIV/AIDS is likely to exist in every country in the world, it is clear that the prevalence of the disease and the capacity to cope with it vary considerably between different countries, and between different social groups within each country. And as is the case with so many other natural or man-made disasters, the countries and households most affected by the AIDS epidemic tend to be those least able to cope with it.

In the developed countries, HIV/AIDS has not developed into an epidemic, and the incidence – i.e. the number of new infections – has stabilised, or even gone down among the groups that were most severely hit initially. In rich countries, AIDS has to an increasing extent become a disease among the poor.

In developing countries, on the other hand, the incidence of HIV/AIDS appears to be increasing almost everywhere – with a few, encouraging exceptions – and most rapidly in some of the very poorest countries in Sub-Saharan Africa. Evidence from these countries also indicates that while the rates of infection were highest among urban, relatively well-educated people during an early stage of the disease, the spread of the epidemic is today mainly occurring among the poor, while the incidence of HIV is declining among the better-off.[1]

In certain parts of Asia and the former Soviet bloc countries, the last few years have witnessed a dramatic increase in the number of new infections among some of the poorest and most vulnerable groups, such as sex workers and injecting drug users.

HIV/AIDS appears to be gradually assuming a prevalence pattern that resembles other infections. HIV/AIDS has many, and well-known, unique features, but in general, in countries – or in communitites within countries – where there is a high prevalence of HIV/AIDS, there is also a high prevalence of other economic, social and physical ills.

Lack of respect for basic human rights, and restrictions on the free flow of information, also increase the risk of HIV/AIDS, and prevent the creation of an enabling environment which makes it possible for people to be well informed about HIV/AIDS and to control their own sexuality. All forms of discrimination, exploitation and abuse of power sustain conditions which lead to increased vulnerability to infection.

Discrimination and stigmatisation of victims of HIV/AIDS also tend to aggravate the situation, as this may lead to reduced participation and increased alienation of those at risk of infection and in need of care. As emphasised by Ann Blomberg (1998), "People will not seek HIV-related testing, counselling or treatment if they know that it would mean facing discrimination, lack of confidentiality and other negative consequences... Coercive or punitive health programmes repel people in genuine and acute need of such services" (p. 4).

[1] For evidence pointing in this direction, see World Bank, 1997, Chapter 2. A similar pattern is confirmed in a recent study (Gregson et.al., 2001) based on data from a large number of countries in Sub-Saharan Africa.

Given the fact that HIV/AIDS is primarily a sexually transmitted disease, it is obvious that religious and cultural norms of sexual behaviour also play an important role by affecting, inter alia, the acceptance of the use of condoms, the degree of acceptance of sex before marriage and of extra-marital relations, tolerance of prostitution, etc. While acknowledging the importance of such factors for an understanding of the spread of HIV/AIDS and for the implementation of prevention strategies, the discussion in this paper will concentrate on socio-economic aspects.

The discussion emphasises causes of HIV/AIDS related to sexual behaviour. While other forms of spread of the virus, such as through medical injections or infection through transfusion of poorly screened blood, continue to take their toll in human suffering and should receive proper attention in all preventive strategies, they are of marginal importance for an understanding of major socio-economic causes and consequences of the disease.

And it is only through transmission through heterosexual intercourse that HIV/AIDS can develop into a genuine epidemic, affecting a large part of the population. All other transmission channels, including infection through homosexual contacts or through infected syringes among drug injectors, reduce the disease to a disaster affecting relatively small groups of people.[2]

1.2 Socio-economic Factors Facilitating Transmission

The most systematic collection of statistical evidence on the factors that are believed to influence the prevalence of HIV/AIDS is found in the World Bank's book "Confronting AIDS" (1997). The main findings – corroborated by a number of other studies – are that poverty and inequality exacerbate the spread of AIDS in a number of different ways.

Comparing countries at different levels of per capita income, the World Bank finds a strong correlation between both low income and inequal distribution of incomes and high rates of HIV infection. There is also a strong correlation between the spread of HIV/AIDS and the extent of inequality between the genders as measured by, for example, the gap between adult male and adult female literacy rates.

