AIDS: The Challenge of this Century

Prevention, care and impact mitigation

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Now listen, Tarrou, why are you getting involved in all this?

– I don't know. Perhaps for moral reasons.

– Such as what?

– Understanding.

From Camus, The Plague, 1962

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A note on terminology

Throughout this report, the following terminology is used:

HIV relates to HIV 1, the dominant variant of the virus. The different strains of HIV 1 are not discussed in the report. There is also a variant called HIV 2, mainly found in West Africa and not given special attention here.

STD is used to mean sexually transmitted diseases excluding HIV. Although HIV is an STD, the main purpose in this report is to describe the significance of (other) STDs for the spread of HIV.

Adults stands for people in the ages 15–49 years, the period in people's lives where they are sexually most active.

AIDS orphans refers to children below 15 years, who have lost their mother or both their parents to AIDS.

IEC is the internationally used acronym for Information – Education – Communication activities to enable attitude and behavioural change.

MSM refers to men who have sex with men.

IDU is an abbreviation for intravenous drug use.

MTCT refers to the transmission of HIV from pregnant woman/mother to her foetus/child.

AZT refers to the anti-retroviral drug Azidothymidine.

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1. Introduction

Investing for future generations, the Swedish strategy for an international response to the HIV/AIDS epidemic, was published in March 1999. A year later, Sida commissioned this report as a Desk study on the prevention, care and impact of HIV/AIDS in recognition of the need for increased knowledge about the epidemic. The purpose of the study is to provide an analytic and systematic overview.

This report contains a section for each of the three main areas. An introductory chapter with facts and background information about HIV/AIDS is followed by a chapter devoted to experiences gained from many efforts to prevent HIV/AIDS transmission. Chapter four describes efforts, experiences and problems in providing care and support to individuals infected by HIV/AIDS. In chapter five, some of the many impacts of HIV/AIDS are described, as well as efforts to cope with the effects of HIV/AIDS at different levels in societies. A final chapter summarises challenges for international and national communities.

References in brackets give the source of information used in this report. Where no other source is given, statistical data are taken from a recent comprehensive UNAIDS publication (UNAIDS 2000a). A full list of references and a selected bibliography are found at the end of the report.

2. Background

HIV/AIDS is a new disease to humankind, first noticed among groups of homosexual men in USA. In 1981, scientists succeeded in diagnosing AIDS, the Acquired Immune Deficiency Syndrome, and in 1983 the particular virus spreading it, HIV – the Human Immuno-deficiency Virus, was isolated.

The origin of HIV remains uncertain and is still under debate. There is evidence that the virus has existed for decades before it was discovered. One hypothesis is that the virus has been produced in laboratories, as part of biological warfare preparations. However, the most common hypothesis is that HIV, which is related to viruses found in monkeys in Africa, has been transferred to humans through blood contact, possibly as early as in the 1930s (Whiteside & Sunter 2000). With increasing human movements across the region through decolonisation processes, the growth of modern transport and long-distance migration, the conditions for wider spread of HIV were created.

During 2000, two new hypotheses were offered. One suggests that the virus originates in a polio vaccine cultivated on monkey kidneys and used in vaccination campaigns in Central Africa in the 1950's. The other refers to the practices used in the vaccine campaigns, which allowed for a mutation of the monkey virus to HIV and transmission to many people over a short period of time. Most likely, the debate about the origins of HIV will continue far into the new century.

In 1983, the first signs of a possible major epidemic were observed in a hospital in Kinshasa. Seven years later, cases of HIV/AIDS had been recorded in nearly all countries in the world, and by the end of 1999 an estimated 34.3 million people were living with HIV/AIDS while 18.8 million had died in AIDS (UNAIDS 2000a). According to WHO (2000), AIDS was the fourth most important global cause of death in1999, and the second among communicable diseases.

2.1 The biomedical nature of HIV/AIDS

AIDS cannot be described as one single disease. It is a syndrome, characterised by a number of so called opportunistic infections and cancers, which occur as the immunodefence weakens. The HIV virus has an unusual ability both to avoid the defensive checks of the human body and attack and ultimately destroy essential parts of the immune system. HIV is a so-called lentivirus that develops slowly in the human body. A long latency period means that an infected person can live many years without symptoms. The virus can be transmitted to other people during this period without anyone noticing.

In Western countries the average time between HIV infection and the outbreak of AIDS is ten years or more. An infected person could, until recently, expect to die within two years after the first AIDS symptoms. New anti-retroviral drugs have now converted AIDS to an illness possible to live with. Few governments have included these drugs in their AIDS control programmes, and in the poor countries, only those people who can afford the high costs have access to such therapy.

The average incubation period is substantially shorter in poor countries. In Africa it is estimated at between six and eight years (Whiteside & Sunter 2000). When AIDS symptoms appear, death usually occurs within less than a year. These differences are due to factors such as poor nutrition and lack of good health services. Lack of drugs for the treatment of opportunistic infections is very common.

2.2 Routes of HIV transmission

The four main routes of HIV transmission are:

- Unprotected sexual intercourse
- Mother to child transmission
- Intravenous drug use with contaminated needles
- Medical use of contaminated blood or blood products

Heterosexual intercourse accounts for 90 percent of all HIV transmission in the developing countries, where 95 percent of all people with HIV live.

HIV can also be transmitted through contact with infected blood in connection with e g accidents, surgery and dental care, or through various traditional forms of skin cutting and tattooing.

The likelihood of HIV transmission varies. Transmission through contaminated blood is almost certain to cause infection, while mother to child transmission (MTCT) occurs in about one-third of infants born to infected mothers. Unprotected sex between men (MSM) and the sharing of contaminated needles (IDU transmission) both carry relatively high risks of infection. Transmission risks through unprotected heterosexual intercourse is

however low, on average one per 1 000 exposures – provided that both partners are healthy. When genital tract tissues are infected or otherwise damaged, risk of transmission increases greatly. Strong evidence suggests that persons with ulcerative sexually transmitted diseases (STDs) have at least three to five times greater risk of getting infected with HIV.

Rape and all forms of forced sex, as well as so called dry sex, greatly increase the risk for women to get infected. Girls and young women run a generally higher risk until their genital tracts have matured.

Transmission from men to women is two to four times more likely than the other way around. There is considerable evidence that circumcision in men reduce the risk of getting infected (Caldwell 2000). Risk of transmission is also related to the amount of virus that a person has in the blood, the so-called virus load. This varies during the progress of the infection. Virus load and infectiousness is high soon after infection, then decreases, only to increase again later during the latency period.

2.3 The geographical spread of the epidemic

Over the years, the data about the epidemic have improved in quality. Methods for projection and analysis have been increasingly refined. Nevertheless, the very nature of the epidemic creates uncertainty about any direct description. People do not know themselves if they are infected, and only testing will disclose real rates of prevalence. But few people are tested. The main groups for which data exist are pregnant women attending ante-natal clinics; blood donors; and persons seeking STD treatment. In individual countries, data may exist from commercial sex workers, military conscripts, prisoners or other special groups. The validity of such data is a source of debate. Over the years, revisions of estimates and projections have practically always led to increased prevalence rates. AIDS morbidity and mortality is equally difficult to estimate. The majority of deaths occur without *post mortem* examination and the stigma of AIDS makes few families report a death as caused by AIDS.

With these reservations, the general picture of the epidemic is as follows:

2.3.1 Africa

In Sub-Saharan Africa, HIV transmission on a larger scale began around 1980. Today, more than 70 percent of all people living with HIV/AIDS are found in the region, as well as almost 80 percent of those who died of AIDS during 1999 (UNAIDS 2000a). In contrast, North Africa displays low rates of new HIV infections and has a generally very low level of HIV prevalence.

Most HIV/AIDS cases in the region are found in a belt stretching from Ethiopia via Kenya and Uganda southwards to Zimbabwe, Botswana and South Africa (Figure 1). Within this belt, large variations are found both between and within countries. During the 90s, HIV prevalence declined in Uganda, while the epidemic spread rapidly in Southern Africa, which now has the highest prevalence rates in Sub-Saharan Africa.

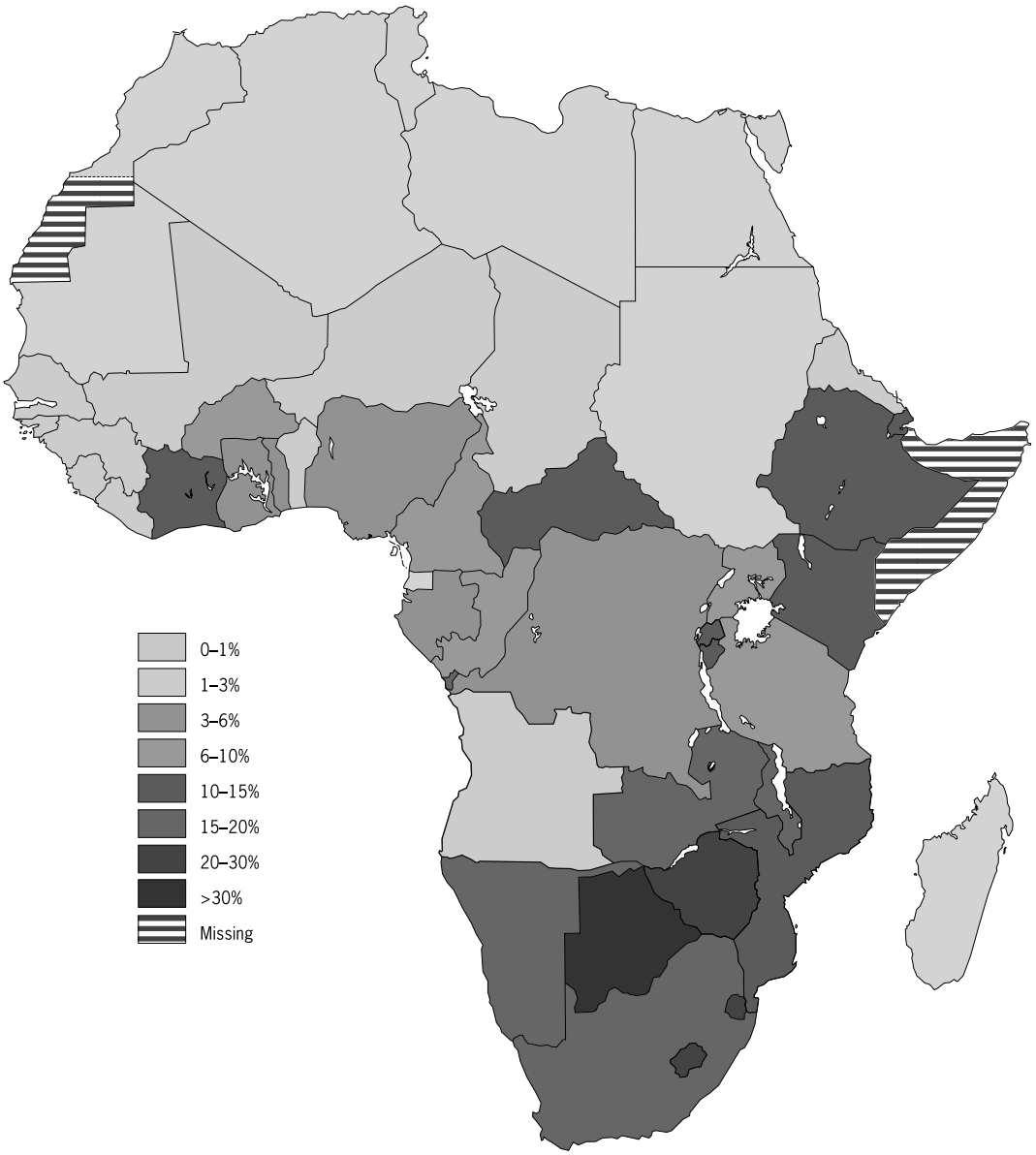
In West Africa today only Côte d'Ivoire has prevalence rates at par with the most affected countries of Southern and Eastern/Central Africa. Based on present trends, it seems unlikely that other West-African countries will develop a generalised epidemic. Only

Nigeria and Cameroon show indications that new infections are on the rise (US Bureau of the Census 1999).

Sub-Saharan Africa is the one region where more women than men have HIV. By the end of 1999, 55 percent of all HIV positive adults were women (UNAIDS 2000a).

Figure 1

HIV-prevalence among adults 15–49 years, end of 1999



Note: No data exist for Somalia
Source: UNAIDS 2000a

2.3.2 Asia

The epidemic began to spread in Asia in the late 1980s. In total, there is today an estimated 6.1 million people living with HIV/AIDS in the region, and almost half a million died in AIDS during 1999 (UNAIDS 2000a). The region shows a greater diversity than Sub-Saharan Africa, both in levels of HIV prevalence between countries and in modes of transmission. In December 1999 Cambodia had the highest HIV infection rate in the region, 4 percent of all adults, followed by Thailand and Myanmar, with around 2 percent. Heterosexual transmission and IDU transmission, in that order, are the most common infection routes in South and Southeast Asia, while the order is inverted in East and Pacific Asia, where homosexual transmission also carries some importance.

Thailand was the first Asian country to record a rapidly expanding HIV/AIDS epidemic. Well-organised prevention efforts there have resulted in reduced number of newly infected, but still some 755 000 persons live with HIV/AIDS. Vietnam has low prevalence rates, but there are signs that they could rise rapidly. Official average prevalence rates are low also in India, but the size of its population gives India the second largest absolute number of HIV-infected people of any country, 3.7 million. China has few infected – an estimated 500 000 – but the potential for a rapid increase exists: rapidly spreading drug-injection, large population movements and an expanding sex-industry. In India and China, variations are particularly large between urban and rural areas, as well as between different regions. There is much uncertainty about the actual number of people living with HIV in Asia, and several country-reports give considerably higher prevalence rates than presented by the official estimates. India, Myanmar and China belong to this group.

2.3.3 Latin America

Latin America also displays a mixed picture. HIV began to spread in the Caribbean islands in the late 1970s. Around 1980 it was found in some mainland urban areas, in particular in Brazil. Many countries in the region have recorded very high HIV prevalence rates in urban high-risk groups. But the epidemic seems to remain within these groups and spread only slowly into a wider population. There are exceptions, however. A rapid rise of infections is recorded in the Central America and Caribbean area, which exhibits some of the worst epidemics outside Sub-Saharan Africa. In this area heterosexual transmission is much more common than in the rest of the region, where homosexual and IDU transmissions dominate. So far Haiti with 5.2 percent is the most affected country, followed by Bahamas (4.1), Guyana (3.0) and Dominican Republic (2.8). Due to its population size, Brazil with a prevalence below 1 percent, has considerably more HIV-infected persons than these four countries together.

2.3.4 North America, Northwest and Southern Europe, Australia and New Zealand

HIV/AIDS began to spread in North America in the late 1970s, and in the other wealthy regions and countries some years later. High incidence rates are today found only in small sub-populations. AIDS mortality has fallen dramatically after the introduction of anti-retroviral drugs. HIV prevalence rates seem to have levelled out in Northwest Europe, Australia and New Zealand, while the virus continues to spread in southern Europe and among ethnic minority groups in North America. In this area the virus is mainly transmitted between homosexual men and drug users.

2.3.5 Eastern/Central Europe, Russia and Central Asia

A steep increase in HIV infection, related to intravenous drug use, was discovered in the mid-1990s in several countries of Eastern Europe and the former USSR. During 1998 and 1999 HIV infections doubled in the Russian Federation. A very rapid increase was also recorded in Eastern Europe and some states in Central Asia.

