

Gender, HIV/AIDS transmission and impacts: a review of issues and evidence

Briefing prepared for Sida

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ABBREVIATIONS

ANC	Ante-natal clinic
AZT	3'-azido-2',3'-dideoxythymidine
BEMFAM	<i>Sociedade Civil Bem-Estar Familiar no Brasil</i> (Brazil Family Association – <i>Bem Estar</i>)
BRIDGE	Briefings on development and gender (IDS)
FP	Family planning
GDP	Gross domestic product
HIV/AIDS	Human immuno-deficiency virus/ Acquired immuno-deficiency syndrome
IDS	Institute of Development Studies
SAfAIDS	Southern African AIDS Information Dissemination Service
KABP	Knowledge, attitudes, beliefs and practices
SSA	Sub-Saharan Africa
Sida	Swedish International Development Co-operation Agency
STD	Sexually transmitted disease
TASO	Tororo AIDS Support Organisation (Uganda)
TB	Tuberculosis
TBA	Traditional birth attendant
UNAIDS	United Nations AIDS organisation
WHO	World Health Organisation

Executive summary

This study reviews the existing statistical data available to describe how HIV/AIDS is affecting men and women differently, drawing on data on reported AIDS cases, data from sero-prevalence surveys and estimates of overall HIV/AIDS trends based on these and other indicators. Women form 40.4 percent of the 5.2 million newly infected people, 41.0 percent (12.1 million) of the 29.5 million living with HIV/AIDS. Of AIDS deaths, 45.5 percent (0.82 million) of the 1.8 million deaths in 1997 and 44.4 percent (four million) of the nine million adult AIDS deaths to date were of women.

The female: male ratio of HIV/AIDS infection varies by age, with women tending to be infected at younger ages on average than men. Regional variation in the extent to which men and women are affected is also evident, with highest rates of female infection occurring in countries where heterosexual transmission is the dominant mode and overall prevalence rates are high, including Sub-Saharan Africa and the Caribbean. In Africa, with an adult prevalence rate of 7.41 percent, 50 percent of those infected are female. In the Caribbean, with the next highest adult prevalence rate of 1.82 percent, 33 percent of those infected are female. The percentage of women among those infected is particularly low (and therefore the proportion of men higher) in East Asia and the Pacific (13 percent). Up to 80 percent of all women worldwide affected by HIV/AIDS are in Sub-Saharan Africa. Peri-natal transmission is also an important and gender-specific route of HIV infection, where significant numbers of the female population of reproductive age are infected. Overall, around 33 percent of children of HIV-positive mothers are estimated to be infected.

Lack of time series data makes it difficult to assess trends in HIV/AIDS infection from a gender perspective. This in part reflects recent changes in estimation procedures, which have created discontinuity in the available data series and led to much higher estimates than those previously given. Infection rates are rising rapidly in much of Asia, Eastern Europe and Southern Africa. Alarming evidence from e.g. Botswana, Zimbabwe and South Africa shows rapidly rising infection rates among pregnant women, indicating a spread to the general population. In Latin America the picture is mixed, with HIV-prevalence rising rapidly in some countries but not in others. There is some evidence though, that heterosexual transmission is on the increase with the prospect that greater numbers of women will become infected.

As well as reporting the patterns and trends, which can be ascertained based on existing data, the report examines the limitations of the data available. Two main limitations are highlighted with respect to their ability to accurately describe the gender-differentiated pattern of development of the HIV/AIDS epidemic. Firstly, there is inadequate gender disaggregation of the existing dataset. For example, data on HIV/AIDS among children (under 15s) does not seem to be routinely disaggregated, while young women among this age group may be particularly vulnerable. Nor is data on reported AIDS deaths differentiated by gender for a large number of countries. Secondly, there may be areas of unintentional 'gender bias' in data collection and analysis, which might skew estimates. It is suggested that, overall, these might work in the direction of biasing downwards estimates of the extent to which women (or at least some groups of women) are affected by HIV/AIDS. Possible areas of bias identified are:

- ❑ biases in the diagnosis of HIV/AIDS, which may lead to an underestimation of the extent of impact on women, due to coinfection patterns (especially with TB), and to the social stigma associated with AIDS particularly for women. Linked to this, the failure to pick up HIV/AIDS among mothers of young children who die as a result of AIDS in infancy, where this may be masked by associated illnesses.
- ❑ selection biases in seroprevalence surveys, due to excessive focus on particular population sub-groups (e.g. sex workers; women at antenatal clinics) or neglect of others (e.g. post-menopausal women; women with STDs) which may require more outreach. Some analysts have argued for a move away from large-scale serosurveillance through antenatal clinics to a more targeted approach, with greater focus on younger people.
- ❑ inaccurate knowledge or assumptions about sexual networking linked to HIV/AIDS transmission, based on misunderstanding and lack of awareness of gendered norms surrounding sexual relations

Improved understanding of, and response to, HIV/AIDS may be facilitated by greater integration of collection and analysis of data with that on reproductive health more generally. For example, recent research on fertility and HIV/AIDS has identified a tendency to underestimate prevalence levels, which are likely to be higher among women of reproductive age in the general population than among those reporting to antenatal clinics.

The report also argues that gender analysis is central to a comprehensive understanding of HIV/AIDS transmission, because of its immediate relevance to sexual behaviour, which is the variable most directly affecting HIV/AIDS transmission. Three aspects are critical to a better understanding of (and therefore response to) HIV/AIDS:

- The immediate physiological factors involved in male-female sexual relations and other forms of transmission (based largely on medical research), and which contribute to increased vulnerability of particular sub-groups of women (and in some cases men) to HIV infection;
- The socio-economic and socio-cultural motivations underlying sexual behaviour, which differ for women and men;
- Power as an aspect of gender relations, affecting the ways in which men and women can negotiate sexual relations, *inter alia*.

In terms of understanding the socio-economic and socio-cultural determinants of sexual behaviour, the following aspects are identified as important:

- gender-differentiated awareness of issues of reproductive and sexual health;
- gendered ideology and norms around sexual behaviour;
- differing motivations for sexual activity;
- varying powers to negotiate around sex and other possible risks.

A broad range of issues are identified which highlight the gender-differentiated impact of HIV/AIDS. Most importantly, the HIV/AIDS epidemic leads to changes in household structure and divisions of labour which highlight the importance of women's reproductive labour in maintaining households. Analyses of impact have focused mainly on the macrodemographic and sectoral or macroeconomic impacts of HIV/AIDS, paying little attention to the consequences for reproductive labour arrangements, and their knock on effects economically and socially.

These general arguments are illustrated with examples from three country case studies, on Bangladesh, Brazil and Uganda, chosen according to the World Bank (1997) classification of countries into 'nascent', 'concentrated' and 'generalised' in terms of their experience of HIV/AIDS. In turn, these country case studies focus on issues of gender difference in HIV/AIDS awareness, socio-cultural norms leading to vulnerability to infection, and sexual taboos which may contribute to increased risk and vulnerability (Bangladesh); on the risk groups approach to tracking HIV/AIDS transmission and the gendered nature of sexual relations (Brazil); and on the socio-economic and demographic impacts of HIV/AIDS (Uganda).

In conclusion, some tentative recommendations are made about ways to improve data collection and analysis from a gender perspective, in line with current understandings of HIV/AIDS and its likely trajectory. These are:

1. To refocus monitoring efforts onto different groups, with attention to implicit gender biases in current surveillance procedures. This should definitely include younger age groups, with systematic gender disaggregation, raising the question of whether 'children' (under 15s) as a category should be further disaggregated (by gender). The younger average age of infection among women makes this a priority. Better outreach to groups currently overlooked by the current system – e.g. women affected by STDs (who are unlikely to come forward or to be captured by ANCs) and post-menopausal women is also desirable.
2. For closer integration of reproductive and sexual health/ demographic data with HIV/AIDS monitoring/estimation procedures, to allow for better understanding of relationships and correcting of HIV/AIDS estimates. This includes data on fertility, STD prevalence broadly, infant and child mortality, as well as HIV/AIDS. Improved estimates and analysis of the former should improve accuracy of the latter, which depends on these indicators for estimation purposes. Closer integration of HIV/AIDS monitoring with data collection on maternal and child mortality might also highlight where AIDS related deaths are currently being missed.
3. Improved data/ research on sexual behaviour, from the starting point of gender analysis, which is central to understanding different socio-cultural beliefs and norms, motivations and capacities for negotiation around sexuality.
4. Closer links between data-collection and support services for HIV/AIDS victims. Given the socio-economic implications that women face when their partners become ill, families need counselling in order to develop forward looking perspectives for survivors. A gender-sensitive community-based approach to coping with the impact of HIV/AIDS is essential in the creation of a supportive environment and can potentially contribute to a lessened social stigma associated with HIV/AIDS.

1. Introduction

1.1 Background to study

This paper was commissioned as an input into the Task Force set up by Sida to develop a Strategy for Swedish Development Co-operation in the Area of HIV/AIDS. The overall objective of the strategy is 'to reduce transmission of HIV/AIDS and address the socio-economic causes and consequences of the epidemic' (Sida, 1998a). The focus is on HIV/AIDS as a development issue, recognising its relationship to poverty, gender equality and human rights (*ibid.*). One input into strategy development is a synthesis of existing knowledge of the present situation of HIV/AIDS globally, regionally and on different groups and sectors. To this end, a Review of Global and Country HIV/AIDS Situation has been prepared (Sida 1998b) which gives an overview of the epidemiology and demographic impact of HIV/AIDS at global, regional and country levels (focusing on 33 countries where Sida's development co-operation is mainly located), as well as a commentary on the quality and reliability of data available.

The present review aims to feed into the work of the Task Force, specifically in terms of improving the analysis of gender inequality within the overall assessment of HIV/AIDS as a development issue. Thus it covers the some of the same areas as the existing Review (Sida 1998b) but introduces more qualitative and country level analysis, in order to identify gender-related factors of relevance to the understanding of the current HIV/AIDS epidemic (see Annexe 1 for the TORs for this study). Issues related to policy and programme responses to HIV/AIDS are in the main not treated in the present report.

1.2 Overview

This review draws on the most recent data available from UNAIDS and elsewhere, to present a comprehensive picture, at the global and regional levels, of the sex distribution of HIV/AIDS and, where possible, of its gender-differentiated impact. Drawing on the World Bank (1997) classification of countries as either 'nascent,' 'concentrated,' or 'generalised' in terms of the development of HIV/AIDS, this study also examines data and research available at country level, in order to examine gender issues which arise at different 'stages' of development of the epidemic¹.

The paper uses global, regional and country level information to highlight assumptions underlying the current processes of reporting on and estimating HIV/AIDS prevalence and its impact and where these processes might contain 'gender biases'. Commentary is also made, where possible, on the scope and quality of data available on the sex distribution of HIV/AIDS and other relevant indicators. It points to areas where current data collection systems could be more systematically or effectively gender-disaggregated. Finally, it looks at the potential to improve the information base related to HIV/AIDS by better integration with broader reproductive health data as well as more qualitative research on sexual behaviour. Tentative suggestions are made about possible areas where HIV/AIDS-related data gathering and

¹ However, as is highlighted below, there is no direct correspondence between region and 'stage' of the epidemic, except possibly for Sub-Saharan Africa, where most countries are classified as 'generalised.' Nor is there any necessary pattern of progression from one 'stage' to the other.

analysis could be made more gender-aware.