One common observation in the literature is that poverty and gender inequality make a society more vulnerable to HIV because a woman who is poor, either absolutely or relative to men, will find it harder to control sexual decision-making by saying no to sex, or insist that her sex partner abstain from sex with other partners, or use a condom. As formulated in a study on AIDS in Botswana: "The rapid transmission of HIV in Botswana has been due to three main factors: the position of women in society, particularly their lack of power in negotiating sexual relationships; cultural attitudes to fertility; and social migration patterns." (MacDonald, 1996, quoted in Rubinson et.el., 1998, p. 8). This study also observes the large number of teenager pregnancies in Botswana, and stresses that inequality exists both between men and women, and between the adult and the teenager.

[2] This is not to deny that HIV/AIDS can assume dramatic dimensions within these groups. For example, in some cities in Asia and the former Soviet republics, the prevalence of HIV/AIDS has increased from virtually zero to well over fifty per cent of intravenous drug users in just a few years.

Poverty and lack of education and opportunities among women may also force women to engage in sexual relationships for survival. Men, on the other hand, are normally buyers, not sellers, of commercial sex, and an increase in men's incomes relative to those of women might actually increase the number of sexual partners per man, as well as men's demand for commercial sex, and thereby the risk of HIV transmission.

Enhanced social and economic equality between women and men, leading to enhanced equality between women and men in sexual relations, must be the key to long-term success in the fight against HIV/AIDS.

In studies of susceptibility – i.e. the possibility of an individual or group of people being infected – a number of socio-economic "risk factors" have been identified. High rates of migration, often triggered by poverty and lack of employment opportunities, clearly emerge as a important factor which facilitates the spread of HIV/AIDS. Migrant or seasonal labourers working far away from their families are appreciably more susceptible to contracting HIV than others. The same is true for people with high operational mobility, such as truck drivers.

Military forces, often located near urban centres and consisting mainly of unmarried men, constitute another group which is both highly susceptible to HIV/AIDS and likely to mix with the overall population, thereby acting as a "bridge", or access channel, to groups with low-risk sexual behaviour. In the World Bank study referred to above, the size of a country's armed forces, as measured by the number of soliders as a percentage of the total population, was found to be positively correlated with the prevalence of HIV.

Rapid social and political change may help to spread HIV/AIDS in a number of ways. Traditional social norms and values may be eroded. Poverty, insecurity, drug use and criminality may spread, thereby increasing the risk of HIV being transmitted through new channels.

In the transition economies in the former Soviet bloc, all these factors, as well as a deterioriation of the overall situation as regards employment and social security, are clearly at work.[3]

As evidence of the changes in sexual behaviour that have taken place in the transition economies could be mentioned the truly dramatic increase in the number of other STDs, such as syphilis and gonnorhea, that has been registered in the 1990s. In Russia, the number of new syphilis infections has risen from 5 per 100,000 population in 1990 to more than 260 in 1996. Syphilis rates in Belarus, Estonia, Kazakhstan, Latvia, Lithuania, Moldovia and Ukraine have risen 20-fold to 100-fold since 1990.[4] An aggravating factor in all these countries is, of course, the deterioration in the availability and quality of public health services that has been taken place.

Structural and socio-economic factors of the kind indicated above are important for an understanding of how HIV/AIDS can be transmitted from relatively

[3] For an interesting discussion see, for example, "The Social and Economic Impact of HIV/AIDS in Ukraina", November 1997, or, for a summary of findings from transition economies, Martha Ainsworth (1998).

[4] Figures from Martha Ainsworth (1998).

small "high-risk" groups to the population at large. It should however also be stressed that the overall health situation in a community, and the quality of the health services available, has a profund impact on the ease with which the infection spreads, and on whom it affects.

The risk of infection with HIV through sexual contacts is basically a function of the number of different sexual partners and the risk of transmission per sexual contact. Numerous studies have shown that the latter risk is appreciably higher in poor countries than in rich, one major reason being the much higher prevalence of other STDs in poor countries (and in poor communities in rich countries). Untreated STDs such as herpes or syphilis increase the risk of infection per sexual exposure manifold[5]. This is likely to be an important reason why HIV/AIDS today tends to spread more rapidly among poor people than among rich; clearly, lack of knowledge about STDs, and lack of means to cure them, affects the poor disproportionately.

The slowing down of the incidence of HIV/AIDS among better-off countries and individuals is, of course, highly encouraging. This may also, however, lead to a certain complacency; as HIV/AIDS is gradually being transformed to a disease of the poor, the rich may lose interest.

[5] For evidence see, for example, World Bank (1997).