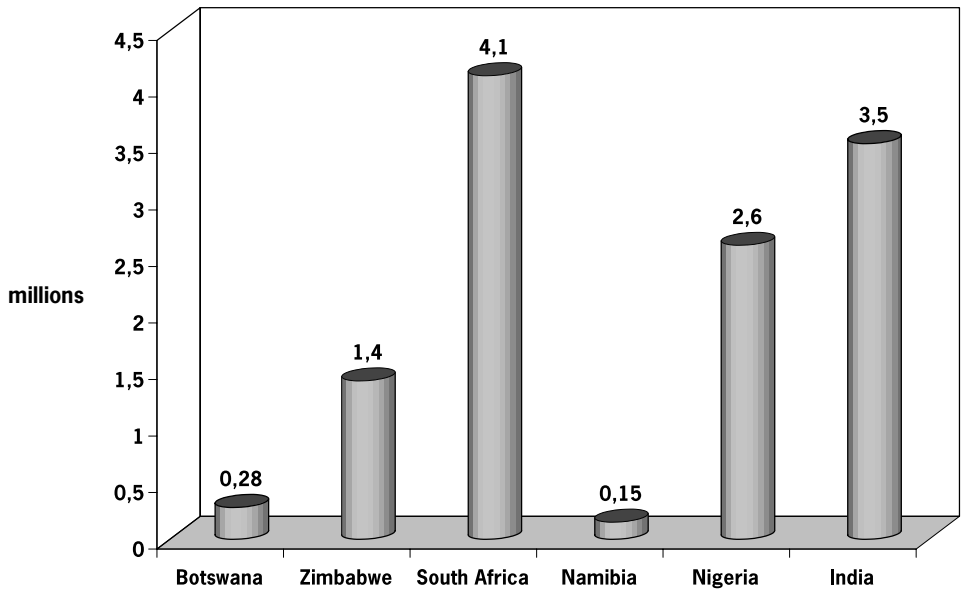
Ukraine was the first country in the region to be affected by the HIV/AIDS epidemic, and has today about 90 percent of all reported AIDS cases. The number of HIV infections in the country increased from around 1 500 in 1994 to an estimated 240 000 at the end of 1999. As in the region as a whole, the epidemic is still primarily confined to the drug-injecting population. But as this group is growing rapidly and many drug-dependent women finance their drugs through prostitution, the country may now be moving into a more generalised epidemic.

2.3.6 Relative and absolute numbers

In some contexts it is important to distinguish between relative and absolute numbers of persons with HIV/AIDS. Prevalence rates are always given as proportions to the size of a given population. In international comparisons, questions are sometimes raised as to which countries have the largest (absolute) numbers of HIV infected or AIDS-sick. The Figure 2 below is a clear demonstration why it is necessary to distinguish between relative and absolute numbers.

It is fairly common that rural populations have a lower level of HIV prevalence. However, where the majority of all people live in the countryside, as is the case in Sub-Saharan Africa, the absolute number of infected people is likely to be larger, even considerably larger, in rural areas. This means that rural areas will need much more resources for care and support than urban areas. At the same time, prevention campaigns in urban areas are of vital importance to reduce transmission of HIV from urban to rural areas.

Figure 2. Adult HIV-prevalence in relative and absolute numbers, in selected countries end 1999



Source: UNAIDS 2000a

2.4 Differences in risk

Geographical differences in the spread of the epidemic are still not very well understood. Why is the epidemic spreading fast over large areas in some places, while in others it seems to be contained geographically or in defined socio-economic groups?

HIV/AIDS and human rights

Many factors fuelling the epidemic are best understood within the principles of human rights. People's vulnerability increase when there is no respect of women's and children's rights, no freedom of expression and association, lack of information and education, denial of privacy and confidentiality. At the risk of rejection and discrimination, people may avoid getting tested and protect their partners. For fear of revealing that they have HIV, people may even avoid seeking health care. (UNAIDS 2000a)

Poverty is likely to be part of the explanation for the rapid spread of HIV in Sub-Saharan Africa. The World Bank (2000) states: "Africa's burden has resulted from conditions that allow the virus to spread – notably poverty, dilapidated health systems, and a high level of untreated sexually transmitted infections." Poor people are normally less informed and thereby less motivated to change their behaviour. A poor public sector is constrained by shortage of resources – both human and material – from offering the necessary response. However, poverty does not explain the differences in HIV rates between the countries of the region, as correlation with average poverty is weak. South Africa and Botswana, both relatively rich and more developed, are among the worst affected in the whole region (Barnett & Whiteside 1999). Madagascar has economic and development determinants pointing at a potential for a wide- spread epidemic, but has remained much less affected.

Poverty often exists side by side with great disparities in income and living conditions. South Africa is a clear-cut example in this respect. The greater the disparities, the weaker the social cohesion, or sense of togetherness, in a society. Cohesion is also, at least temporarily, weakened by rapid social change. In many countries in Sub-Saharan Africa, two decades of economic stagnation has seriously affected the moves toward social modernisation, thus leaving people frustrated and uncertain about social norms and values. In such situations, behaviour not least among the young, could be influenced by temporary fads, more than by an internal sense of direction or by guidance from parents and community. Messages about possible future health risks of normal sex may not carry much weight in such situations.

Local, national and international conflicts are common in many parts of Sub-Saharan Africa. Conflicts imply military movements, which can be assumed to contribute to the spread of HIV. In many of the most affected countries, it is understood that HIV prevalence is high among military personnel. Conflict also force people to move, often separating spouses, and leaving young people to go in one direction and the older in another. Such conditions inevitably lead to more spread of HIV.

The fact that the HIV epidemic is loaded with gender dimensions, places gender relations at the centre of any analysis of geographical and social differences in the spread of HIV. In part, gender relations can be cultural, such as polygamous marriage arrangements, or widow inheritance by a close relative of the deceased husband. Often they reflect economic conditions and inequalities; male labour migration is one case, older men's sexual exploitation of younger women another. Commercial sex is a sign of women's limited

opportunities. However, the picture is still fragmented, and much work is needed to explore the importance of gender relations for differences of the epidemic.

A few specific features may contribute to the pattern in Sub-Saharan Africa. The first is polygyny, i e men having more than one wife, which is a common tradition in many societies of the region, possibly supporting the perception that men need more than one sex partner. Polygyny also contributes to the age difference between husband and wife, not least because unmarried men have to wait longer before they have secured the necessary resources to compete for marriage. The second is the manner in which colonial economies recruited men to leave their families and to work long periods in places far from home, e g in the mines. Over generations, the migrant labour system became part of local cultures, and may have instilled a habit among men, that casual sex is part of life.

> *"If you want to spread a sexually transmitted disease, you'd take thousands of young men away from their families, isolate them in single-sex hostels, and give them easy access to alcohol and commercial sex. Then, to spread the disease around the country, you'd send them home every once in a while to their wives and girlfriends. And that's basically the system we have with the mines."*
>
> Mark Luire, South African Medical Research Council (quoted in Schoofs 1999)

Could regional and national differences in HIV prevalence levels be linked to the diffusion pattern? The HIV epidemic took root earlier in some countries than in others, and spread gradually to other countries and regions. Historically, HIV was first found in USA and in some African countries. From these areas, it has spread first to Europe and to other African countries, overlapping with partly later transmission to South America and Asia. The former Soviet Union and East Europe are relative newcomers, as is China. Obviously, where the epidemic has been present longer, it has had more possibilities to spread over a country. But there are also quite remarkable differences in the speed with which HIV has spread. The difference between West Africa, with low prevalence, and Eastern Africa, with high prevalence, emanates from several of the above discussed factors, where the timing and onset of the epidemic is only one factor, whose importance vanishes when compared to the 'environment of transmission' of HIV between geographically and socially separate groups.

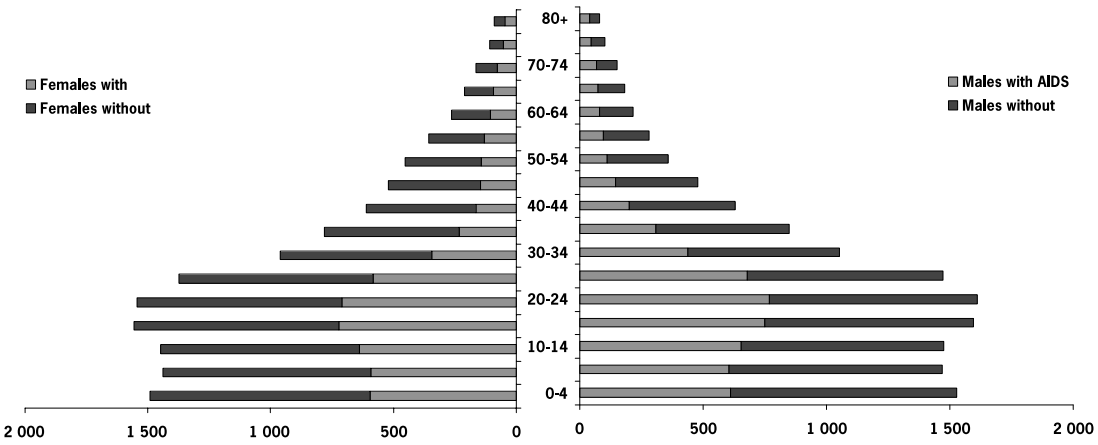
One central factor behind the differences in growth and spread of the epidemic is the character of the public sector, government and administration. Western governments run well-organised societies, whose residents can be reached at very short notice, and who have resources to manage crises. They can mobilise human power of all different kinds to understand and act upon different identified threats. Once the Western governments learnt about the HIV epidemic, they started searching for methods to control it. Homosexual and drug-injecting communities, dominated by men, were the prime targets. Perhaps one reason that these governments could react as swiftly as they did, was that they did not have to address heterosexual behaviour. On the opposite side we find the resource-constrained African governments, literally without means to act on any crisis of this kind. In addition, they were challenged to address heterosexual contacts. To face up to this, is in fact to confront a whole spectrum of social relations, including male culture itself. As long as no public pressure is exerted on the government, politicians may feel that there is much to lose and little to gain by attempting actions with a clear risk of failure (Caldwell 2000).

2.5 The demographic impact – nothing less than devastation

HIV inevitably hits adults in their prime ages, but also infants, who get HIV from their infected mothers. These are the direct human losses caused by AIDS. But there are many indirect effects on support systems and care for both old and young and mortality should be expected to rise further, beyond levels predicted from the epidemic alone. AIDS is today the leading cause of death in Africa. The nature of the epidemic makes a further escalation of deaths unavoidable.

In seriously affected countries improvements in human survival over the past forty years have now been halted or even reversed. Most estimates indicate that AIDS slows down population growth in these countries. In some cases it may even result in temporary stagnation or population decline. This is caused by changes in the population structure which now begin to have a devastating impact on all sectors of society. The age pyramid below vividly illustrates how Zimbabwe's population structure would have looked like without the AIDS-epidemic and how it actually will look like with the epidemic.

Figure 3. Zimbabwe's population structure 2010



Source: US Bureau of the Census. Population Profile 2000. Unpublished data

2.5.1 Adult mortality

In the worst affected countries, HIV/AIDS has contributed to a doubling of mortality among adults in productive ages. In Uganda, AIDS causes 7 out of every 10 deaths among adult women. In Namibia, twice as many die from AIDS as from malaria, across all ages (UNAIDS 1997a). Rising mortality levels is the same as falling life expectancies. In many Sub-Saharan countries life expectancy is back to levels similar to what these countries had 30–40 years ago.

2.5.2 Infant and child mortality

HIV is now the single largest cause of child death in an increasing number of countries. The direct impact of AIDS on infant and child mortality is related to the transmission to new-born children of HIV from infected positive mothers. Eighty percent of HIV-infected children are estimated to die before the age of five. In East and Southern Africa infant mortality rates are about 70 percent higher than they would have been without

AIDS. Until now, practically all cases of mother-to-child transmission have occurred in Africa, but the number is now rapidly rising in India and South East Asia (UNAIDS 1999a).

2.5.3 Male – female differences in vulnerability

The biomedical fact that HIV more easily infects women than men is amplified by women's lower status or weaker position in society at large and in sexual relations in particular. Where HIV is primarily transmitted through heterosexual contact, women generally are both infected and die at lower ages than men – a reflection of age differences between partners/spouses, and of the higher physiological susceptibility of young women. Male sexual violence plays a role; rape and other forms of forced sex increase the risk of tissue tearing and blood contact. Globally, women are still a minority among HIV-infected people, but the gender gap is closing everywhere (UNAIDS 1999c). In Sub-Saharan Africa, women outnumber the men, possibly by 20 percent, and at lower ages the female dominance is even more pronounced (UNAIDS 1999a). New community-based studies show situations where extraordinarily high proportions of girls are infected during their teens and before marriage (UNAIDS 1999b). Most of these girls have been infected by men much older than themselves.

2.5.4 AIDS and population increase/decrease

The growth of a population depends on both mortality and fertility. In the worst affected countries, fertility is still high. Much effort has been spent on analysis of mortality effects of HIV/AIDS. But fertility has received little attention, and UNAIDS estimates do not include any assumptions about fertility changes. Fertility ought to decline as a direct effect of the fact that women die before they reach the end of their reproductive years. In addition, new evidence shows that HIV itself reduces women's biological fertility; once infected, a woman can be expected to have 20 percent fewer children than she otherwise would (UNAIDS 1999a). Although measures such as effective STD prevention could work the opposite way, in all likelihood average fertility declines under AIDS.

The net impact of AIDS on population increase varies. In countries with high fertility levels, more new humans continue to be added to the population than are lost by rising death tolls, and population increase continues. Where fertility is low, as in Thailand, or where it has been declining substantially, as in parts of Southern Africa, AIDS may bring population increase down to zero or below. In South Africa, Botswana and Zimbabwe, AIDS is estimated to result in a steady population decline between 2000 and 2040, leaving the three countries with a smaller population in 2050 than in 1990 (US Bureau of the Census, 2000). The catastrophic nature of such trends is not linked to the population decline itself, but to the extreme losses of adult members of society that it implies.

3. Urgent: Reduce further spread of HIV/AIDS

> *"Stopping an epidemic requires one thing: that each infected person on average infects less than one other person"* (Roy Anderson, leading specialist on HIV epidemiology cited in The Economist 2000-07-15)

More than twenty years into the epidemic, there is still neither a vaccine nor a cure against HIV/AIDS. This means that prevention – stopping infected persons from spreading the disease and healthy persons from contracting it – remains the only way to control the evolution of the epidemic. Knowledge is a basic prerequisite for this to happen. All people need to understand the nature of HIV and its threat to life. Those in power must develop their understanding of the epidemic and how it can be resisted.

3.1 Prevention and the role of society

> *For society, the question is how it can facilitate for all people to protect themselves and others against the risks of HIV infection.*

In the struggle to prevent further spread of HIV and AIDS, everyone – government, authorities, business and industry, religious and secular organisations – have their roles to play. In most of the worst affected countries, non-government actors carry out much of the prevention, care and support. But there are tasks that only the government can do. True national commitment and coverage – of information campaigns, treatment of sexually transmitted diseases, condom availability – is difficult to achieve for any organisation.

An equally important task for government is to identify, analyse and respond to key contextual factors behind the spread of HIV. Labour migration is one of the most obvious contextual factors. To separate men – or women – from their families, is to "invite" the transmission of HIV. Classical examples are migrant workers on contract, living in one-sex compounds, with access to alcohol and commercial sex. A special case is that of short-term labour concentrations for infrastructure constructions such as a road, a dam or a power station. ILO (2000) has identified these areas as priority areas for action, and Swedish experiences from Tanzania are available to guide action (Moen & Egerö 1998).

Government policies to deploy staff to different parts of the country create another category of mobile labour. Civil servants are regularly posted to regional or district offices. Teachers are stationed where schools exist but lack local teachers. Staff in agriculture extension is required to work in areas away from home. This type of labour migration is rarely addressed in terms of its relation to HIV/AIDS. The danger of infection comes from separating people from their families over extended periods of time. Much of the HIV threat against educated categories of people can be linked to their separation from family and home.

Local authorities are often in a position to act on local problems. One example of what can be done is the order to local bars to close earlier, issued by some district authorities in Tanzania. This is a form of indirect support to individuals who want to avoid getting infected. The very step to reduce bar opening hours is also a contribution to raising people's awareness about HIV/AIDS and the dangers of casual sex.

3.2 Without basic knowledge, no protection

Education and information are fundamental human rights, and lack of knowledge increases people's vulnerability to HIV.