2. Global prevalence of HIV/AIDS: background and estimation methods

2.1 Global data on sex distribution of HIV/AIDS

The latest global report on HIV/AIDS published in June 1998 (UNAIDS, 1998a) spelled out clearly that AIDS is a widespread epidemic, affecting whole populations rather than just 'at risk groups' marked by 'adverse' sexual behaviour. The new figures illustrate the extent to which women and children are directly affected, especially in Sub Saharan Africa. Not only has data availability increased but sophisticated models have also been developed which are capable of making more accurate estimations about the course and impacts of the disease, so that demographic and socio-economic projections are now possible for at least some individual countries. Annex 2 gives details of different types of models used in analysing HIV/AIDS transmission and particularly of recent developments in modelling for estimation purposes²

Before 1992, AIDS cases reported to the WHO were not disaggregated by gender. Only localised surveys provided such data. An evaluation of localised surveys over time by Mann *et al* (1992:124) indicated that the sex ratio of reported AIDS cases was declining (i.e. the proportion of women infected was increasing). The 1992 *AIDS in the World* survey estimated a global male to female ratio of adult HIV-infections of 1.5, indicating that 40 percent of those affected were women (*ibid.*: 31).

A 1995 publication (WHO *et al* 1995:5) confirmed these estimations, stating that by 1994, women accounted for 40 percent of all new HIV infections and 50 percent of all new AIDS cases. By 1994, it was estimated that 1.5 million children and 7.8 million women (43 percent of all adults affected) had contracted the HIV-infection since the beginning of the epidemic (*ibid.*). The same study estimated that by the year 2000, approximately 14 million women would have been infected with HIV and four million would have died, leaving five million orphans³ (*ibid.*).

UNAIDS (1998a) draws on more detailed surveillance data which has become available and paints a slightly different picture (see Table 1 below). The overall number of HIV-infected persons and AIDS deaths has increased considerably over previous estimates, although there appears to be little change in the estimations regarding the proportion of women affected. According to this data, women form 40.4 percent of the 5.2 million newly infected people, 41.0 percent (12.1 million) of the 29.5 million living with HIV/AIDS. Of AIDS deaths, 45.5

² Reported AIDS cases represent a fraction of actual AIDS cases. To capture the broader effects on the population, as well as the numbers of HIV infected persons, a variety of estimation procedures are used. This is necessary for two reasons:

1. Not all AIDS cases are diagnosed
2. HIV infection, which is asymptomatic, manifests itself 8-10 years prior to the outbreak of AIDS (Anderson 1991:582), and therefore serves as a hidden factor in the development of the disease over time.

Estimations allow an assessment of the impact of AIDS on the population structure as well as on different socio-economic sectors. Such information assists planners to identify policy priorities and to allocate resources accordingly (see section below on socio-economic and demographic impact of HIV/AIDS).

³ 'Orphan' is defined as a child under 15 years of age, who has lost his/her mother or both parents (UNAIDS 1997a).

percent (0.82 million) of the 1.8 million deaths in 1997 and 44.4 percent (four million) of the nine million adult AIDS deaths to date were of women⁴.

Table 1: Global estimates of HIV/AIDS⁵

	Total 1997 (mill.)	Adults 1997 (mill.)	Women 1997 (mill.)	% women	Children>1 5 1997 (Mill.)	1995* (total)
People newly infected	5.8	5.2	2.1	40.4	0.59	**
People living with HIV/AIDS	30.6	29.5	12.1	41.0	1.1	14.4
AIDS deaths	2.3	1.8	0.82	45.5	0.46	
AIDS deaths since the beginning of the epidemic	11.7	9	4	44.4	2.7	4.1
Reported AIDS cases	1.6	**	**	**	**	1.2

Source: UNAIDS 1997a

*WHO 1995

**No data available

The new figures also project that by the year 2000, more than 40 million people will be infected with HIV and estimate that, already (by 1997) 11.7 million women, men and children are thought to have died of AIDS, leaving 8.2 million orphans.

The UNAIDS 1997 scenario estimates that of 16 000 new infections per day:

- More than 90 percent occur in developing countries;
- Ten percent occur in children under 15 years
- Of the remaining 14000 cases:
 - More than 40 percent are in women;
 - Over 50 percent are in the age group 15-24 years.

(UNAIDS, 1998a).