Part 2
Socio-economic Consequences of HIV/AIDS

The long-term economic effects of HIV/AIDS are yet to be seen, and are therefore unknown.

While a number of studies at the household level from various countries have shed some light on the question of how families are affected by, and try to cope with, HIV/AIDS, there are few studies available that attempt to address the issues at a sectoral or macro level, in particular in a longer-term perspective.

The present chapter begins with a brief presentation of the notions of direct and indirect costs of HIV/AIDS. The bulk of the discussion concerns the question of who will bear the burden of the various costs associated with the disease – i.e. the impact at different levels of society – and the question of coping strategies. In a final section, some broader issues related to long-term socio-economic effects of the pandemic will be raised. Given the uncertainty surrounding all long-term effects, these issues have, as indicated above, to be discussed in a highly tentative manner.

2.1 Costs of AIDS: Direct and Indirect Costs

Contrary to almost all other diseases, sexually transmitted diseases, including HIV/AIDS, affect people in their most productive age. The vast majority of both men and women who are infected are between 15 and 40 years old. Half of all new cases of HIV occur in young people 15 to 24 years old.[6] Girls are strongly overrepresented among the youngest victims; in countries such as Ethioopia, Malawi, Tanzania, Zambia, and Zimbabwe, for every 15–19-year-old boy who is infected, there are five to six girls infected in the same age group (World bank 1999, p. 13).

The standard approach in measuring costs of HIV/AIDS is to assess both direct cost, basically health expenditures and funeral costs, and indirect costs in the form of lost output due to morbidity, disability and premature death.

The direct costs of HIV/AIDS are largely associated with the later stages of the disease. Compared with many other diseases which can be cured, AIDS is costly because many of the opportunistic infections associated with AIDS (TB, pneumonia, and others) are expensive to treat. The extent of actual medical treatment of AIDS patients varies enormously between different countries and income groups, however.

A consistent finding[7] in most studies is that the indirect costs account for 80 per cent or more of the total costs of the disease, which is much higher than corresponding figures for most other diseases. This is explained by the fact that on average, AIDS causes disability and premature death among a younger and more productive population than is the case for most other diseases.

Most – perhaps over 90 per cent – of the indirect costs are accounted for by losses because of premature death rather than of disability or morbidity.[8]

[6] See UNICEF, The State of the World's Children 2002, p. 40.

[7] See, for example, Bromberg et.al. in Cross & Whiteside, 1993, or the World Bank's "Confronting AIDS".

[8] For a discsussion, see Bromberg, op.cit.

2.2 Costs of AIDS: A Household Perspective

It is at the individual and household level that the impact of HIV/AIDS is most felt. In addition to the profound emotional suffering, family members have to incur additional medical expenditures during the last stage of the disease, and funeral expenses after death.

These are the houshold's direct expenditures. Despite a number of adjustment mechanisms – there are, for example, numerous reports of drastic changes in funeral and burial practice in some African countries in order to minimise the costs associated with death – these direct costs represent a very heavy economic burden for low-income households.

Additional economic losses are imposed on families through income lost by those who have given up their work to look after relatives with AIDS.

Household studies from Tanzania and Thailand[9] indicate that AIDS patients are somewhat more likely to seek medical care than people who die from other causes, and more likely to incur out-of-pocket medical expenses. In general, however, households in poorer countries spend appreciably more on funerals than on medical care. According to a study from Tanzania[10], funeral expenses represented about 60 per cent of the direct costs associated with an AIDS victim.

The major cost is, however, indirect: the loss of income – sometimes in the form of remittances from a spouse who worked as a migrant worker – resulting from the loss of a prime-age adult. Given the fact that it is common for both spouses to be infected by HIV/AIDS, many children lose both parents when they are still young.

In many countries, extended families, not least grandparents, face the costs of supporting orphaned dependents. In the worst affected countries in Africa, well over ten per cent of all children are expected to become orphaned by AIDS before they grow up.

Children's education is likely to suffer from the death of parents. Studies from several countries indicate that orphans, and in particular orphaned girls, tend to have significantly lower enrollment rates than other children.

AIDS is not a gender-neutral disease. Marked gender differens in household responses are apparent, with the burden of responsibility for care usually falling on women, and with women with HIV/AIDS being treated more negatively by household members than men.