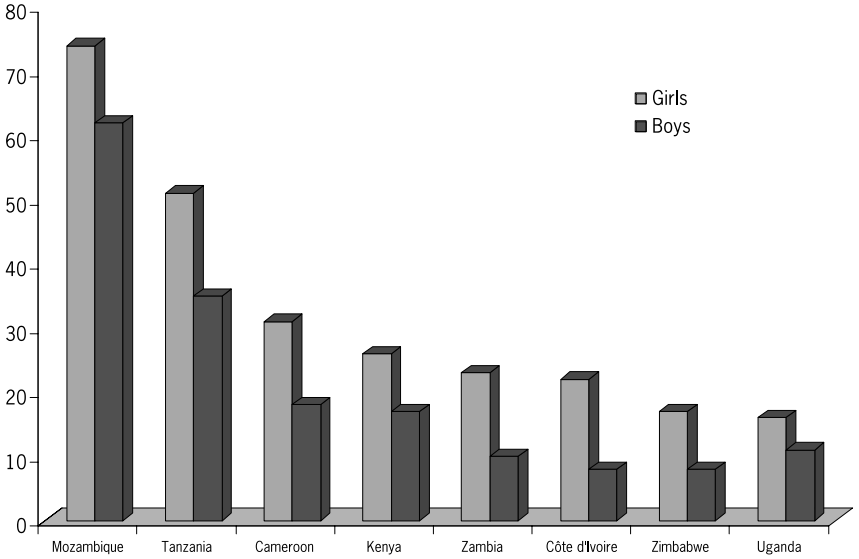
Only when a person knows and understands what HIV/AIDS is about, can he or she begin to reflect on what to do. Information is essential, but does not imply that once a person has the knowledge, he or she will also avoid the risks of getting infected. Just think about campaigns against smoking, alcohol or drug abuse. With HIV transmission, we are most often talking about sexual behaviour, a human instinct necessary for the procreation of our species, but also an expression of identity, formed by the society we live in. Clearly, information is not enough. Humans require more than knowledge to alter their ways of life. Some people, like oppressed women and girls, may not even have a choice.

It is not easy to establish if the general level about HIV/AIDS knowledge is sufficient. Part of the problem is that there are different ideas about what level of knowledge is required. Based on a variety of studies, UNAIDS (2000a) summarises the situation that "remarkably high proportions of people of all ages in most continents know about HIV and AIDS and most can repeat basic facts about the transmission and prevention of HIV."

UNICEF is less optimistic, possibly because they concentrate on young persons 15–24 years old. They find that "information about AIDS and its deadly danger is not getting out or is not being absorbed." (UNICEF 2000)

As a general observation, adults are better informed than young people and young men have better access to information than young women. Data from national Demographic and Health Surveys in four African countries – Mozambique, Tanzania, Zambia and Zimbabwe – where HIV prevalence is over 10 percent, showed that at least one out of every five girls in their late teens knew too little about the virus to protect herself. Boys were better informed than girls in all four countries. The figure below compares young people's knowledge about HIV/AIDS in these countries with the situation in some other countries.

Figure 4. Percentage of boys and girls, aged 15–19, who do not know any way to protect themselves against HIV/AIDS



Source: UNICEF, The Progress of Nations, 2000. Data from Demographic and Health Surveys (DHS) 1994-1999, Macro International , USA

In some countries, des-information may disturb efforts to spread knowledge. Newspapers in Kenya have reported church representatives to claim that condoms do not protect against HIV, and referring to high rates of HIV and AIDS as proof! The effects are shown in a study in Central Kenya (Nii-Amoo Dodoo & Adomako Ampofo 1998) which found that 60 percent of both adolescents and their parents believed that condoms do not protect against HIV infection.

Basic knowledge is only the first step to a change in attitudes, and eventually of behaviour to risks of being infected. Several studies have pointed at our tendency as humans to avoid seeing that we ourselves could be at risk. Young people tend to perceive themselves as "immortal", and people whose daily life contains impending dangers, e g soldiers and miners, can also develop their own ways to judge risks. Additionally, for the large majority of people in the worst affected countries premature death and an uncertain future is nothing new. For persons not already directly affected by epidemic there are many other more pressing daily concerns than HIV/AIDS. To succeed in helping people pass their psychological threshold and assess their risks in a realistic way, is a major challenge for any information campaign.

"The others might contract HIV, but it will not hit me..."

One way to make people think of risks in relation to themselves has been tried by the Ministry of Agriculture in Malawi. Everyone in a workplace was asked to assess his or her own risk of becoming infected. High-level managers were more ready to perceive themselves at risk, than were people lower in the hierarchy. The statistical results were discussed in open meetings, which further consolidated a new self-perception.

Another method, also from Malawi, is to give people the opportunity to identify with an infected person. People with AIDS were recruited as UN volunteers to work in different organisations, where their presence influenced self-perceptions of their colleagues.

The psychological problems in handling the HIV/AIDS epidemic are formidable. One factor at work with HIV/AIDS, as with any serious threat to people, is denial. Governments have tried to reduce the HIV/AIDS problem by saying that AIDS in their country is different from the AIDS of USA and Europe. Even people directly affected may react by denial. A study of AIDS orphans in Kenya showed that even though practically all of the 72 orphans asked knew about AIDS, none of them was prepared to admit that his or her parent had died from AIDS.

The close relation between sex and death has contributed to the persistent silence around AIDS that has been a major constraint for information efforts – silence at the highest official levels, within the individual family and between partners. Efforts to "break the silence" have been made by NGOs, organisations formed by people living with AIDS and other civil society organisations, as well as organisations such as UNAIDS. Only a few governments have been officially outspoken about the HIV and AIDS situation in their countries. Senegal faced the epidemic openly, at a relatively early stage, in the late 1980s. Thailand has also reacted with openness, as did Uganda, even though Uganda's government reacted only when the epidemic was quite generalised in the country. All three countries have experienced reduced rates of new infections, but all still have a period of rising AIDS-related deaths ahead of them, due to the long incubation period from HIV to AIDS. No country is safe from a return to higher levels – new generations constantly require new prevention efforts.

3.3 Voluntary counselling and testing

> *"It almost takes an act of faith to relate the appearance of AIDS symptoms to sexual encounters that occurred almost a decade ago, given that at least 95 percent of sero-positive Africans do not know of their infection until the symptomatic AIDS stage."* (Caldwell 2000)

Voluntary testing and counselling is at the heart of both care and prevention. For individuals there may be few perceived advantages in testing, since there is no cure available. For good reasons, people often fear lack of confidentiality. HIV and AIDS carry a stigma, infected people risk discrimination. Women in particular risk violence and rejection. Knowledge, coupled with good counselling, can help people to protect themselves and partners, to avoid transmission from mother to child, to seek care for themselves and to plan for their families. Testing without informed consent and confidentiality is a violation of human rights. Another problem is that some of the tested individuals never come back for their test results, as has occurred in the USA where 25% of the tested never turn up (UNAIDS 2000a).

People also go untested because there is a lack of testing services. Testing and counselling is indeed a task for the health services. It should for example be part of all family planning programmes, STD clinics and ante-natal services. But individual counselling adds new demands on already over-burdened health staff who do not receive training and backup for this delicate job. The overall low coverage of health services means that most people in rural areas do not have access to testing.

In reality, much of the testing and even more of the counselling is provided by voluntary organisations, reaching only a fraction of those in need. One example is the AIDS Information Centre in Uganda where confidential counselling and testing has been provided for 350 000 clients over the past decade (UNAIDS 2000a). The Centre also has a "Post Test Club" with thousands of both HIV positive and HIV negative people. The Club members are involved in information work. Between 1992–98 they reached 180 000 people, distributed 1.2 million condoms and gave a "human face" to the HIV/AIDS epidemic. The Centre also has a steady increase of couples who come for pre-marriage testing.

Studies of the preventive effectiveness of voluntary counselling and testing have yielded conflicting findings in different populations and places. There is evidence that testing can prevent heterosexual transmission for couples where one person is infected and the other is not, provided that both partners come to testing and that counselling is given for them as a couple.

In recent years testing methods have improved. Previous tests, notably ELISA, took several hours, often days, before results were available, and these had to be confirmed in laboratories by a test called Western blot. Several new rapid tests have been developed. Two or more successive rapid tests have predictive values comparable to those of the ELISA/Western blot combination. The new tests need no laboratory facilities and are easy to administer. Rapid HIV tests offer additional advantages of low cost (about US$ 2) and same-day results and are likely to gain increasing acceptance for HIV screening and diagnosis in both developed and developing countries (Branson 2000).

3.4 How to reach people

3.4.1 Mass media

In the worst affected countries, radio is the only medium reaching a wide audience, even if not everybody can be reached due to lack of radio or transmitter, or because of language. In Ethiopia, only around three-quarters of all settlements are covered by the national broadcasting system. Many countries have to rely on commercial radio broadcasting, making funding necessary also for AIDS information.

One example of how the radio can be used is a show in Malawi, called "Straight talk". The show solicits questions and views from over a thousand HIV/AIDS prevention clubs, set up by schools around the country to encourage discussion concerning HIV and AIDS. This weekly programme is hosted and produced by young people, with the support from UNICEF.

Radio and TV are particularly useful in countries where programme policy permits debates, confrontation of ideas, questions to leaders about issues such as drugs against diseases provoked by HIV, facilities for treatment of sexually transmitted infections or condom availability. To put leaders to task and make them account for their responses to different problems related to HIV/AIDS is important in mobilising people to act on their knowledge.

3.4.2 The school system

School-based education is an obvious channel for dissemination of HIV/AIDS knowledge. With a few exceptions (e g Kenya), most of the badly affected countries have made attempts to include HIV/AIDS education in the curriculum, under names such as "life skills education" or "family life education". Experience from Uganda and other countries have already shown that when AIDS prevention programmes include a strong school-based awareness and skills training component, schooling can encourage safe behaviour. In the early years of the epidemic in Uganda, HIV rates were higher among pregnant women with education than among the less educated. This trend has been reversed and infection rates are now falling for all young women, but the fall has been most dramatic among those best educated. The infection rate among young women with secondary education was cut to half from the early 1990s to the mid 1990s.

Still, HIV/AIDS education could be improved. The subject is often introduced too late to be useful. Studies report that sexual activity can start at very low ages, 10–12 years, and information should reach children before that. The information provided is not always helpful to young people; it may be too technical and not sufficiently respect the meaning that sexuality has to the young. Additionally, education is hardly ever backed up by service provision (Pisani 2000).

Efforts to prevent the spread of HIV must to a large extent rely on the educational sector in order to reach children and youth. But ignorance among teachers may be a major obstacle. In Mozambique, HIV/AIDS-education is not a compulsory part of teacher training. It is provided by a non-governmental organisation. Teachers who wish to improve their knowledge about HIV/AIDS follow the courses in their free time (Wallenlind 2000). Without adequate training, teachers may find it embarrassing to address the subject. Trustworthiness is also important, and male teachers who are known for having casual sex partners (perhaps also among their female pupils) are not trustworthy to the pupils.

School as a "risk environment"
Studies in Eastern Cape, South Africa, demonstrate that education alone is not always sufficient to change behaviour. Young women attending school run a high risk of getting infected through sexual contacts there. What they learn about HIV appears insufficient to empower them to withstand peer group pressures, and rates of pregnancies and HIV infections are growing rapidly. "Clearly, the educational system in and of itself provides no shield of knowledge against the pandemic and should be comprehensively reviewed…" (Shell & Zeitlin 2000).

Carefully designed studies to evaluate the effect of school-based education on sex and HIV/AIDS on students' sexual behaviour are now underway in several African countries (UNAIDS 2000a).

3.4.3 Peer education

Many societies and organisations rely on "peer education" or information provided by persons of the same generation. It is a widely used approach to inform young people, notably those who do not attend school, on matters related to sexual and reproductive health. It is sometimes also used for distribution of condoms, to facilitate for young people who would not be well received at health clinics. Peer education is also often applied in work places, with a smaller group of interested persons trained and supplied with necessary material to increase understanding about HIV/AIDS among their colleagues. Peer education has proved to work effectively among groups like e g sex workers, in the gay community and among drug users. The quality of peer education depends on the training and backup of peer educators. When peer educators are expected to work without any remuneration, as they very often are, they may not carry on very long before leaving their task. A comprehensive description and analysis of numerous experiences of peer education in relation to HIV/AIDS prevention has recently been made by Horizons (1999/2000).

Many people find it difficult to talk about sexuality, but posing questions is an important step towards learning. Some countries have tried *"hot-lines"* where people can call anonymously and seek answers. One good example of this is the telephone consulting service provided by the Egyptian Ministry of Health (UNAIDS 2000a). Half of the callers are between 15 and 25 years, and 70 percent are unmarried. Most callers have higher education and less than 20 percent are women. People call from other Arab countries as well, and the average number of calls has been about 1000 per month.

3.4.4 Cultural events

Cultural expressions to spread the message are not unusual. They are probably among the most influential forms to increase a general awareness about the epidemic. In many countries, local theatre groups develop and perform plays designed to create awareness. Philly Lutaaya, a famous musician, was one of the first in Uganda to give a "human face" to AIDS, when he in 1990 performed his songs about the disease. There is still an organisation in Uganda carrying his name. In Nigeria the son of another African star musician, Fela Kuti, who died in AIDS 1997, takes up the AIDS issue in all his concerts.

The Indian state of Tamil Nadu offers another example of a successful prevention campaign. It was based around cricket – a very popular male game – and encouraged the male spectators to choose safer sex. The proportion of men reporting that they used condoms with their most recent casual partner rose from 17 to 50 percent among ordi-

nary factory workers, who also said they did no longer engage as often as before in commercial sex. (UNAIDS 2000a)

It is virtually impossible to measure the impact of information/education campaigns alone. But when coherent messages reach the individual from many different sources, the impact is enhanced. Thus, to be effective IEC campaigns need to be officially endorsed, actively supported by respected leaders at various levels and co-ordinated with similar activities by other agents.

3.5 How to reduce infection risk

There are two main ways through which an adult person may contract HIV: through HIV infected blood, whether from transfusions, unclean equipment, wounds or cuts, or through sexual transmission.

Health services are responsible for safe blood transfusion. This requires resources and correct routines. The number of transfusions can also be reduced, e g through improved ante-natal care, since many transfusions take place at deliveries. Safe injections, e g as part of immunisation programmes, are also part of health services. Judging from available information, these are not major issues in the epidemic.

Skin cutting is common in many societies, at times rooted in culture and traditions. Male circumcision and female genital mutilation are examples. Tattooing and piercing are very common in Sub-Saharan Africa, and increasingly so among young people in the West. No studies have been made to establish the risks of these practices under different circumstances, and they receive no attention in AIDS control programmes. In Ethiopia and Malawi, they are addressed by one single NGO in each country.

In all of Sub-Saharan Africa and in many of the other affected countries, transmission through sexual relations between men and women is by far the most common way for the spread of HIV. Knowledge about sexual practices in different societies is growing, but is still quite limited.

Interventions aiming at a behaviour change in heterosexual relations are focused essentially around three messages A – B – C, where A stands for 'abstention'; B for 'be faithful'; and C for 'use condom'.

3.5.1 **A** for 'abstention'

This message is primarily directed to young people. Early sex, especially among girls, adds considerably to the risk of HIV transmission. Social norms and social control, exerted not least via parents, exist in all societies to regulate entry into sexual relations. Many societies have female virginity at marriage as an ideal. However, studies show that both men and women in their teens and early 20s are sexually active although not yet married. There are regional variations. In many Asian countries, including China, sexual activity is reported to start late, in the vast majority of cases after the age of 20. In Latin America sexual activity may start earlier. In the Caribbean, many people begin their sex lives at very early ages, and girls tend to begin earlier than boys.

In many countries in Sub-Saharan Africa, casual sexual encounters between older men – sugar-daddies – and younger girls are common; the men search for uninfected partners and the girls may be lured into a relationship or drawing material benefits from it. Community-

based studies inform that in practically all countries in Africa, at least three times as many girls as boys are infected. This is e g the case in Kisumu, Kenya, where 23 percent of girls (15–19 years old) were infected compared to 8 percent of boys of the same age (UNAIDS 1999b). As a result, girls may infect their boyfriends, and young men may risk marrying an HIV-positive woman. Older men who already carry the disease are the real culprits.

Education programmes to prevent HIV/AIDS need to build on this knowledge. It is obviously not enough to provide young girls with information, or even to teach them negotiating skills. Very firm action is required to influence the behaviour of the men involved, but there exist few, if any, examples of this.

The open climate of talk about AIDS in Uganda has stimulated the growth of movements of young people, who commit themselves to abstain from sex before marriage. They show the potential power of action among the young generations whose whole life is at stake.

3.5.2 **B** for 'be faithful!'

Sex with multiple partners is the major vehicle to spread HIV, which becomes increasingly risky, the higher the prevalence of HIV. Even people who have only one partner at a time – e g during their pre-marriage life – may consider themselves as faithful while still running an infection risk with each successive new partner.

Mutual monogamy is a social ideal in most societies, and sexual fidelity to one loyal partner is an effective protection against HIV. However, social practices vary, some of them sanctioned by society. Men, in particular, are likely to both report and indeed to have more extramarital sexual partners than women. Among the factors that contribute to this difference is the migrant worker system created during the colonial period, which led to long separations of spouses from each other, and many men simply adapting to temporary sex contacts as a matter of everyday life. Women also engage in casual sex, often as a means to secure survival for themselves and their children.