Over 90 percent of women in developing countries are unaware that they are HIV-positive (UNAIDS 1998a:48).⁶ This lack of knowledge relates in part to low levels of education, awareness and poor access to health facilities. But it is also a product of women's reluctance to submit to testing, even where this is available, because the consequences that may ensue are often particularly hard for women to face (see section 8.3 on Uganda).

2.2 Global trends

Current estimates of HIV/AIDS prevalence and mortality are sharply higher (by about one third) than the previous ones (UNAIDS, 1998a). Given changes in estimation procedures (see Annex 2), it is hard to establish clearly any global trends in HIV/AIDS transmission, infection and mortality. This is particularly true for gender-disaggregated data, where this has not been systematically collected or compiled over time.

⁴ It is not clear why women form a higher proportion of AIDS deaths than of those who are HIV-infected. This suggests either that female HIV infection rates may be underestimated, that male deaths are underestimated, and/or that other, as yet poorly understood factors come into play.

⁵ It is not clear from the sources how these global estimates are arrived at, particularly with regard to the proportion of women who are infected, and what assumptions are made in arriving at these figures.

⁶ Comparative figures are not given for men. Many KABP surveys, however, reveal a lower level of knowledge of HIV/AIDS among women than men (see e.g. section 8.2 on Bangladesh).

3. Regional data on HIV/AIDS

3.1 Sex distribution of HIV/AIDS by region

The 1997 data on the regional distribution of HIV/AIDS contains for the first time information in relation to age and sex (see Table 2 below). The table shows, unsurprisingly, that where the prevalence of HIV/AIDS is highest in the overall population, the percentage of women infected is also high. In Africa, with an overall adult prevalence rate of 7.41 percent, 50 percent of those infected are female. In the Caribbean, with the next highest adult prevalence rate of 1.82 percent, 33 percent of those infected are female. Linked to this, the percentage of women infected is high where heterosexual transmission dominates, again mainly in these two regions. The percentage of women among those infected is particularly low (and therefore the proportion of men higher) in East Asia and the Pacific (13 percent) and Australia/New Zealand (six percent). Overall, the highest concentration of infected women is in Africa (80 percent of the global total) followed by South and Southeast Asia (13 percent).

Examination of UNAIDS data illustrates regional differences in the impact of HIV/AIDS on children. With over 80 percent of all infected women in Sub Saharan Africa, the vast majority of orphans (95 percent) and HIV-infected children (87 percent) live in this region⁷.

⁷ Since HIV-related deaths among children are used as an indicator of HIV infection among women (children are likely to progress faster to death), the relationship between these data may be a function of the estimation procedure.

Table 2: Regional patterns of HIV/AIDS

Estimations, 1997

Region	Epidemic started*	Main modes of transmission*	% adults living with HIV/AIDS	% of adults living with HIV/AIDS which is female	distribution of adult women living with HIV/AIDS (%)	distribution of all children living with HIV/AIDS (%)	distribution of all AIDS orphans (%)
Sub-Saharan Africa	Late 70's, early 80's	Hetero	7.41	50	81.1	87.3	95.1
North Africa & Middle East	Late 80's	IDU, Hetero	0.13	20	0.3	0.6	0.2
South & South-East Asia	Late 80's	Hetero	0.61	26	12.3	7.4	2.4
East Asia & Pacific	Late 80's	IDU, Hetero, MSM	0.05	13	0.4	0.2	0.0
Latin America	Late 70's, early 80's	MSM, IDU, Hetero	0.52	18	2.0	1.4	1.1
Caribbean	Late 70's, early 80's	Hetero, MSM	1.82	33	0.8	0.8	0.6
North America	Late 70's, early 80's	MSM, IDU, Hetero	0.55	20	1.4	0.8	0.9
Western Europe	Late 70's, early 80's	MSM, IDU	0.23	21	0.8	0.5	0.1
Eastern Europe & Central Asia	Early 90's	IDU, MSM	0.09	21	0.3	0.4	<0.001!
Australia & New Zealand	Late 70's, early 80's	MSM, IDU	0.11	6	0.0	<0.01	<0.006
Total:			0.97	41	100.0	100.0	100.0
Million			29.5	12.1	12.1	1.1	8.2