To compensate for the loss of a breadwinner in the family, a variety of traditional coping strategies are used. In this sense, death from AIDS is not unique. Studies from Tanzania, Uganda and Chiang Mai, Thailand[11] show that altering the composition of the household – for example, by sending one or more dependent children to live with relatives, or inviting an unmarried uncle or aunt to join the household in exchange for assistance with farming and household tasks – is one common strategy which has always been used when illness or death has affected a family.

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[9] For references, see World Bank (1997).

[10] As reported in Committee on World Food Security, 2001, p. 3.

[11] See World Bank (1997), chapter 4.

The extended family network comes under severe pressure in communities with a high prevalence of AIDS, however. Reports from Tanzania, for example[12], reveal that there are cases when the wider community refuses to take up the responsibility for caring for seriously ill household members, the responsibility being left to members of the immediate family.

Small-scale subsistence farmers affected by AIDS have adopted coping strategies which include changes in cropping patterns away from labour-intensive crops. With the death of an adult farmer, the man/land ratio changes, and attempts have to be made to maximise production per unit of labour.

As a result of AIDS, subsistence production to enhance the household´s food security has often tended to replace market-oriented production. Still, in households coping with HIV/AIDS, nutrition generally deteriorates. The family often lacks food and money to purchase food as well as the time and means to prepare the meals, in particular when the mother dies. Research in African countries has shown that food consumption tends to decrease drastically when an adult dies, and that food insecurity and malnutrition were foremost among the immediate problems faced by AIDS-affected households.[13]

Most coping strategies include reduced household consumption. Dissavings are common, often in the form of forced sales of assets: bicycles, radios, cattle, land, etc.

As indicated earlier, some of the coping strategies observed – taking young girls out of school to save school expenses or to make them care for sick relatives, or accepting a bride-price for under-age girls – imply a worsening of the relative situation of girls and women.

The long-term impact at the household level resembles that of the death of an adult breadwinner for other reasons: increased dependency ratios, declining real income, and increased vulnerability.

When richer households purchase assets from AIDS-stricken poorer households, the long-term impact may be to accentuate existing inequalities in the distribution of incomes and assets.

2.3 Costs of AIDS: A Public Health Service Perspective

While the costs of AIDS for the indivudal household are felt in three stages: during illness, death and after death, the direct costs affecting health care systems fall almost exclusively on the second phase, during illness.

As regards the burden of direct costs incurred by the public health system, there are great variations between different countries and between different groups within each country. In rich countries, the public sector normally assumes the major responsibility for costs of medical treatment – which may amount to 10,000 USD per AIDS patient and year, if the latest therapies for AIDS are used – although great differences in this respect are also observed between, say, the United States and most European countries.

[12] See "Household and Community Responses to AIDS in India, Tanzania and Thailand" in "Consultation", Chiang Mai, Thailand, 1995.

[13] See Committee on World Food Security, "The Impact of HIV/AIDS on Food Security", 2001.

Studies from developed countries indicate that the burden on public health services due to HIV/AIDS has been marginal. The far higher prevalence of the disease in many low-income countries signifies, however, that although much less is spent on each AIDS patient, the total effects on the health sector are very large, sometimes devastating.

Data from six hospitals in low-income countries with large epidemics show that the percentage of hospital beds occupied by HIV-positive patients ranged between 39 and 70 per cent (World Bank 1997, pp. 193–194). In some countries not included in this survey – such as Malawi and Zimbabwe – the share of hospital beds occupied by AIDS patients is even higher. In many African countries, public health spending for AIDS already represents over two per cent of GDP, a staggering figure in countries where total health spending accounts for 3–5 per cent of GDP.[14]

In other studies (for references, see Loewenson et.al, 1997, p. 29) it has been estimated that the additional demand for health services may range between 3.5 and 11.5 per cent for an estimated AIDS prevalence of 10 per cent among the adult population.

In addition to increased need for medical treatment of HIV-positive patients, the health sectors in many countries are also suffering from other effects of the epidemic, thereby reducing the supply of services. The strain on the health service system comes from many different sources: deaths of health personnel due to AIDS, extra costs for blood screening and hospital hygiene, increased absenteeism, stress and demoralisation among the staff, and others.

One conclusion that emerges from the specific studies that have been made on HIV/AIDS and health economics is that no public health system is able to cope with a disease for which there is no cure, but which threatens to absorb 50 per cent or more of total resources. In the countries most affected by the pandemic, the governments and public health systems will have to develop their own coping strategies in order to avoid a collapse.