Whether or not India will experience a generalised epidemic is reported to depend on the sexual habits of Indian women. Their main risk today is to be infected by a husband who has contracted HIV from commercial sex workers or intravenous drug use. A generalised epidemic in India can not develop unless many of these infected married women have unprotected sex with other men, and infect at least one such partner. There is no evidence that such behaviour is very common, which would mean that India could escape a widespread epidemic. (Pisani 2000)

Violence against women and HIV/AIDS prevention

1. Fear of violence affects women's possibilities to insist on safe sex as protection against infection.
2. Fear of violence affects women's ability to refuse sex with someone they suspect to be HIV positive.
3. Forced sex and rape increase the risks of HIV transmission for women. Sexual abuse and rape are also used in situations of conflicts and war to humiliate and demonstrate strength.
4 Women with HIV fear violence when their HIV status is disclosed.
5. Fear of violence may prevent women who are or suspect they are HIV-infected from disclosing it to their partner or insist on condom use to avoid infecting their partner.
6. Pregnant women may, for fear of violence, avoid seeking help to avoid MTCT.
7. Women with HIV may fear violence if their HIV-status is disclosed, e g if they do not breast-feed in order to avoid passing the infecting on to their infants.

Generally, women are more faithful than men. It does not help a couple if women protect themselves against HIV (and STD's in general) unless their partners do the same. Much attention has gone to strengthening women's rights and possibilities to say no to sex, and to demand condom use within marriage. Other interventions are directed to female commercial sex workers, from whom male clients may contract HIV. Men are only exceptionally made as distinct targets for behaviour change interventions.

3.5.3 **C** for 'use condom'

Consistent and correct use of condoms is the best protection available today against sexual transmission of HIV. Many programmes have been created to promote condoms and on the whole, official resistance against condom promotion has given way to a more positive attitude.

There is still religious resistance, notably from the Catholic Church. In some countries, e g in Kenya, the resistance is very firm. There are, however, some positive signs even within the Catholic Church. The bishop synod in Brazil has expressed itself in terms that can be interpreted as a sanction of condoms, and the Episcopal Conference/Catholic Development Commission in Malawi has decided to provide information about condoms, albeit without promoting their use.

Unavailability of condoms is still a major obstacle in poor countries. A regular and high supply of condoms is needed, distributed through a wide reaching net with outlets that everyone can reach, irrespective of social, gender or economic status. In the most affected countries, these conditions are only in part fulfilled, mainly for lack of resources and infrastructure.

Social marketing is a distribution mechanism. Vendors purchase subsidised condoms and sell them at a slightly higher price. One reason to charge, if only a very small amount, for each condom is to increase the likelihood that it is actually put to right use. In Myanmar the number of retail outlets increased from 364 in 1997 to 1500 in 1999, and sales almost doubled. Another example is offered by an Ethiopian non-government organisation which has increased its condom distribution from 600 000 a year in 1990 to over 50 million (150 000 a day) in 2000. The above mentioned organisation expects the national demand to be perhaps 100 million a year. All possible outlets are used, and a wide range of condom shapes and colours are offered in order to popularise use among all categories of people.

The use of condom is highly dependent on easy access. Women may get them at clinics, and adult men could go to pharmacies where such are available. Young people often report difficulties to access condoms, but where condoms are available for them, young people are more likely to use condoms than their elders. Youth clubs and trained peer informants are channels used, but much more could be done to reach the young. A survey of sexual behaviour in Brazil showed that, in the early 1990s, less than 5 percent reported using a condom the first time they had sex, compared to close to 50 percent in 1999. In Nicaragua, a condom promotion campaign increased condom use with casual partners from 35 percent to 71 percent. However rates remain low in many areas, e g in Western Kenya where 63 percent of sexually active unmarried men and women reported that they never had used a condom in the last year. Only 18 percent reported that they always used a condom.

In South Africa, in order to facilitate access to condoms, the Eastern Cape Department of Health purchased 1 000 condom-dispensers and distributed them to different public places. The dispensers were replenished by health staff. This measure gave young people easier access to condoms, and demand for condoms increased.

A major limitation with condoms is that, in almost all social contexts, they are associated with casual sex. It is therefore not easy to propose to regular partners that they use them. A study in South Africa showed that 85 percent of both men and women knew that the use of condoms would prevent HIV transmission. Even though many of the respondents had multiple partners, or thought that their regular partner was unfaithful, over 60 percent of both men and women reported that they had never had sex using a condom. Also, while half of all the men said they intended to use condom every time they had sex with a casual partner, only 16 percent of all men actually did so. When asked why, many responded that they simply did not have a condom near at hand.

Commercial sex is one of the most risky forms of casual sex. In country after country, commercial sex workers have quickly developed high rates of HIV prevalence, early on in an HIV/ AIDS epidemic. As clients get infected, they spread the virus to wives and other sexual partners. It has proven difficult to make men abstain from commercial sex. Quite contrary, the international trade in women for sexual exploitation has in fact increased during the 90s. Many of the programmes directed to commercial sex workers place the responsibility for changing the clients' behaviour with the very women who have to please their clients in order to get their pay. Many female sex workers, in various countries, are reportedly prepared to use condoms, to protect themselves from infection and also because it reduces the degree of intimacy in commercial sex.

Some programmes have successfully targeted so-called high-risk sex. In Thailand, systematic efforts were made early in their epidemic to reach brothels and commercial sex workers with a strong message to use condoms. Commercial sex in Thailand is organised in brothels, and frequented by both tourists and nationals. Brothel owners were obliged to guarantee condom use, or else threatened to have their establishments closed down. Today, condoms are estimated to be used in nine out of ten sexual acts in the brothels.

Senegal has also been successful in their prevention programme, which recognised the importance of reaching commercial sex workers. Commercial sex was legally recognised in Senegal, even before the advent of HIV, and authorities responded quickly, late 1980s, ordering regular STD check-ups for commercial sex workers, and facilitating condom use, e g through exempting them from taxes.

3.6 Women controlled methods

A major drawback with the traditional condom is that women cannot control its use, but are dependent on co-operation from their male partners. In order to give women their own protection, a female condom is now available on the market. Although it provides effective protection against HIV, it is not yet widely used. There are good reasons; it is not very comfortable to use, and costs ten times more than the male condom.

Serious efforts have been made to develop preventive methods that women can control without the man's knowledge. Research has been invested in development of microbicides to kill the HIV-virus, applied in the form of jellies, creams etc. Some scientists claim that microbicides will signify a major breakthrough for women-controlled preventive methods. Trials conducted have so far not produced any such method that protects against HIV.

3.7 Control of sexually transmitted diseases

There are several important links between HIV and other sexually transmitted diseases. One link is behavioural. To engage in unprotected sex exposes a person to HIV, as well as to other sexually transmitted infections. The second link is biological. A person with an untreated sexually transmitted infection is more likely both to transmit and contract HIV during unprotected sex. An ulcer in the genital area provides an open door for HIV. Early and efficient treatment of STD is an important preventive measure to halt the epidemic.

STD patients and prevention

Patients who seek care for STDs are excellent targets for prevention messages. They have already engaged in risk behaviour with partners who have also done so. A study in South Africa showed that 20 percent of the miners who came the first time for STD treatment had HIV. Of those who already had sought treatment many times, about 80 percent had HIV (Whiteside & Sunter 2000).

However, sexually transmitted diseases often go undetected. A number of factors contribute to this. In many of the worst affected countries the health sector simply has not got the resources to offer efficient cure on a national scale. Even where primary health care facilities exist, STD treatment is in many cases not part of the services. Laboratory resources for necessary tests are often not available. The situation is compounded by the fact that many sexually transmitted diseases do not show any symptoms in women, and those with symptoms may be more reluctant to admit such problems and seek treatment than men.

Important research reported in the Lancet (June 2000) shows that STD treatment has an effect on HIV incidence. Two studies took place during the 1990s in the regions of Mwanza, Tanzania, and Rakai, Uganda. Both introduced STD treatment on a broad scale, and the results showed that STD treatment based on syndromic diagnosis (to act on symptoms only) is both affordable and cost-effective in settings with limited resources. It is most effective in areas with high STD prevalence and low HIV prevalence – a common situation in large parts of Africa, Asia and Latin America. But even in countries with high prevalence of HIV/AIDS, each new generation provides a new opportunity for STD control under conditions of low HIV prevalence.

3.8 Prevention of HIV transmission from mother to child

Pregnant women with HIV run the risk of passing on the infection to their child. HIV can be transmitted during pregnancy, at delivery or with the breast-milk. In the absence of any intervention, around one third of all the infected mothers pass the virus to their new-borns.

Since 1994, there is a dramatic reduction in the high-income countries of HIV transmission to the baby. Based on testing and counselling, women with HIV have been able to get AZT treatment, bringing down transmission from 25 to 8 percent, provided the baby was not breast-fed. A daily treatment with AZT starts when a woman is about three months pregnant, supplemented by injections at delivery, and the administration of AZT to the infant during its first 6 weeks of life. The high cost, 815 USD per case, and the long-term treatment has made this option beyond reach in most of the world.

Efforts were therefore continued to find other regimens. Various short-term treatments were tried, reaching reductions of both transmission and costs. But what seems like a break-trough, came last year, reported in the Lancet, Sept. 1999. Research results from Uganda showed that a single dose of a different retroviral medicine, *nevirapine,* lowered the risk of transmission to 13 percent at a cost of just USD 4. The medicine is given orally to the mother during labour, and to the baby within 72 hours. According to the report, it is still early to draw policy conclusions from the tests, as little is known about possible toxic effects and the effects the regimen may have on the course of the HIV infection of the mother. However, the evidence available today is that the benefits largely outweigh any risks linked to their use.

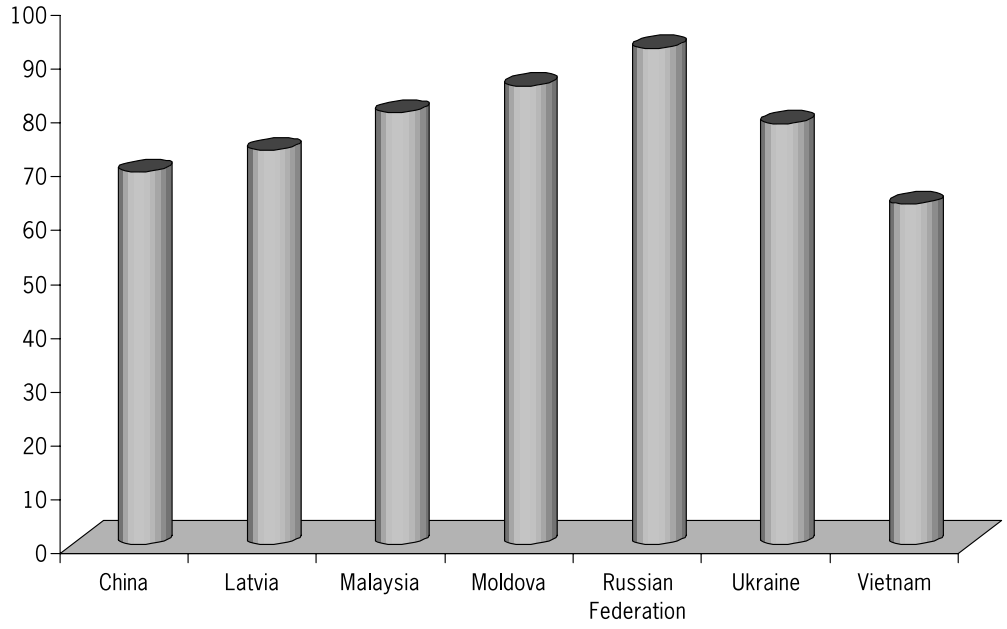
In the late 1990s, several studies found that around half of all mother to child transmission occurs with breast-feeding. This poses a dilemma as to what advice to give mothers in different situations. Artificial feeding carries many well-known risks in poverty stricken societies. And not to be seen breast-feeding a baby, in a culture where this is the norm, and where feeding is done in public, is putting women at risk of stigma and discrimination connected with HIV infection.

Access to treatment to reduce mother to child transmission could also increase women's demand for testing, which in turn may strengthen prevention of sexual transmission. But several challenges remain in relation to the expansion of prevention of mother to child transmission: to make counselling and testing available, to distribute drugs and infant formula, to train staff and keep the staff motivated.

3.9 Harm reduction – to reduce transmission among drug users

Drug injection has provided a route for what has been called "the second HIV epidemic", and remains the overwhelmingly leading cause of HIV infection in many if not most countries outside of Africa.

Figure 5. Proportion of all new HIV-infections that are in injecting drug users, selected countries 1998–1999



Source: UNAIDS (2000a)

People who inject drugs are often members of tight networks. When they share the same equipment, HIV can spread extremely fast among the members, often in a matter of months. The injectors may in turn pass the virus to their sexual partners. According to a study in Rio de Janeiro, four fifths of the drug users never used condoms with their regular partner and only one third used condoms with casual partners. Injecting drug use, IDU, is also responsible for transmission from mother to child.

Efforts to control HIV prevention among drug users include what is called "harm reduction programmes". These programmes aim at reducing the dangerous exposure to HIV; the aim is not primarily to influence and change the drug addiction. Typically, programmes include some or all of the following components: AIDS education, condom promotion, needle exchange and drug treatment, e. g with methadone, which is a substitute drug, not injected. Harm reduction programmes have been shown to work in high-income countries. A study carried out among 255 drug users in Philadelphia, USA, showed that only 3.5 percent of drug users on stable methadone treatment became HIV infected, compared to 22 percent of those not treated (UNAIDS 2000a).

Programmes for needle exchange are especially effective if introduced on a large scale early in the epidemic, when less than 5 percent of intravenous drug users in a community have HIV. Still, many countries decline to provide such services. Authorities are afraid to expose themselves to criticism for protecting the welfare of drug injectors. There is for example no federal funding available for needle exchange in USA. Critics of harm reduction programmes claim that such programmes "send the wrong signals", and these can be interpreted as a sanction of drug injection.

3.10 Sex between men

In many high-income countries and in some parts of Latin America, homosexual relations between men are one of the major forces behind the HIV epidemic. Some of the most striking examples of behavioural change due to HIV come from homosexual communities in such countries. In the 1980s, gay communities in e g Sweden and USA reacted promptly and used their own networks to promote safe sex. In Australia, where HIV was predominantly spread between men, there was a reduction by 70 percent between 1984 and 1988. At first it was believed that the decline was due to a substantial reduction in sex between high-risk partners. But research carried out later has shown that the main reason was a high level of compliance with condom use. Peer group education had been essential, as was the early recognition by the gay communities of themselves as a group, and the co-operation between these communities and the government (Caldwell 2000).

In Australia, Sweden and other countries, homosexuality has been successfully de-stigmatised, and support by public institutions is therefore possible. In other parts of the world, however, sex between men takes place in obscurity and may even be illegal. There, the discrimination of men who are known to have sex with other men may effectively deprive them of the support they need to adopt safe sex practises.

3.11 Vaccine development

A vaccine against HIV/AIDS has to be inexpensive, safe and effective, easy to deliver and acceptable to various categories of people at risk. But in spite of all efforts, and more than twenty years into the epidemic, no such vaccine exists.

According to UNAIDS (2000a) the first human trials of an HIV-preventive vaccine were conducted in USA in 1987. Since then, more than 30 small-scale trials have been carried out, including 12 in developing countries. Over 5 000 healthy individuals have been involved. The candidate vaccines have proven to be safe and to induce immune responses that could protect people against HIV infection. In 1998, the first large-scale trials were launched in Uganda and USA. Some other small-scale trials in human volunteers are also being carried out.

The development of an AIDS vaccine faces many challenges. We still lack understanding of which immune responses against HIV are necessary to confer protective immunity. There are no ideal animal models for testing, and the multiple routes of transmission add another challenge, as do the different virus strains. Different leads are pursued by the researchers, and a possible result may be a vaccine that is not protective against HIV infection, but acts to suppress HIV from multiplying in the body, thereby suppressing the virus load.

There seems to be a general agreement that, even when a vaccine is available, it will then only constitute one, albeit an important, measure among other preventive efforts. A vaccine may not be completely effective against a whole range of virus sub-types, and protect all people who get HIV through various transmission routes. Also the lack of a health infrastructure will prevent it from being universally available and reaching all people.

3.12 No easy ways

There are today efficient tools to prevent the spread of HIV in poor countries where heterosexual transmission is a major route. Increased condom use, treatment of sexually transmitted diseases, reduction in the number of sexual partners, and drugs to prevent mother to child transmission, have all demonstrated their effectiveness in reducing HIV transmission.