There is, in many countries, a need to reallocate health expenditures in favour of preventive measures. While subsidies for health services which reduce the rate of transmission of HIV (e.g. treatment of other STDs, and reproductive health care in general) or of contagious opportunistic diseases (e.g. TB), or medicines which reduce the risk of mother to child transmission, are fully justified both from a human and an economic point of view, subsidised treatment of AIDS patients may have to be reassessed, and the "mix" between public, private and community-based care is likely to undergo profound changes.

2.4 Costs of AIDS: A Business Perspective

Little research on the effects of HIV/AIDS on employment, productivity, profits and investment in the private sector has as yet been carried out. A few general observations can however be made.

To begin with, the impact on private enterprises largely depends on whether production is demand or supply-constrained. If lack of effective demand is the limiting factor, loss of staff due to AIDS may not be a big problem. In many

[14] For further data, see UNAIDS (2000), pp. 31 ff.

African countries undergoing structural adjustment, "downsizing" of both public and private enterprises has been common, and loss of manpower due to AIDS has largely replaced dismissal of redundant workers.

The overall employment situation, and the availability of different categories of workers, is also of considerable importance. In a majority of countries with a severe HIV/AIDS epidemic, there is high un- and underemployment, especially among unskilled workers.

In South Africa, for example, job creation has been dismal for decades, with total employment of unskilled and semi-skilled workers in 1999 at only 92 per cent of the level in 1970.[15]

As indicated earlier, the fact that AIDS is gradually becoming a disease among the poor also implies that losses of highly skilled professionals – who were often overrepresented among the infected in the early stages of the epidemic – are likely to go down, while future victims will mainly be found among low-skilled workers who are easier to replace.

A World Bank study (discussed in Lowenson and Whiteside, 1997) from five African countries concluded that in most countries, firms were either able to replace the labour, or did not want to.

Even if labour is available to replace losses because of AIDS, enterprises are likely to incur other kinds of costs. Absenteeism increases with the prevalence of AIDS; the number of people on sick leave increases, as does the number of work days lost because of employees attending funerals. There are also reports of breakdowns in production, and of failure to meet quality and delivery targets, as a result of loss of experienced personnel and high turnover of staff.

Another cost is the loss of transfer of knowledge between more experienced workers and younger employees.

When employees who die because of AIDS have to be replaced, companies have to incur recruitment and training costs which can be very high, depending on skills and training requirements and the situation on the labour market.

In many instances, in particular in larger enterprises, the companies provide and finance health care for their personnel. It is also common for both private and public companies to pay sick leave and other social benefits. Top management staff have, in most countries, generous medical benefits, sometimes including expensive treatment abroad, care of the accompanying spouse, and other fringe benefits which may become very costly.

A summary of costs of HIV/AIDS from a business perspective is provided below. Naturally, the structure of costs is the same for the private and public sector, although benefits related to illness and death vary greatly between different employees and category of staff.

[15] Arndt and Lewis, 2001, p. 427.

Chronology of Costs of HIV/AIDS incurred by companies

Timeline	Progression of HIV/AIDS in the workforce	Economic impact on the company
year 0	Employee becomes infected	No costs at this stage
year 1-5	Morbidity begins	Morbidity-related costs are incurred (e.g. absenteeism, lower productivity, medical care)
year 6 or 7	Employee leaves workforce (resigns or dies)	Termination–related costs are incurred (e.g. funeral expenses, pension, loss of morale and experience)
year 7 or 8	Company hires replacement employee	Replacement costs are incurred (e.g.recruitment, training, lower pro-ductivity of new employee)

Source: Based on Thea et.al., Harvard Institute for International Development, mimeo, n.d.

Little is known about private businesses' coping strategies. HIV-preventive measures – such as education campaigns, and free distribution of condoms – are reported from many private enterprises, including commercial agricultural farms. Other coping strategies which have been reported, and which are likely to become further accentuated as HIV/AIDS becomes more and more entrenched, include

- subcontracting and outsourcing in order to reduce risks and avoid the hiring of permanent staff;
- less incentives to invest in training of the workforce;
- a trend towards less labour-intensive production, and mechanisation in sectors or geographical areas where a shortage of labour is emerging:
- a review of existing employment benefits related to sickness and death of employees.

Other, more drastic cost-avoidance strategies may develop, such as the introduction of obligatory HIV tests for newly recruited employees. In come countries, such as Zimbabwe, there is already widespread anecdotal evidence of illegal pre-employment testing of job applicants and screening of applicants to avoid hiring employees with risky lifestyles.[16]

2.5 Costs of AIDS: A Sectoral Perspective

Different economic sectors are obviously affected in different ways by HIV/AIDS. As indicated earlier, the loss of workforce can be expected to be more severe in certain areas where high-risk behaviour is more likely than in others: the mining industry with a high percentage of migrant workers, transportation, commercial agriculture dependent upon seasonal labour, and others.

As in the case of individual firms there are, however, many sectors which are demand-constrained, and for which loss of labourers due to AIDS is not such a serious problem. The crisis-ridden mining industry in Southern Africa is one

[16] See Simon et.al. (2000), where various coping strategies in African businesses are discussed.

example of a sector where total employment shows a declining trend irrespective of AIDS.

A number of trade and private services sectors, often dominated by women, also belong to this category. The mushrooming and often overcrowded urban informal sector – petty trading, and micro-enterprises of various kinds – is largely demand-constrained. The loss of a prime-age adult "micro-entrepreneur" reduces household income for the affected family, but not necessarily total income in the sector as a whole. The non-infected part of the population may actually benefit.

One sector which is often singled out as particularly vulnerable to HIV/AIDS is tourism. While this may be true in some cases – for example, sex tourism in Thailand can (hopefully) be expected to go down – there is reason to believe that in countries such as Kenya, Zimbabwe and South Africa, which also receive large numbers of foreign tourists, there are other factors than HIV/AIDS, in particular the high crime rate and sometimes political instability, which act as more important deterrents.

Depending on the overall economic effects of HIV/AIDS, and the category of households that are most affected, the level and composition of domestic demand will undergo important changes. AIDS-stricken households become poorer, and divert a much higher share of family expenditure on health services and other AIDS-related expenses. Private consumption of a number of commodities is therefore likely to be crowded out. Investment goods – related to e.g. construction and durable consumer goods – may suffer most from the slack in demand.

Within the public sector, education is often badly affected. In some countries, the number of teachers who die from AIDS exceeds the number of new teachers trained each year. In Malawi and Zambia, over 30 per cent of all teachers are estimated to be infected today.

2.6 Costs of AIDS: A Macroeconomic Perspective

The few attempts to assess the effects of HIV/AIDS on long-term growth rates that have been made appear to indicate that the impact as yet has been surprisingly small. In Loewenson and Whiteside (1997, p. 20), the overall conclusion is formulated in the following way:

"Preliminary data based on 51 countries indicated that HIV/AIDS has, so far, had only a small and statistically insignificant impact on these macroeconomic indicators" (i.e. changes in GDP and GDP per capita).

The long-term effects are, of course, more serious. In the worst affected countries, we have as yet only witnessed an HIV, not an AIDS, epidemic – most of the people who are today infected are still healthy and working. Increasing illness and death of large numbers of productive members of society will, of course, reduce overall production and consumption.

Still, most economists argue that while the effects will be alarmingly obvious in social indicators such as life expectancy, the impact on per capita income will be less dramatic. The major reason is that the countries worst hit by the HIV/AIDS epidemic can all be characterised as labour surplus economies.

One macroeconomic effect which is however often stressed is that aggregate savings and investment are likely to go down as households become forced to reduce savings. Many business enterprises will also suffer from reduced profits and, possibly, reduced incentives to invest and expand, as HIV/AIDS makes the domestic market grow less rapidly.

The effects of HIV/AIDS on foreign trade and the balance of payments situation have not, to my knowledge, been analysed in any country. A reasonable hypothesis is, however, that the effects are rather marginal compared to the impact of the prolonged debt crisis affecting most of the HIV/AIDS-stricken countries. It it is however possible that the impact on the external account may be slightly positive: overall domestic consumption and investment may decline (compared to the non-AIDS situation), while exports are less affected. In sub-Saharan Africa, no major export industry has as yet suffered from shortage of labour because of HIV/AIDS (although production costs have gone up, and irregularities in supply have been encountered).

While all demographers appear to sustain the view that HIV/AIDS will cause the rate of population growth to go down, and in some countries drastically, an absolute decline of total population is unlikely.