However, the demonstrations have mostly been done in limited settings, in research projects and pilot projects. There are few successes at a national level to report – Uganda, Senegal and Thailand belong to these. In Thailand, intense national campaigns have led to 90 percent condom use in commercial sex, and HIV infection rate among pregnant women has fallen between one and two percent. In Uganda, HIV prevalence has gone down among pregnant women, and young people are less likely to get infected – one reason for this is the trend to postpone the start of sexual activities.

In both cases, it is difficult to separate the impact of public policies from a natural evolution of human behaviour in the face of a high general awareness of health risks (Thailand) and a personal acquaintance among young people with high adult mortality associated with sexual behaviour (Uganda).

Thailand

The government of Thailand early decided on actions targeted at specific groups and behaviours, namely brothel owners and their clients. Pressure on brothels to demand condom use by all clients were supplemented by campaigns directed to Thai men. Much less attention was given to unpaid casual sex and marital sex, major stumbling blocks for any government. The Thai strategy is not without problems. Reports from Thailand tell that commercial sex outside of brothels is now more common, while HIV prevalence among sex workers is estimated to 30 percent. Likewise, with a campaign that paid little attention to injection drug users, prevalence in this group may be as high as 40 percent. (Im-em 1999, Sakboon 2000)

4. Care and Support

People infected with HIV and AIDS need health care and medical treatment to deal with infections and diseases. They need social and psychological support, and many need spiritual support to face a lethal disease. At the same time many of the others affected by the epidemic – spouses, children and family – need emotional, economic and legal support to cope with the many consequences of HIV and AIDS. In this chapter we will concentrate on the need for care and support of those infected, while the other aspects will be dealt with in chapter five.

4.1 Health services

Hospital bed occupancy by AIDS patients is increasing and in some hospitals AIDS patients are the majority of admitted patients. In fact in several countries as much as 50–80 percent of hospital beds in urban areas are occupied by HIV-infected patients. As an effect other patients are reported to be crowded out. Kenya has seen increased mortality among HIV-negative patients, due to admission at later stages of illness. (UNAIDS 2000a).

The quality of a country's public health service depends to a large extent on the size of its health budget. Governments in Western Europe and North America spend anything from USD 1 500 and upward per person and year. In most of Asia and Africa spending is below USD 20. Even before the HIV/AIDS epidemic, many countries, notably in Sub-Saharan Africa, had very weak health care systems, short-staffed, with poor coverage, lack of equipment for diagnosis and treatment and erratic drug supplies. With deteriorating economies and structural adjustment, access to adequate health services has diminished in many countries. There is also a well-known tendency that resources – doctors, diagnostic equipment and drugs – remain with the large hospitals in cities and towns, leaving little for the district and primary health care levels.

In the most affected countries, it is virtually impossible to get a correct HIV diagnosis at district and primary health centres. But even large hospitals have serious problems as evidenced in a UNAIDS survey of 22 university hospitals in 19 African and 3 Asian cities, carried out in 1997. The hospitals involved could correctly diagnose and treat only three conditions: pneumonia, pulmonary tuberculosis and oral thrush, which are the only three HIV-related conditions easy to diagnose and inexpensive to treat. For other HIV related illnesses, X-rays, laboratories and drug supplies were so inadequate, that a patient had less than 50 percent chance of being correctly diagnosed and treated. Relief for difficulty in breathing was unavailable in half of the hospitals. Strong painkillers were only available for 40 percent of the patients (UNAIDS 2000a).

4.2 Treatment

During many years HIV/AIDS has been perceived as a disease against which nothing could be done. But effective therapies exist to prevent, treat and even cure many of the opportunistic infections. It is increasingly recognised that a few relatively inexpensive drugs can ward off severe illness and add months and even years to lives.

4.2.1 Opportunistic infections

HIV is a virus that undermines the immune defence of an infected person. Other viruses, bacteria, parasites and fungi take advantage of this weakness and cause illness of various kinds. These are referred to as opportunistic infections. They include fever, coughing, itching, difficulty in breathing or swallowing, and chronic diarrhoea. Tuberculosis is the most common opportunistic infection and the leading cause of death among people with HIV. More than half of all people with HIV develops a form of TB, usually of a type difficult to diagnose. If untreated, it will spread among the general population. WHO recommends direct observation treatment, DOTS, of all suspected cases of TB in areas with high HIV prevalence. *Izoniazid* is a drug, which can ward off 60 percent of active tuberculosis episodes in people with HIV, and significantly prolong life.

Another drug – *cotrimoxazole* – has helped prevent bacterial pneumonia, diarrhoea and possibly toxoplasmosis (a parasitic brain disease) and isosporiasis (a parasitic infection of the intestines). Tests in the Côte d'Ivoire have shown that such treatment can prolong life by up to a year.

Both *izoniazid* and *cotrimoxazole* are inexpensive, but can only be given to people with proven HIV. If and when they are available they may promote interest in HIV testing, which in turn enhances preventive efforts.

Drugs for treatment of HIV-related illnesses are faced with the same difficulties as other drugs in poor countries: lack of policy; poor purchase, storage and distribution capacity; few experienced doctors to prescribe and inform about side effects, leading to lack of compliance with drug regimens among patients.

4.2.2 Anti-retroviral therapy

Around 1995 anti-retrovirals became available. They have made an enormous change for many people with HIV, notably in the richer countries. These drugs do not cure HIV/AIDS, but they attack the virus itself, thus hindering the breakdown of the immuno-defence system and delaying the onset of AIDS. Life is extended, but death still occurs prematurely.

Anti-retroviral treatment consists of a combination of drugs, which have to be taken continuously, at exact hours during the day and often in relation to food intake. Taking them is sometimes called "drug management". Strict adherence to the drug regimen is essential both for effect and to counter development of resistance to the drugs.

In one study in Britain, close to half of the respondents had missed a dose during the previous month, i e only about half of them had managed to comply. 60 percent reported side effects, even though many are mild and wear off (UNAIDS 2000a). However some side effects can be fatal. Despite the problems, only 15 percent of those taking anti-retrovirals found it difficult to follow the regimen.

The cost of anti-retrovirals is so high that it is beyond reach for the vast majority. In May 2000 the yearly cost was estimated at USD 9 950 per person in USA. In Uganda the annual health budget is USD 14 per person and year. The cost for one year's treatment, slightly different from the one used in USA, is USD 4 201. In Brazil, the cost is estimated at USD 2 366. This has been accomplished through local production of drugs that are not under patent, and bulk import of other drugs (UNAIDS 2000a).

Studies show that many persons with AIDS in countries were anti-retroviral therapy is available, do not receive the treatment, e g 60 percent of injecting drug users in Canada were not on treatment a year after they had been diagnosed (UNAIDS 2000a). Women were more than twice as likely to go untreated.

Middle income countries have enormous variations in access to anti-retroviral treatment. Most Asian countries have limited access. Thailand subsidises anti-retrovirals as part of clinical trials for around 2 000 persons, which is only a fraction of the approximately 70 000 new AIDS cases each year.

Interest groups in some Latin American countries, notably people with HIV, but also doctors and human rights organisations, have successfully demanded access to anti-retrovirals. In Argentina, Brazil, Colombia, Costa Rica and Uruguay HIV-infected people now have a legal right to some form of anti-retroviral treatment, but the actual access varies. In Brazil coverage is reported to be 100 percent, Argentina, Chile and Uruguay cover some 65–70 percent (UNAIDS 2000a).

In Sub-Saharan Africa, only a few people in a handful of countries have access to anti-retrovirals. The costs are too high. It has been estimated that to provide the drugs to 25 percent of people with HIV in Kenya would consume 43 percent of Kenya's GNP. UN-AIDS launched the Drug Access Initiative in 1998, through which 600 patients in Uganda and 900 in Côte d'Ivoire are receiving anti-retroviral treatment. It is obvious that the programme only reaches a small minority of those in need. The aim of the programme is in fact to evaluate how to overcome obstacles to the provision of drugs, using access to anti-retrovirals as an entry point for wider access to a comprehensive package of HIV care.

Senegal, with about 80 000 persons living with HIV, provides another example of how limited access to anti-retrovirals is, in reality. As one of the first national experiments in Africa, 70 persons with HIV were selected in 1998 and have been receiving anti-retroviral drugs. The cost for the drugs is USD 460 a month, and the patients participating in the programme contribute in relation to their means, with between USD 32 to USD 285 monthly. Patients living outside the capital must travel to Dakar at least every six months for blood tests, since there is only one laboratory in the country capable of handling the necessary tests. Training is at the centre of the programme. Biologists, doctors and pharmacists in the private and public sectors are trained in management and prescribing of anti-retrovirals. The programme is said to run smoothly, particularly in comparison to a similar programme for between 400 and 500 people in the Côte d'Ivoire, which ran into problems when drugs became unavailable.

All over the world, the interest groups of people living with AIDS question the pricing policies of the patent holding drug-producing companies. Until now, without much success.

4.3 Home based care

In the severely affected countries in Sub-Saharan Africa, the public health sector has neither the coverage nor the capacity to provide even a minimum of care for all persons with HIV and AIDS who need it. Patients are instead cared for at home by family and relatives. Programmes for home based care exist in many countries. They are run by different community based organisations, churches and AIDS programmes, sometimes with international funding. Home based care seems to offer a solution to an enormous problem, which, as yet, we are only seeing the beginning of.

Home based care services in five districts in Malawi were evaluated during the year 2000. The report points at many of the weaknesses in home based care. Women are much more likely to utilise home based care services than men, who are more likely to be cared for by their wives. Volunteers provide the care in home based care. The volunteers are usually dedicated and able to assess the patients' needs. But they work without any support from the health services, neither in the form of supervision, nor with supplies. There are no care plans, no out-patient services. The patients' need pain killing medication, oral re-hydration solution, soap, and bedclothes. They also need food supplements. None of these needs are covered by the programme. Only a minority of the patients has been HIV tested and knows that they have HIV/AIDS, and there is no encouragement of testing. The volunteers do not provide any preventive information nor do they distribute condoms, in spite of the fact that at least 10 percent of patients are sexually active. Two thirds of the patients live with children, who need emotional and material support. This is not part of the programme. In order to improve quality, the evaluators recommend routine and intense involvement of trained health workers, who can provide supervision of volunteers, provision of bicycles and basic supplies to volunteers, engagement in prevention, and incorporating the needs of the children in the programme.

Overall the current system for providing care and support to persons living with AIDS in Malawi is inadequate, and the care actually given to AIDS patients in their homes is seriously deficient. Some consider the current system to be an abuse of human rights. It is just a way of getting patients out of the hospital without treatment. "Patients in home based care die quickly because they know that the hospital has given up on them."

5. Impacts of the HIV/AIDS epidemic

> *"AIDS is a full-blown development crisis. Its social and economic consequences are felt not only in health but in education, industry, agriculture, transport, human resources and the economy in general."* (UNAIDS 2000a)

HIV/AIDS hits particularly hard at the poor. It has spread most rapidly in the poorest countries of the world. Economically the poor are most affected, as the epidemic exacerbates both income inequality and absolute poverty. The poor lack buffers to handle the loss of adult members. They have to take care of orphans in the kin network. They often cannot afford to seek health care. AIDS-affected poor households run the risk of total despair.

AIDS can no longer be seen as a threat to future development – the effects are already present. Today, the epidemic has reached a stage where adults die prematurely in increasing numbers, undermining all development efforts. AIDS mortality may take one third or more of new adult generations. This makes it imperative to address the impact of excess adult mortality on different sectors of society.

One obvious effect is a decline in the size of the labour force. It is likely to hit unequally over occupational groups, but not sparing any group. Where specialised workers are needed, the effects could be severe. Generally, however, society will have to handle a loss of valuable experience gained by working people in the course of years of work. On average, the age of working people will go down, and many children will have to start to work early in life.

It needs underlining, that much of this impact can be anticipated. Projections of adult mortality are available, and the effects can be incorporated in government or enterprise planning. Furthermore, ways to meet the effects can be identified and set in motion, thereby reducing the impact itself. The earlier this work starts the better the mitigation.

5.1 Impact on households

HIV/AIDS leads to a loss of household income due to the illness and death of household members and the time spent on caring. Expenditures increase due to medical, funeral and mourning expenses. In the worst affected countries, many households live on small incomes. For the great majority of affected households HIV/AIDS therefore means increasing poverty and deteriorating food security. Children, especially girls, have to leave school because there is no money for school fees or because their labour is needed at home or for income-generating activities.

The epidemic adds to an already considerable impact of other conventional health hazards. AIDS mortality limits the available labour force and makes the household increasingly vulnerable to further changes of household composition (by illness, death, migration etc.). Already vulnerable groups are the ones most severely affected by HIV/AIDS. In the absence of a public social safety net, households and communities have to bear the effects by themselves.

Botswana is one of the most affected countries. Half of the households have HIV-infected members. This means that they will lose one or more income earners during the next ten years, with significant impacts on poverty levels and growing inequalities (BIDPA 2000).

The heavy stigma attached to AIDS limits help from community and extended family networks, especially to households headed by "AIDS-widows" (Topouzis 1994a). Moreover, traditional survival networks have in many places already been so weakened by modernisation, that their capacity to support affected households is already limited or non-existing (Tibaijuka 1997).

Households feel the burden of HIV/AIDS long before any local household member gets ill in AIDS. The household might have to take care of orphans left by relatives and friends who have died in AIDS. AIDS-sick relatives arrive for care. Many households depend on remittances. When these cease, due to illness or death in AIDS, this may seriously limit the possibility to pay for essential gods and services like food, school fees and health services.

5.2 Impact on women

The epidemic contributes to increase existing inequalities between men and women. AIDS leaves women with an increased workload. They also have to spend time caring for AIDS-sick household members and take on tasks usually done by those who are ill, while trying to keep up with their normal domestic and other responsibilities. The effects of these adaptations are exhaustion, less attention to children, and deteriorating health and diet (Topouzis 1994).

An increasing numbers of AIDS-widows find their access to life-supporting assets difficult. For widows, the best security is sons old enough to claim inheritance of land and property from the deceased father (Topouzis 1994). But AIDS-widows are generally rather young with children who can only marginally, if at all, participate in farm work or other income-generating activities. The burden is increased by the stigma attached to HIV/AIDS expressed in e g rejection and violence. AIDS-sick women can normally not count on the same attention and care as men.

Where so-called wife inheritance by close male relatives is practised, it may give AIDS-widows better conditions to feed their children and protect their property. On the other hand, this traditional coping mechanism entails sexual intercourse, which contributes to the spread of HIV. Efforts to replace sex with symbolic 'inheritance' rites have been successful for instance in Zambia.

Response and mitigation

In Zimbabwe and Tanzania, rural burial societies have established support groups providing mutual assistance to members in the event of illness and death. They offer a measure of financial security and cater for some social needs of their members. Members devote part of their time to cultivate the fields of the bereaved. Many communities in Zambia, Zimbabwe and Tanzania have saving clubs that play a mayor role in helping households to cope with the HIV/AIDS epidemic. These saving clubs have been in existence for a long time and are mostly run and organised by women. Migration by rural household members to urban areas in search of employment is a response reported from Zambia (UNAIDS 1999d).

In several countries, new legislation protects surviving family members', especially women's, rights to property. A common problem is, however, to make local communities accept and apply the new laws.

FAO-supported studies of agriculture in East and Central Africa have found that the impact of AIDS varies in relation to their vulnerability to loss of labour. A simple, yet effective form of support would consist of reducing time-consuming parts of production and reproduction, such as improved access to water and firewood. Such tasks are typically the responsibility of women.

5.3 Impact on children

Rapidly increasing numbers of children lose one or both of their parents. Before AIDS, orphans in developing countries used to make up about 2 percent of all children below 15 years. By 2000 the figure had jumped to between 7 and 12 percent in many African countries (Hunter & Williamson 2000). Revised estimates from 34 countries show that 7 million children below 15 years had lost their mother or both their parents by the end of 2000. This is almost twice as many as in 1990. With 34.3 million HIV infected adults globally and 23.4 million only in Sub-Saharan Africa, the numbers will increase for decades ahead. Estimates show that there will be at least 14 million maternal and double orphans by 2010.

Table 1 AIDS-orphans */ 2000 and 2010 in selected sub-Saharan African countries

Countries	2000	2010
Ethiopia	1 040 000	2 540 000
Kenya	380 000	600 000
Mozambique	290 000	880 000
Tanzania	480 000	920 000
Uganda	590 000	680 000
South Africa	360 000	1 820 000
Zambia	430 000	530 000
Zimbabwe	420 000	660 000

*/ AIDS-orphans are children who have lost their mother or both parents in AIDS.
Source: Hunter & Williamson (2000)

Nine out of every ten AIDS orphans live in Sub-Saharan Africa. The above table shows that the numbers of AIDS orphans in many countries can be counted in hundreds of thousands, and that they will increase dramatically during the next ten years.

The AIDS-orphan emergency is causing unprecedented problems to child health and welfare. Orphaned children are not only under psychological distress, they are likely to need support with food, education, health-care, housing, and clothing. Orphan children run a greater risk of physical and sexual abuse, as well as child labour exploitation. The stigma attached to AIDS increases the problems for the children affected.

Experience has taught that although the majority of orphans are AIDS orphans, they should not be the sole targets in efforts to help; support should be directed to all orphans.

Response and mitigation

Most children orphaned by AIDS are cared for by their extended families. In Zimbabwe there are reports of increasing care-giving by maternal relatives (Foster et al 1995:7). This represents a departure from the traditional practice of caring for orphans within the paternal extended family, and an adaptation of community coping mechanisms.

The HUYAWA program

Sweden is involved in a community based program in northern Tanzania, HUYAWA. It started 10 years ago, when there was 7 000 orphans. The project now covers 50 000 orphans. It is run by the Episcopalian Lutheran Church in Tanzania in co-operation with local communities. A main goal is to keep children in schools, but the program also covers legal services, spiritual support and limited material support, mainly to encourage agricultural production and for house maintenance. An evaluation done in 2000 describes the accomplishments of HUYAWA. It shows e g that 336 of the 381 legal complaints were settled in agreements. Most of the complaints were related to so called property grabbing, i e that relatives of the diseased appropriate land and belongings from the surviving family members, widows and children.

There are many projects similar to HUYAWA, even though this programme has an exceptionally large coverage and long duration. Other organisations involved in orphan care are the FOCUS programme in Zimbabwe and COPE in Malawi. But programmatic action is fragmented and much more could be done in terms of co-ordination between governmental, civil society, international, and religious bodies (Williamsson 2000).

One encouraging example of co-ordination comes from Zambia, where CHIN, the Children in Need Network, was founded in 1996. The network includes more than 70 community based organisations, non-government organisations as well as two government organisations. CHIN disseminates information e g on best practices of other groups and provides training materials. The lobbying and advocacy done by CHIN has increased the visibility of children's needs, improved information systems, and enhanced referral for families in need. CHIN was first funded by UNICEF, and although two other donors now contribute, it still finds shortage of funds to be a great constraint.

Government and community organisations have responded to the orphan situation in various ways, e g by providing scholarships to needy children or by waiving school-feels. However in the long term, the deficits have to be made up from other sources. Community schools have been another approach. These schools are less expensive than ordinary schools, but communities face challenges to support them indefinitely.

The scale of the problems facing AIDS orphans is large, the challenges many and the needs will persist over decades. One key step would be to carry out a systematic review of current policies and procedures in health, education and social services to identify ways to improve access for orphans and other children affected by AIDS.

5.4 Loss of labour force – a long term problem

> *In South Africa more employees presently die from other causes than from AIDS. But in 2004 twice as many will die from AIDS as from other causes. In 2015 it will be five times as many (The Impending Catastrophe, 2000).*

The premature death from AIDS of large numbers of professionals, skilled workers and other trained and experienced manpower at all levels have a growing impact on the quality of the workforce. Both public and private employers are facing increasing production costs due to the need to train extra staff, to pay for overtime work, reimburse expenditures for health services and take care of benefits for family members. In the government sector, the loss of key professionals and other technical staff has negative effects on public administration and services. A growing loss of professionals also makes it more difficult to replace and train new staff.

ILO projections for eight African countries with an adult HIV prevalence above 10 percent show that they will all have considerably fewer workers in 2020 than they would have had without AIDS. The worst affected country is Namibia, with 22 percent reduction of its labour force, followed by Botswana and Zimbabwe (minus 21 percent), Mozambique (minus 19 percent) and South Africa (minus 17 percent). Even where prevalence rates are below 10 percent, AIDS is expected to have a considerable impact. Large countries like Ethiopia, Tanzania and Nigeria will lose between 3 and 8 percent of their respective labour forces.

5.4.1 Impact on the health sector

The strains on the health sector from AIDS-sick coming for treatment has been discussed in section 4.1. Another source of strain is the loss of trained health staff. Little attention has so far been given to this problem, which is likely to become increasingly serious in many countries.

A study performed at a Zambian hospital showed that deaths among health workers had increased 13-fold from 1980 to 1990, mainly because of AIDS (UNAIDS 2000c). South African newspapers reported in September 2000 that one fifth of all registered nurses in the country were HIV positive. At one nursing school, half of the first years students were infected (UPI 2000). Another newspaper report describes the staffing situation in a ward for AIDS-sick women at a Malawi hospital (O'Kane 2000). During the past year the ward had lost two nurses, one laboratory technician, one electrician and two hospital attendants in AIDS. The nurse responsible also told the reporter, that of her graduate class of 20, three were dead and two ill with AIDS. When key technical or experienced staff is lost in AIDS, the functioning of a ward, clinic or a department is disturbed for considerable time. The effects are probably worse outside major towns, where facilities may have to close when key staff is lost.

Response and mitigation

On the whole, very little information exists about government responses to the health sector problems. Still, it is possible that efforts have actually been made, for instance in expanding the training of health staff or in special IEC efforts directed to all staff in health outlets.

In Pahayao, Thailand, the health authorities have made an analysis of the implications of HIV/AIDS for the health services. Phayao is a district in northern Thailand with 500 000 inhabitants. The district was hard hit by the HIV epidemic, but succeeded in bringing down prevalence rates from 11,1 percent in 1992 to 4,9 percent in 1997. The conclusions from the analysis are:

- counselling of individuals and communities throughout the province requires major changes in structure and process of a system used to control diseases, rather than to influence other people's behaviour.
- reaching out to authorities and colleagues from other sectors constitutes a hard task for health workers, who are used to vertical chains of command
- that it remains a challenge to incorporate HIV/AIDS-related procedures into the core health-care system (UNAIDS 2000b).

Few, if any, health services in sub-Saharan Africa will be able to stand up to such challenges.

Additional Financing of HIV/AIDS – AIDS taxes

A new approach to tackle the growing problem of scarce funds for the fight against HIV/AIDS was decided on in January 2000 in Zimbabwe. The government introduced a new three percent income tax to cover the increasing costs in the health sector caused by HIV/AIDS. The new tax has been criticised on different grounds and is also said to make the public more negative towards those living with HIV/AIDS (Carlbom 2000).

The capacity of a government to finance special AIDS interventions depends on its own tax base. In Thailand as much as 94 percent of total AIDS-expenditures in 1996 came from the Thai taxpayer (Pisani 2000).

5.4.2 Impact on education

The main impact on the education system is the loss of teachers through AIDS. Voluntary testing of teachers is nowhere organised. Special IEC efforts directed at teachers appear to be rare.

An article in the New York Times (Onishi 2000) gives a snapshot of the threat posed by AIDS to the already troubled education systems in Sub-Saharan Africa. The journalist visits a school in a Côte d'Ivoire village, which has been closed since 1997, when the last teacher died in AIDS. The vacancy has not been possible to fill, as the whole teaching profession has been severely hit by the epidemic. According to a 1998 government study, six teachers a week were dying of AIDS and 70 percent of all teachers' deaths were AIDS-related. Today, officials estimate the number to be even higher.

The children of Côte d'Ivoire are far from the only ones to find their schools closed by AIDS. During 1999, an estimated 860 000 children in Sub-Saharan Africa lost their teachers to AIDS (UNICEF 2000). The worst affected countries were South Africa, Kenya, Zimbabwe and Nigeria, where in each country more than 85 000 children lost their teachers. Another country where AIDS has aggravated the chronic shortage of teachers is Zambia. There, 1 300 teachers died of AIDS in Zambia during the first 10 months of 1998 (UNAIDS 2000a). This is more than twice the number in 1997 and

about two thirds of the total number of teachers trained in a year. In the Central African Republic, the number of teachers who died in AIDS between 1996 and 1998 was equal the number retiring during the same period. Additionally, there are reports from some countries that HIV-positive teachers are trying to leave schools in remote areas where health care facilities are lacking and request postings near hospitals.(UNICEF 2000).

The teachers themselves and observers believe that the devastating impact of AIDS on the teaching profession is related to their career patterns. Teachers are mostly men, typically young and single when dispatched to remote rural areas for their first job. The "elite" status connected with education, and the role as civil servants make them attractive for young village women, which gives opportunities for multiple sexual relations. Transfer to a new village increases the infection risk for the teacher, or, if already infected, the risks to infect new young women. The deployment of married teachers to remote areas, separating them from their families for long periods, may have the same result. There is also abundant anecdotal evidence of sexual relations between teachers and female pupils, and that some teachers use their position to lure girls into sexual relations.

Like any sector, the education sector has to carry all the costs of sickness benefits for teachers getting ill and subsequent death benefits for their families (ME 1999). The costs to train additional teachers to replace AIDS victims add to the problems with already over-stretched education budgets in many African countries.

Response and mitigation

No reports have been found on systematic government actions to address this crisis. In poor countries the education sector was under-financed already before AIDS began to make an impact, and radical revisions of government budgets to meet this particular impact are unlikely to have been undertaken. Rather, in a number of countries public spending is shifted away from education to cope with other aspects of the AIDS crisis (UNICEF 2000).

Classrooms become increasingly overcrowded as teachers take on pupils who have lost their teachers in AIDS. In many schools, the children are forced to attend in shifts, and other schools are simply closed, due to lack of replacements for dead teachers.

Children drop out of school when their families no longer can afford the costs (UNICEF 2000). This has been met with elimination of school fees for AIDS orphans. However, in countries where most people are poor, such differential treatment meets with difficulties. Another approach already mentioned is to allow local communities to organise education in so-called community schools.

In Côte d'Ivoire the 1998 disclosure that many teachers were dying in AIDS had not led to any official response by mid-2000. Some non-governmental organisations working to inform teachers and the public about HIV/AIDS and sexually transmitted diseases have met unwillingness to talk openly about the issues. Despite the death of many colleagues, most teachers remain reluctant to confront the realities of AIDS. The principal of a Côte d'Ivoire school said that, in spite of his insistence, he was still the only teacher at the school tested for HIV.

In Swaziland, a government report published in November 1999 recommended the Ministry of Education to consider, among other things, re-hiring retired teachers, allow senior students to provide education to out-of-school youth, and offer HIV/AIDS-specific education to adults and school children (ME 1999).

The problems in tackling growing teacher shortages in poor areas is well illustrated in the following event: When the Kenyan government in August 2000 made public its plans for a far-reaching deployment of teachers to under-served areas, the reactions from teachers were negative. One of the arguments voiced against the plan was "We are afraid of the AIDS risks in these areas" (Nairobi Newspaper 12 Aug. 2000).

5.4.3 Agricultural sector impact

Agriculture is the productive sector where the impact of HIV/AIDS affects most people: The loss of labour due to the epidemic is aggravating problems already existing in the agricultural production system. Inconclusive evidence suggests that production in the worst affected areas, particularly at local level, is decreasing. At national level this implies increasing costs for import of foodstuffs and loss of exports earnings from cash crops. An additional cost arises from the loss of skilled labour, e g extension officers, who are essential for agricultural production. The sector may only produce about 20 percent of the GDP, but in many cases it directly provides the livelihood for up to 80 percent of the population, and may indirectly provide a living for even more people.

Impact on small farm production
Already in 1992 a leading NGO wrote:

> *"With many small farmers surviving on a knife's edge, loss of labour from HIV/AIDS can tip the balance and send them into a downward spiral of diminishing food production and income, and ever increasing poverty"* (Panos 1992)

The overwhelming majority of people involved in agricultural production are small farmer households. Decreasing input of family labour due to illness or death in AIDS affects small farm production in a multitude of interrelated ways, and force farmers to seek a variety of adaptations (Topouzis 1998, FAO 1997, Halswimmer 1994, and Barnett 1994).

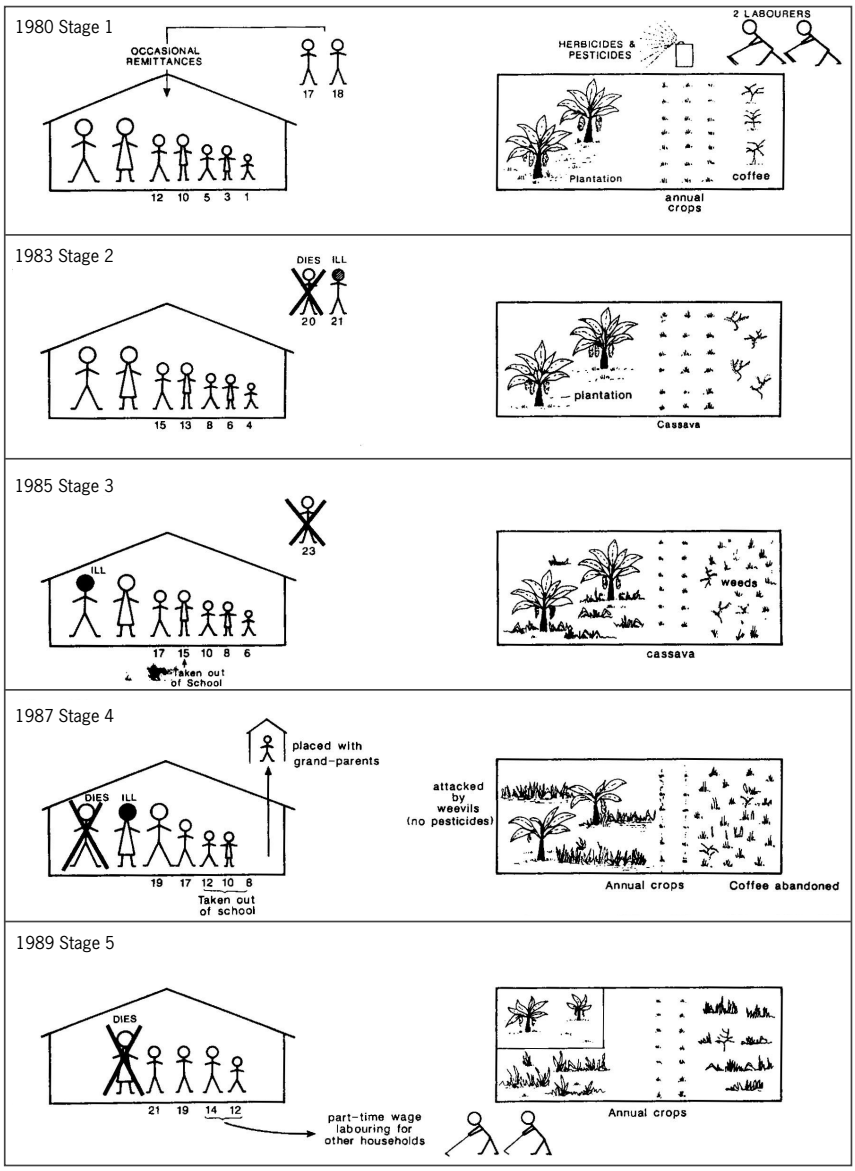
The observed effects on production have been: Reduction of cultivated area, decreasing yields, a decline in crop variety, and a shift from labour demanding cash crops, to less labour demanding and drought resistant subsistence crops.

In Uganda there are reports of large areas of land left uncultivated due to AIDS: From West Africa as well as from Zimbabwe is reported considerable declines in both subsistence food crops and cash crops (UNAIDS 2000a; Bollinger & Stover 1999). Non-governmental organisations in Zimbabwe warn of future food crisis in the country because of diminishing areas under cultivation. In Thailand, one third of rural families affected by AIDS experienced a reduction of 50 percent or more of their agriculture output (UNAIDS 2000a).

Another observed effect of HIV/AIDS is declining livestock production because of deficient care or, as FAO reports from Namibia, that notably poor households are forced

to sell off considerable parts of their livestock. Worst affected are women- and child-headed households which often lose all their cattle (UNAIDS 2000a). There are indications that other farmers change to smaller and less labour demanding animals. When cattle or other livestock are sold, the households often lose their only "insurance" against crop failure, sickness and other calamities. In pastoral areas this means increasing food insecurity for surviving household members. For farmers, selling their draught animals inevitably means to cut down production.