The effects on per capita income of the changed age structure of the population are also likely to vary depending on the time perspective we use. Thus, while the demographic structure deteriorates drastically in a short-term perspective, as a result of many deaths in the most productive ages, the demographic pyramide may, in a medium-term perspective, become less unfavourable from the point of view of economic growth. The share of old is going down, and when the incidence of HIV/AIDS begins to decline – as it will, sooner or later, in the worst affected countries – the proportion of prime-age adults in the total population will rise again.

From a human and social perspective, the HIV/AIDS epidemic is a disaster which may lower life expectancy with 10–20 years in many countries, thereby reversing decades of improvements. From a strictly economic point of view, the reduction in life expectancy may not necessarily imply a lower per capita income, however.

It should also be stressed that the development of per capita income is a very bad – in fact highly misleading – indicator of socio-economic consequences of HIV/AIDS. For example, if low-income workers die from HIV/AIDS this would result, everything else being equal, in a rise in per capita income. But not, of course, in "welfare".

Many important socio-economic changes that occur as a result of strategies to cope with HIV/AIDS are also difficult to trace in conventional macroeconomic statistics. For example, the transfer of labour – in particular female labour – to the reproductive sphere of the economy as a result of the increased burden to care for children and sick relatives, or the trend towards subsistence production at the expense of cash crops, are difficult to detect in macroeconomic aggregates.

As indicated above, many economists have found the macroeconomic impact of HIV/AIDS to be surprisingly small, given the scale of the human disaster. All

attempts to even tentatively estimate, in quantitative terms, the macroeconomic effects of the pandemic should be taken with great caution, however, and there is strong reason to believe that prevailing methods – largely based on projections of future labour supply – grossly underestimate the long-term effects.

One reason why growth models are particularly unsatisfactory in the case of AIDS is that the most important impact may be of a very indirect nature, affecting institutions in a broad sense rather than having a direct and immediate macroeconomic impact.

In the worst affected countries, AIDS may lead to an accelerating erosion of social norms and values. Trust and confidence, key preconditions for sustainable development, are likely to suffer. Investments with long gestation periods – in education for individuals, increased productive capacity for businesses – will suffer as uncertainty about the future increases, and time horizons are shortened (see further section 2.7 below).

Conventional macroeconomic models are unlikely to capture what will happen. At our present stage of ignorance, such models should not be trusted.

If we were to summarise the above discussions about economic costs of HIV/AIDS, there are many question-marks and uncertainties but few clearcut answers. The long-term social, political and macroeconomic consequences are largely unknown, and the impact on private businesses and the public administration depends on a large number of factors: costs incurred for different levels of benefits for illness and death, recruitment and replacement costs, situation on the labour market, whether production is demand or supply-constrained, the actual impact on demand for particular goods and services, etc. Still, an attempt is made below to indicate during which stages of the disease the major costs are incurred, and where. The case which is illustrated refers to a country with a "high" prevalence of HIV, i.e. at least 10–15 per cent of the adult population is infected.

Costs of HIV/AIDS: A tentative summary

Stage/period Impact/costs	During illness	Death	After death
Household	Very large	Very large	Enormous
Health sector	Enormous	Small	Large
Business sector and public administration	? (often large)	? (often small)	? Large
Macroeconomic developments (investment, growth, etc.)	Small	Small	? (probable enormous)

2.7 Long-term Socio-economic Consequences: HIV/AIDS and the Black Death

Between 1347 and 1351, the epidemic of plague known as the Black Death ravaged Europe, taking a greater toll of life than any other known epidemic or was up to that time.

The demographic impact was dramatic. The population of England in 1400 was perhaps half of what it had been 100 years earlier, and the entire population of Western Europe did not again reach its pre-1347 level until the beginning of the 16th century.

The consequences of this catastrophe were many. To quote Encyclopedia Britannica: "A cessation of wars and a sudden slump in trade immediately followed but were only of short duration. A more lasting and serious consequence was the drastic reduction of the amount of land under cultivation due to the deaths of so many labourers. This proved to be the ruin of many landowners. The shortage of labour compelled them to substitute wages or money rents in place of labour services in an effort to keep their tenants. There was also a general rise in wages for artisans and peasants. These changes brought a new fluidity to the hitherto rigid stratification of society. The psychological changes caused by the Black Death were also great, insecurity and a constant fear of death leading many into curious excesses of mysticism or to an unhealthy morbidity."