Where household members work elsewhere for cash, the loss of such a member means that remittances are lost, which makes it more difficult for the farmer to buy agricultural inputs or supplementary food, and/or to employ extra labour. The overall result for most affected households is a reduction in the quantity and quality of available food and deterioration of food security. A very serious long-term impact is the loss of skills and knowledge of local farming conditions when farmers die, as reported from parts of Uganda. The impact is felt most directly among surviving children, who have not yet learnt how to farm.



From Barnett, T., AIDS in Africa: Its Present and Future Impact, London 1992 (p. 89).

Response and mitigation

Even if knowledge about the detailed long- and short-term effects of HIV/AIDS on small-scale farming is still inconclusive, knowledge of what could be done has existed for many years (see e g Barnett 1994). Surprisingly few concrete interventions seem to have been implemented so far. Governments and most donors engaged in agriculture seem to lack will, resources and possibly know-how to respond to HIV/AIDS in a systematic manner.

There are few activities or projects specifically addressing the impact of HIV/AIDS on the small-scale farming sector. But other projects have shown the necessity to take the impact of HIV/AIDS into consideration for successful implementation of project goals. This is case with The Special Programme for Food Security, SPFS, in Tanzania which reports, that assessing the impact of HIV/AIDS on labour productivity, on levels of savings and on farmers readiness to invest in agricultural production, is vital for its work (Topouzis & du Guerny 1999).

Other projects have found that some of their activities do contribute to the mitigation of the impact of AIDS. A project promoting improved food security in the Lua-Pula Valley in Zambia found that the following 'standard' activities contribute to mitigation: promotion of community self-help groups and training in community action planning; community development funds to improve access to credit and technology for micro-projects; improved community support services for vulnerable households; training and acquisition of new agricultural skills; introduction of labour-saving farming and post-harvest technologies; and promotion of changes in attitudes towards gender roles.

Still other projects, like the FAO-supported Farmers Field Schools in the Zambesi Valley, Zimbabwe, which promotes organic production of cotton and groundnuts, have included special components to mitigate the effects of the epidemic. The project is helping AIDS widows (and other marginalised farmers) principally by promoting low-input technologies and facilitating exchange of traditional farming methods.

Since some years, donor agencies and international organisations discuss how to incorporate HIV/AIDS in agricultural and rural development co-operation. A comprehensive, and seemingly successful, approach has been developed by German development agency GZT and tested in Tanzania. It is based on the integration of HIV/AIDS effects in ongoing programmes, using a target group approach (Hemrich & Schneider 1997).

Fishing community and HIV/AIDS

Fishing communities are particularly vulnerable to HIV/AIDS due to the mobility of fishermen, their access to cash, and long periods of separation from their families. Labour input in the fishery sector is less seasonal than in subsistence agriculture, and the reduction in labour supply may not seriously affect production. In Malawi, staff from the Fisheries Department has noted that an increased mortality means that knowledge and skills disappear, followed by increased training costs. Moreover, higher mortality among extension staff means that access to training in sustainable fishing methods is getting more restricted (Hemrich & Schneider 1997).

The impact of HIV/AIDS on large scale farming

The death of skilled and experienced technical staff and workers hits directly at large-scale agriculture. In Kenya HIV/AIDS is reported to already have had a severe impact on the agro-estate sector with long-term implications for the country's social and eco-

nomic development (Rugalema 1999). Complex agro-industrial production systems like the sugar industry are sensitive to the loss of technical staff (Barnett 1994), and the labour intensive part of the production is also reported to be affected by rapidly increasing AIDS morbidity and mortality (Panos 1992). One sugar estate in Kenya reports a loss of 8 000 labour days, a 50 percent drop in the ratio of processed sugar recovered from raw cane, and a tenfold increase of health costs between 1993 and 1997 (UNAIDS 2000a).

Large-scale agriculture is one of the biggest formal sector employers in many countries. In Zimbabwe, two of the eleven million inhabitants live on commercial farms as farm workers (Parry 1996). This group is often excluded from the social safety net of extended family structures, and particularly vulnerable to HIV/AIDS.

Response and mitigation
In many countries, large-scale commercial agriculture and agro-industries have engaged in activities to protect their workers from HIV-infection. In Zimbabwe the Commercial Farmers Union was very early in addressing the problem and has supported anti-AIDS campaigns like condom distribution, and promoted increased employment for women.

5.5 Impact on other economic sectors

Two sectors particularly vulnerable to the HIV/AIDS epidemic are the transport and the mining sectors. The first mentioned because of the mobility of transport workers and their temporary separation from their families. High mortality in AIDS among lorry drivers and other transport workers have been reported from many countries. This group has also been the target of intensive prevention campaigns in many countries.

The mining sector is often dependent on long-distance migrant workers, who have to leave their spouses and partners for long periods. The South African mining industry has been severely hit by the HIV/AIDS epidemic. The National Union of Mineworkers estimates that by 2010 at least 14 000 of their members will die annually. The additional costs due to AIDS for the mining industry have been estimated to increase from 114 million Rand in 1995 to 1.5 billion in 2010 (Bollinger & Stover 1999).

Almost all other formal economy sectors, from banks and other services to manufacturing and infrastructure, have been more or less seriously affected by the epidemic. One example is the South African State Energy Company, Eskom, which is reported to face the risk of losing more than 25 per cent of its 33 000 employees in AIDS within the next five years (Bredberg-Rådén 2000).

Response and mitigation
Many, in particular large, international firms established in countries most affected by the HIV/AIDS epidemic, have engaged in protection and care for their work-force. They also commonly engage in prevention interventions, like HIV/AIDS information campaigns and free distribution of condoms. An approach applied by some firms is to expand the prevention efforts to the workers' families, their communities, and sometimes to commercial sex workers associated with the work-force. In Côte d'Ivoire, two international firms are reported to have provided the workers and their families with health service and condoms, resulting in a rapidly falling prevalence of STD and HIV (Caldwell 2000). In Nigeria, an oil company reached similar results by applying the same approach to the

whole villages from where they draw their workers. The South African mining companies have been promoting similar programmes.

In both South Africa and Uganda the business community have formed coalitions to develop strategies to meet the challenges in the labour market. The Department of Health in South Africa have developed Guidelines for developing a workplace policy and programme on HIV/AIDS and STD's. Many industries, private firms and larger organisations are working with the unions on prevention programmes, information and to develop better support packages for affected families.

A report on the response of African business actors to HIV/AIDS (Simon et al 2000) underlines that hardly any of these workplace interventions have been systematically evaluated, and that only the successful experiences tend to be reported. Little attention has been given to another and possibly more common strategy adopted by many firms; cost reduction and cost avoidance. This strategy includes reduction of benefits to infected workers, measures to avoid admitting new employees who are infected or thought to be in risk groups, outsourcing of production with workers in high risk groups, and shifts from labour intensive to capital intensive production. In Zimbabwe for example, there is widespread anecdotal evidence of illegal pre-employment HIV testing and of screening of job applicants to avoid persons with risky lifestyles. There are also examples from South Africa of considerable reductions of the ceiling for HIV-related claims in in-house insurance systems.

By reducing their own costs associated with HIV/AIDS, companies effectively shift the costs and the care-burden to households and governments. Of all those who are affected by the epidemic, private firms have the greatest flexibility in containing and avoiding its impact. The private sector clearly has an important responsibility to prevent HIV infections among employees and to care for those who are infected, but it appears inevitable that primary responsibility for prevention and care will continue to fall on governments and households. Private sector action is essential, but is only one of many solutions needed to sustain social and economic development in the face of the epidemic.

5.6 Macro-economic effects

HIV/AIDS puts considerable strains on the macro-economic performance of already troubled economies. The difficulties to mobilise the necessary resources to control the epidemic and mitigate its effects might lead the economy into a downward spiral of stagnation and crisis. GDP falls. In the mid-1990s, inconclusive evidence about the macro-economic effects of HIV/AIDS showed a measurable but small effect on economic performance (see e g Loewenson & Kerkhoven 1995, Brown 1996). Since then, however, evidence is growing that increasing HIV prevalence rates cause both total national income and incomes per capita to fall significantly.

Countries with adult prevalence rates of less than 5 percent will experience only a modest impact on the GDP growth rate. However, as prevalence rises, UNAIDS estimates that a prevalence rate of 20 percent or more leads to a decline in the GDP growth rate with 2 percent a year, and in per capita income with 1 percent (UNAIDS 2000c). Compared to historical economic performance in Sub-Saharan Africa, such losses are very significant.

One way to improve the conditions for Sub-Saharan African countries to maintain growth and handle the epidemic could be radical debt relief. This matter is under discus-

sion, and UNAIDS has proposed a direct link between debt relief and action against AIDS. Even a part-cancellation of current debts could give a boost to national AIDS programmes, as indicated in the table below. In Malawi, if half of the dept relief dividend was diverted to AIDS work, national spending on the epidemic would quadruple. In the case of Zambia, using just a fifth of the dept savings to fight the epidemic would mean a fivefold increase in the national spending for this purpose.

Table 2 Potential of debt relief to generate resources for HIV/AIDS responses

Country	Potential total debt relief dividend on bilateral/multilateral debts (USD/capita)	Current national spending on HIV/AIDS (USD/capita)
Ghana	15.98	0.12
Kenya	12.92	0.76
Malawi	4.46	0.63
Mozambique	2.79	0.16
Nigeria	6.46	0.03
Tanzania	0.70	0.07
Uganda	5.00	1.81
Zambia	16.12	0.73

Source: Adapted from table 2, UNAIDS (2000c).

6. Past, present and future

In its impacts, the AIDS epidemic is unique in human history. Earlier epidemics, such as the 14th century European black plague or the early 20th century Spanish influenza behaved like epidemics; they came, ravaged, and faded out. The AIDS epidemic is here to stay. The only historical event that could bear a comparison is the era of the slave trade.

Like AIDS, the slave trade continued to affect African societies for many decades. It manifested itself in the loss primarily of young adults, through predatory forces beyond the control of local communities. The constant drain of productive members weakened local communities and made them increasingly vulnerable to other attacks, whether by diseases or human enemies. Historical research has confirmed the dramatic long-term effects on whole societies in the form of population decline and socio-political dissolution.

AIDS differs from slave trade in that it affects all countries globally. However, the impact is worse the poorer the country and the greater the economic disparities. Where such conditions prevail, high prevalence of HIV can be expected. The way the epidemic behaves, once rates of around five per cent are reached, is such that the virus begins to spread very fast (unpublished World Bank 2000). This means that what already has happened in Sub-Saharan Africa could happen anywhere in poor and "transition" economies, if successful action to suppress the epidemic is not taken.

6.1 An international challenge

During the late 1990s, a qualitative shift was initiated in the world's attention to AIDS. Important UN agencies formed an International Partnership Against AIDS in Africa, an initiative followed up by a special UN Security Council meeting on AIDS. The World Bank declared AIDS to be an international emergency, and the US government defined AIDS (and other infectious diseases) as a national security issue. Bilateral agencies like Sida developed their own strategic frameworks for mainstreaming AIDS into all development co-operation.

In Sub-Saharan Africa, virtually all governments have pronounced themselves on AIDS as a disaster or a crisis. Sub-regional organisations like SADC have debated the issues seriously, and the 2000 Africa Development Forum of the UN Economic Commission for Africa was dedicated to the theme of AIDS and development. Important references were made by various organisations on the necessity for drastic debt relief in order to permit indebted governments to strengthen their work against the epidemic. There is no longer a silence on these levels of society.

But silence reigns in many local communities, even within families. Stigmatisation, fear of violence or other social reactions are real problems for many people. Governments may talk, but most of them have difficulties in moving from words to action and funding. The international community is still on the whole reluctant to give a distinct priority to AIDS, for instance by shifting substantial financial resources from other sectors.

The implications of delays are serious. As HIV prevalence rises, so do the costs for prevention and care. Once the epidemic expresses itself in increasing numbers of AIDS-

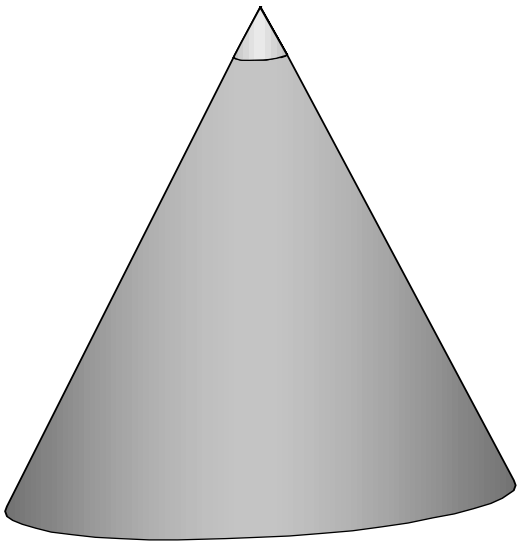
sick, the treatment costs will escalate rapidly. The World Bank estimates that in poor countries "one year of basic treatment for a person with AIDS costs an estimated two to three times per capita GDP in medical costs alone" (unpublished World Bank 2000). In Sub-Saharan Africa, the epidemic is now at a stage where death in AIDS is hitting increasingly at all levels of society. Prevention and care are no longer the only challenges: equally important is to handle and, if possible, mitigate the growing economic and social impacts of the epidemic.

6.2 Impact mitigation must be made a priority

All strategies, policies and programmes to fight the epidemic normally contain references to the three areas of action: prevention, care and support, and impact mitigation. In reality, interventions are still focusing on prevention, and to some extent on care and support. Such a choice is justified in the early stages of the epidemic, where few people have reached the stage of open AIDS and even fewer have died from AIDS. Today, the situation is different. Donors and governments alike need to adjust their priorities to the fact that adult deaths in AIDS in many countries are highly visible, and on the increase. There are good reasons why such an adjustment is both necessary and urgent:

1. The AIDS epidemic is a *long wave phenomenon,* which will last several decades. Currently, of all HIV infected in a country only one tenth or less is openly sick with AIDS (see figure 6). Nine tenths will reach there within one decade, and in their footsteps come new waves of infected groups. Successful prevention will gradually reduce the size of these groups, but cannot prevent adult deaths in AIDS to be with society for a long time ahead.

Figure 6. AIDS-sick people – a small proportion of all HIV-infected



2. Before the advent of AIDS, the most affected countries were already struggling with a wide range of serious social and economic development problems. The epidemic now adds to and deepens existing development problems, making development co-operation both more important and more difficult.
3. The devastating effects of the epidemic on human capital and productive forces in all sectors of society weakens its capacity to successfully reduce further spread of HIV, and to handle growing needs for care and support.

It is imperative that governments and donors strengthen their instruments for assessment of the impact of AIDS mortality in different sectors, and develop a wide range of responses to sustain social and economic development through decades of AIDS-instigated crisis. Such responses are necessary from both public and private sectors, in economic and social investments locally and nationally, and – not least – in all development co-operation.

6.3 Nowhere is the danger over

The characteristics of the HIV/AIDS epidemic are such that experiences from earlier epidemics seem of little value in predicting its course. There are no signs anywhere that the HIV virus "exhausts" itself so that the epidemic could fade out. On the contrary, the virus is taking new forms and continues to spread over human societies. The low prevalence in economically advanced countries is continually under attack from infected migrants or from high-risk behaviour among its own residents. New generations need to be informed, and constant watch over sources on new transmissions is necessary.

In countries where the epidemic seemingly has stabilised at a prevalence level below 5 percent, it is still necessary to monitor the epidemic. As long as the causes behind such differences in HIV prevalence within the same region, even between neighbouring countries, are as poorly understood as they are today, the likelihood of a more rapid spread of HIV cannot be ignored. Again, this requires constant watch, and continuous work to inform new generations about HIV and ways to protect oneself from infection.

In conclusion, it is imperative that both rich and poor countries strengthen their instruments for observing and responding to further spread of HIV. Equally, they need to improve their means for assessing the impact of AIDS in different sectors of society and economy, and develop a wide range of responses to sustain social and economic development through decades of AIDS-instigated crisis. The private sector should be seen as an important partner both nationally and internationally. In every affected country, churches, non-governmental organisations, military and police forces, trade unions and local civil society – all are there as potential or already active collaborators. AIDS spares no one, and all have a role to play in fighting the epidemic.