It is possible that HIV/AIDS, in a medium to long-term perspective, may improve real wages for the survivors, as happened after the Black Death. A shortage of labour may develop, and labour's bargaining position may become strengthened. In agriculture, the man/land ratio changes and a change in cropping patterns, and higher wages for agricultural workers, may follow.

There are, however, more differences than similarities between the Black Death and HIV/AIDS. The former was a one-off event: in just a few years, between one-third and one-half of many countries' entire populations were wiped out. The demographic impact was much greater than that of HIV/AIDS – in the short term.[17]

There is less scope for mysticism today than in the 14th century. The fact that HIV/AIDS is often surrounded by superstition, strange rumours and very odd beliefs also indicates, however, that new social, cultural and religious phenomena may accompany the HIV/AIDS disaster in many communities.

The suddenness of the Black Death disaster made it impossible for people to develop coping strategies. The creeping, long-term nature of HIV/AIDS, on the other hand, makes the analysis of adjustment mechanisms the crucial issue.

As yet, we know far too little about socio-economic and cultural coping mechanisms to draw any firm conclusions. But as stressed earlier, scattered evidence indicates that many adjustment mechanisms are already at work.

[17] A more relevant comparison as to the demographic impact could perhaps be made between HIV/AIDS and the slave trade. Just like AIDS, but contrary to the Black Death, the slave trade took place over a long period of time, and deprived the worst affected countries of a large part of their most productive cohorts of the population.

To begin with, people adjust their behaviour. For example, the incidence of HIV/AIDS among the severely affected community of homosexual men in the United States started to fall long before the first public responses were mounted. Within this well-educated community, the overall plateau of the disease – i.e. the level at which the number of new infections balances the number of people dying from the illness[18] – was reached rather early.

In developed countries, this plateau appears to have been reached already, both within "high-risk" groups and within the population at large.

In low-income countries, the lower level of education, and the worse overall socio-economic conditions, makes the plateau higher. As indicated earlier there are, however, signs of a levelling off of the epidemic among well-educated people in Sub-Saharan Africa, as well as in a few countries (e.g. Thailand, Uganda) where massive prevention campaigns have increased people´s awareness of the disease and where public action and spontaneous behavioural adjustments appear to have had a marked effect. Surveys from Uganda, for example, show a rather drastic change in norms of sexual behaviour, not least among the youth.

Depending on a number of different socio-economic and cultural factors – some of which have been discussed earlier – certain countries, and certain communities within each country, will probably witness a stabilisation and eventual decline in the incidence of HIV/AIDS rather soon.

The coping mechanisms that will develop will have a profound but largely unknown socio-economic and cultural impact. In a short-term perspective, social cohesion is likely to become undermined: traditional extended family networks are weakened, existing inequalities will become exacerbated, domestic violence and crime rates may increase.

The impact of HIV/AIDS on social cohesion and on institutions in a broad sense is, in a longer-term perspective, likely to have significant economic consequences. In countries where institutions and social capital are already weak, HIV/AIDS may lead to a virtual social collapse, with problems related to crime, vast numbers of orphaned street children growing up in anxiety and without adult role models, drugs, prostitution, violence and social strife reaching levels which directly affect the economy in a disastrous way through mechanisms such as capital flight, accelerated brain drain, collapse of domestic and foreign investment, etc.

In a very long-term perspective, the effects may be quite different. The monogamic marriage institution is likely to become strengthened. Extra-marital sex, including commercial sex, may become more stigmatised. The fact that HIV/AIDS is connected with the most private sphere of human life will necessitate a more open attitude towards sexual behaviour and reproductive health. Parents will be obliged to tell the truth to their children. Civil society may become strengthened as groups of parents, teenagers, teachers, neighbours and others organise themselves to join forces against the deadly threat.

Conventional gender norms will be challenged. With a high prevalence of HIV/AIDS, the "macho" man with many sexual partners is not a good role

[18] For an intersting discussion about the concept of plateau in the context of HIV/AIDS, see Klouda (1995).

model. HIV/AIDS may help to erode men's dominance in sexual relationships. Women can be granted more control over their own body; after all, rape and sexual abuse of women may be deadly for the men, too.

The challenge of HIV/AIDS requires an open society. Countries where basic human rights are respected, where people are empowered rather than oppressed, and where a free flow of information replaces authoritarianism and superstition are better equipped to cope with HIV/AIDS than others.

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