References

Aboum, A. (co-ordinator), 2000, ELCT-NDW. *Church involvement in the special ministry to children in need (Huyawa) 1989–1999, Evaluation: year 2000,* http://mitglied.tripod.de/HUYAWA/koncept.htm

Ainsworth, M. & W. Teokul, 2000, "Breaking the silence: setting realistic priorities for AIDS control in less developed countries", *The Lancet,* Vol 356, July 1, 2000.

Barnett, T., 1994, *The Effects of HIV/AIDS on Farming Systems and Rural Livelihoods in Uganda, Tanzania and Zambia,* FAO, Rome, February 1994.

Barnett, T. & A. Whiteside, 1999, HIV/AIDS and Development: Case Studies and Conceptual Framework, *The European Journal of Development Research,* Vol. 11, No. 2, December 1999:200–234.

Bollinger L., Stover J., 1999, *The Economic Impact of AIDS in South Africa,* The Futures Group International, September 1999.

Botswana Institute for Development Policy Analysis (BIDPA), 2000, *Impacts of HIV/AIDS on Poverty and Income Inequality in Botswana,* 20 July 2000.

Branson, B.M., 2000, "Rapid tests for HIV Antibody", Medical Advocates for Social Justice. http://www.medadvocates.org/cdc/rapidtest.html

Bredberg-Rådén, U., 2000, "AIDS slår mot Afrikanska företag", *Dagens Nyheter,* 000807.

Brown, L., 1996, *The Potential Impact of AIDS on Population and Economic Growth Rates,* IFPRI, Washington.

Caldwell, J.C., 2000, "Rethinking the African AIDS Epidemic", *Population and Development Review,* 26(1): 117–135, March 2000.

Carlbom, H., 2000. Läkartidningen, vol. 97, nr. 28-29, 2000:3284–3290.

The Economist, 2000, *A turning-point for AIDS?* July 15th 2000:77–79.

FAO, 1997, *The Rural People of Africa Confronted with AIDS: a Challenge to Development. Summary of FAO studies on AIDS.* Rome, December 1997.

Grosskurth, H., et al, 1999, "Control of sexually transmitted diseases for HIV-1 prevention: understanding the implications of the Mwanza and Rakai trials", *The Lancet,* Vol.354, Sept. 1999.

Foster, G. et al, 1995, "Orphan Prevalence and Extended Family Care in A Peri-Urban Community in Zimbabwe", *AIDS Care* 1995:7.

Haslwimmer, M., 1994, *What has AIDS to do with Agriculture?* FAO, Rome.

Hemrich, G. & Schneider, B., 1997, *HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation. Focus on Agriculture and Rural Development,* GTZ, Eschborn.

Horizons, "Peer Education and HIV/AIDS: Past Experiences, Future Directions", *Horizons Report 3,* 1999/2000, Population Council. http://www.popcouncil.org/horizons

Hunter, S. & J. Williamson, 2000, *Children on the Brink: Updated Estimates & Recommendations for Intervention,* USAID, http://www.dec.org/pdf_docs/pnacj284.pdf

Im-em, W., 1999, "Changing partner relations in the era of AIDS in Upper North Thailand, in *Resistance to Behavioural Changes in Reduce HIV/AIDS Infection,* ed Caldwell J.C., et al, Health Transition Centre, National Centre for Epidemiology and Population Health, Australian National University, Canberra.

The Impending Catastrophe: A resource book on the emerging HIV/AIDS epidemic in South Africa, produced by Abt. Assoc. (South Africa) inc. and published by Love Life with support from the Kaiser Foundation, 2000, available at http://www.lovelife.org

International Labour Office (ILO), 2000, *HIV/AIDS: A threat to decent work, productivity and development,* Document for discussion at the Special High-Level Meeting on HIV/AIDS and the World of Work, Geneva, 8 June 2000.

Loewenson, R. & R. Kerkhoven, 1995, *Socio-Economic Impact of AIDS: Issues and Options,* Report prepared for the Embassy of Sweden, Harare, Zimbabwe, December 1995.

Ministry of Education (ME), *Impact Assessment of HIV/AIDS on the Education Sector,* Mbabane, Swaziland, November, 1999.

Moen, K. & B. Egerö, 1998, *AIDS and Infrastructure: The Pangani Falls Redevelopment Project (PFRP) and the Lower Kihansi Hydropower Project,* Report to Sida, Sodeco, Lund June 1998.

Nii-Amoo Dodoo, F. & A. Adomako Ampofo, 1998, *AIDS-Related Condome Use among Married Kenyan Men,* African Population and Heealth Research Center (APHRC) Working Paper No. 8.

O'Kane, M., 2000, "Pain and despair in the land of the dying", *The Guardian Weekly,* July 13–19 2000

Onishi, N., 2000, "AIDS Cuts Swath Through Africa's Teachera", New York Times, August 14, 2000

PANOS, 1992, *The Hidden Costs of AIDS. The Challenge of HIV to Development,* The Panos institute, London.

PANOS, 2000, *Beyond our means? The cost of treating HIV/AIDS in the developing world,* The Panos Institute, London. http://www.panos.org.uk

Parry, S., 1996, *"Foster Care for Orphaned Children on Commercial Farms in Zimbabwe",* SafAIDS News 4/4, Dec. 1996.

Pisani, E., 2000, "AIDS into the 21st Century: Some critical considerations", *Reproductive Health Matters,* 8:15, 63–77.

Rugalema, G. with S. Weigang & J. Mbwika, 1999, *HIV/AIDS and the Commercial Agricultural Sector of Kenya. Impact, Vulnerability, Susceptibility and Coping Strategies,* FAO/UNDP.

Sakboon, M., 2000, "Southern Exposure", *POZ*, July 2000, online journal available at http://www.theboby.com/poz

Schoofs, M., 1999, "All That Glitters. How HIV Caught Fire in South Africa. Part One: Sex and the Migrant Miner", *The Village Voice,* April 28, 1999.

Schoofs, M., 1999, "A Womans Work. How HIV Caught Fire in South Africa. Part Two", *The Village Voice,* May 12, 1999

Schell, R. & R. Zeitlin, 2000, *Positive outcomes: The chanses of acuiring HIV/AIDS during the school-going years in the Eastern Cape, 1990–2000,* Working Paper no. 26, PRU Rhodes University, SA.

Simon, J. et al, 2000, "The Reponse of African Business to HIV/AIDS", Forthcoming in: *HIV/AIDS in the Commonwealth,* Commonwealth Secretariat.

Stover, J. & L. Bollinger, 1999, *The Economic Impact of AIDS,* The Policy Project, The Future Group International, March 1999.

Topouzis, D., 1994a, *Uganda- The Socio-Economic Effects of HIV on Rural Families. With an Emphasis on Youth,* FAO, Rome, February 1994.

Topouzis, D. & J. Du Guerny, 1999, *Sustainable Agriculture/Rural Development and Vulnerability to the AIDS Epidemic,* FAO and UNAIDS Joint Publication, UNAIDS Best Practice Collection, December 1999.

Tolfree, D., 1995, *Roofs and Roots. The care of separated children in the developing world,* Save the Children.

Tibaijuka, A.K., 1997, "AIDS and Economic Welfare in Peasant Agriculture: Case Studies from Kagabiro Village, Kagera Region, Tanzania", *World Development,* Vol. 25, No. 6, pp-963–975, 1997.

UNAIDS 1997a, *Report on the Global HIV/AIDS epidemic: estimates as of December 1997,* UNAIDS Geneva.

UNAIDS 1997b, *Women and AIDS, UNAIDS' point of view,* UNAIDS October 1997.

UNAIDS 1999a, *AIDS Epidemic Update: December 1999,* UNAIDS/WHO, Geneve.

UNAIDS 1999b, *Differences in HIV Spread in Four Sub-Saharan African Cities,* UNAIDS, Lusaka.

UNAIDS 1999c, *Prevention of HIV transmission from mother to child. Strategic options,* UNAIDS, Geneva May 1999.

UNAIDS, 1999d, *A review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa,* UNAIDS Best Practice Collection, June 1999.

UNAIDS, 2000a, *Report on the global HIV/AIDS epidemic,* UNAIDS, June 2000.

UNAIDS, 2000b, *HIV and health care reform in Phayao. From crisis to opportunity,* Best practises-booklet UNAIDS April 2000.

UNAIDS, 2000c, *Meeting of Ministers of Health of the OAU on HIV/AIDS,* 7–9 May 2000, Ouagadougou, Burkina Faso.

UNICEF 2000, *The Progress of Nations 2000,* New York, http://www.unicef.org/pon00/

UPI (United Press International), 05-09-2000

US Bureau of the Census, 1999, *World Population Profile 1998,* US Bureau of the Census, Washington, D.C., February 1999.

US Bureau of the Census, *International Data Base,* August 2000, http://www.cencus.gov/ipc/www/

Wallenlind, A., 2000, "Moçambiques unga lärare tar upp kampen mot aids", *Södra Afrika,* 6/2000.

Whiteside, A. & C. Sunter, AIDS K., 2000, *The Challenge for South Africa,* Human & Rousseau, Tafelberg, Cape Town.

WHO 2000, *The World Health Report 2000,* WHO, Geneva.

Williamsson, J., 2000, "Finding a way forward: Principles and strategies for intervention", Draft, November 2 1999, to be published as Chapter 3 in the forthcoming book, *The Orphan Generation – The Global Legacy of the AIDS Epidemic.* Small World Productions, 1999. (It can be ordered through UNICEF web site: http://www.unicef.org)

World Bank 2000, Unpublished World Bank document on "Intensifying Action Against HIV/AIDS"

NB All UNAIDS document can be found on UNAIDS web site http://www.unaids.org

Annex 1

Bibliography to AIDS-desk study

General Readings

Egerö, B. & M. Hammarskjöld, *HIV/AIDS in the World Today – A Summary of Trends and Demographic Implications,* Report to Sida/DESO/Hälso, Sodeco, Lund, March 2000, revised version.

Stover, J. & A. Johnston, *The Art of Policy Formulation: Experiences from Africa in Developing National HIV/AIDS Policies,* The Policy Project, The Future Group International, August 1999 http://www.tfgi.com

UNAIDS, *Report on the global HIV/AIDS epidemic,* June 2000.

Whiteside, A. & C. Sunter, *AIDS. The Challenge for South Africa,* Human & Rousseau, Tafelberg, Cape Town 2000.

Care and Support

PANOS, *Beyond our means? The cost of treating HIV/AIDS in the developing world,* The Panos Institute, London, 2000. http://www.panos.org.uk

Williamsson, J., "Finding a way forward: Principles and strategies for intervention", Draft, November 2 1999, to be published as Chapter 3 in a forthcoming book, *The Orphan Generation – The Global Legacy of the AIDS Epidemic,* Small World Productions, 1999. (It can be ordered through UNICEF's web site: http://www.unicef.org)

UNAIDS, *Voluntary Counselling and Testing,* Technical Update, Best Practice Collection May 2000.

UNAIDS, *Knowledge is Power: Voluntary HIV Counselling and Testing in Uganda,* Case study, Best Practices Collection, June 1999.

WHO/UNAIDS, *Key elements in HIV/AIDS care and support,* (Sept. 2000) draft working document that in September 2000 was possible to downloaded in MS-WORD format (163KB) from:
http://www.unaids.org/publications/documents/care/general/WHOUNAIDSCARE.doc

Gender

Baden, S. & H. Wach, *Gender, HIV/AIDS transmission and impact: a review of issues and evidence,* Briefing prepared for Sida, Sida, Stockholm, November 1998.

DeCarlo, P., *HIV Among Women in Developing Countries,* Harvard AIDS Review, Spring 1999, http://www.hsph.harvard/hai/publications/HAR_Archive/spring99-2.htm

Panos, *AIDS and Men. Taking Risks or Taking Responsibility,* Panos/Zed, 1999.

Pool, R., M. Maswe, J. Ties Boerma, S. Nnko, "The price of promiscuity: why urban males in Tanzania are changing their sexual behaviour", in *Health Transition Review,* Vol. 6, No. 2, Oct. 1996.

Rivers, K.& P. Aggleton, *Men and the AIDS Epidemic,* Thomas Coram Research Institute, Institute of Education, University of London, UNDP, 1999. http://www.undporg/publications/gender

UNAIDS, *Gender and HIV/AIDS,* Technical updates, September 1998.

UNAIDS, *AIDS 5 years since ICPD. Emerging issues and challenges for Women, Young People and Infants,* UNAIDS Discussion Document, February 1999.

UNAIDS, *Gender and HIV/AIDS: Taking stock of research and programmes,* UNAIDS *Best practice Collection,* March 1999.

UNAIDS, *Reducing Girls' Vulnerability to HIV/AIDS: The Thai approach,* UNAIDS Case Study, June 1999.

Impact

Barnett, T. & A. Whiteside, *Guidelines for Studies of the Social and Economic Impact of HIV/AIDS,* UNAIDS, Best Practice Collections, Geneva 2000.

Badcock-Walters, P. & A. Whiteside, 2000, *HIV/AIDS and Development in the Education Sector,* Health Economics and HIV/AIDS Research Division (HEARD), University of Natal, Durban. http://www.und.ac.za/und/heard/

Hammarskjöld, M. & D. Mårtensson, *HIV/AIDS and the Natural Resource Management Sector,* Report to Sida, Sodeco Lund, September 1998.

Hunter, S. & J. Williamson, 2000, *Children on the Brink: Updated Estimates & Recommendations for Intervention,* USAID. http://www.dec.org/pdf_docs/pnacj284.pdf

Ministry of Education, *Impact Assessment of HIV/AIDS on the Education Sector,* Mbabane, Swaziland, November, 1999.

Rugalema, G. with S. Weigang & J. Mbwika, *HIV/AIDS and the Commercial Agricultural Sector of Kenya. Impact, Vulnerability, Susceptibility and Coping Strategies,* FAO/UNDP, 1999.

Simon, J. et al, "The Responses of African Business to HIV/AIDS", Forthcoming in: HIV/AIDS in the Commonwealth, Commonwealth Secretariat, 2000.

Stover, J. & L. Bollinger, *The Economic Impact of AIDS,* The Policy Project, The Future Group International, March 1999. http://www.tfgi.com

Topouzis, D. & J. Du Guerny, *Sustainable Agriculture/Rural Development and Vulnerability to the AIDS Epidemic,* FAO and UNAIDS Joint Publication, UNAIDS Best Practice Collection, December 1999.

UNAIDS, *A review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa,* Best Practice Collection, Geneva, June 1999.

UNAIDS, *Report on the global HIV/AIDS epidemic,* Geneva, June 2000.

Prevention

Grosskurth, H., et al, "Control of sexually transmitted diseases for HIV-1 prevention: understanding the implications of the Mwanza and Rakai trials", *The Lancet,* Vol.354, Sept. 1999

Moen, K. & B. Egerö, *AIDS and Infrastructure: The Pangani Falls Redevelopment Project (PFRP) and the Lower Kihansi Hydropower Project,* Report to Sida, Sodeco, Lund June 1998.

Horizons, "Peer Education and HIV/AIDS: Past Experiences, Future Directions", *Horizons Report 3,* 1999/2000, Population Council. http://www.popcouncil.org/horizons

Horizons,"The Female Condome in Zimbabwe. The interplay of research, advocacy, and government action", Research Summary no.1, 1999, Population Council http://www.popcouncil.org/horizons

UNAIDS, *A Measure of Success in Uganda. The Value of Monitoring both HIV Prevalence and Sexual Behaviour,* Geneva, May 1998.

UNAIDS, *Microbicides for HIV prevention,* UNAIDS Technical Update, April 1998.

UNAIDS, *Acting early to prevent AIDS: The case of Senegal,* Geneva, 1999.

UNAIDS, *Innovative Approaches to HIV Prevention. Selected Case Studies,* Geneva, October 2000.

Priorities ahead

Ainsworth, M. & W. Teokul, "Breaking the silence: setting realistic priorities for AIDS control in less developed countries", *The Lancet,* Vol. 356, July 1, 2000

Barnett, T. & A. Whiteside, HIV/AIDS and Development: Case Studies and Conceptual Framework, *The European Journal of Development Research,* Vol. 11, No. 2, December 1999:200–234.

Hemrich, G. & D. Topouzis, "Multisectoral Responses to HIV/AIDS: Constraints and Opportunities for Technical Co-operation", in *Journal of International Development,* 12, 2000:85–99.

Caldwell, J.C., "Rethinking the African AIDS Epidemic", *Population and Development Review,* 26(1): 117–135, March 2000.

Pisani, E., "AIDS into the 21st Century: Some critical considerations", *Reproductive Health Matters,* 8,15, 2000:63–77.

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