Source: UNAIDS 1998a; * UNAIDS 1997a

Key:

Hetero = Heterosexual transmission

IDU = Intravenous drug use

MSM = Men having sex with men

3.2 Mode of transmission

Looking at the main modes of transmission in UNAIDS data from 1998 suggests that a regional classification conceals the divergence in infection patterns⁸ between different countries and probably between different areas within countries. Furthermore, the rate of transmission is thought to differ from region to region according to the quality of the health-care system. While the incubation time from HIV-infection to AIDS is generally taken as ten years, it is assumed to be eight years in Africa, where health care provision is relatively poor. In Asian countries, the value is generally assumed to be between eight and ten, depending on the quality of the health system (UNAIDS 1998a:55)⁹.

In Sub Saharan Africa, for example, infection through heterosexual contact is estimated to range from 17-100 percent of total infections for different countries. UNAIDS data, however, does not suggest that the estimated HIV infection rate correlates to the main mode of transmission. In both Benin and Angola, for example, two percent of the adult population are estimated to have the HIV infection. While in Angola, 59 percent of cases of HIV infection are thought to be transmitted through heterosexual intercourse, in Benin this mode of transmission is estimated to be responsible for 92 percent of infections. Nevertheless, it can also be observed that in countries with estimated infection rates greater than 15 percent, transmission through heterosexual intercourse is always above 80 percent.

Table 2 illustrates that the major mode of transmission in SSA is through heterosexual intercourse, with marriage as the major risk factor for any African woman to contract the HIV-virus (Reid and Bailey, 1992: 2; Zaba and Gregson, 1998). In general, infection rates of women tend to be higher where heterosexual transmission dominates, whereas IDU and homosexual transmission tend to lead to a higher percentage of men being infected. However, these categories vary between places and over time. For example, female drug users are often also sex workers and/or partners of male drug users. How HIV/AIDS infection develops from a concentrated to a generalised pattern is not clear, although patterns of mobility and sexual behaviour are clearly important.

Peri-natal transmission is also an important and gender-specific route of HIV infection where significant numbers of the female population of reproductive age are infected. Overall, around 33 percent of children of HIV-infected mothers are estimated to be infected (WHO *et al*, 1995) (see section 6.1.1 for further details).

3.3 Sources of regional data

Regional data is drawn from information about the transmission and pattern of HIV/AIDS in different countries. Since access to health services for all and widespread screening is difficult in developing countries, data collection is focused on sentinel surveillance in a few sites as listed in the UNAIDS 1998 Report:

- Pregnant women in urban areas

⁸ The sources examined do not clarify the data or assumptions underlying analyses of what proportion of infections occur through specific transmission routes.

⁹ This is the period after which 50 percent of HIV-infected persons are assumed to have developed AIDS. The time from developing AIDS to death is generally assumed to be one year (*ibid*: 55).

- Pregnant women outside major areas
- Military forces in major urban areas
- Military forces outside major urban areas
- STD patients (male)
- Sex-workers (female, urban areas)
- Intravenous drug users
- The gay community

UNAIDS (1998a) suggests that a high prevalence of HIV/AIDS in the normal population indicates a later phase in the progress of the epidemic. Pregnant women and the military forces are assumed to represent the 'normal' population (of women and men respectively), whilst sex-workers, intravenous drug users and gay men are considered 'at-risk groups'. Male STD patients are used to assess patterns of sexual behaviour as well as increased risk of HIV infection due to other STDs (Mann *et al* 1992:57). Sentinel surveillance systems, whereby blood is taken from pregnant women at antenatal clinics and tested for HIV, are said to allow more accurate conclusions on the level of HIV/AIDS in the general population, and are being established increasingly in rural areas (*ibid.*). However, this data also has to be adjusted for information on the mode of transmission, which varies from one region to another (see Table 2).¹⁰

3.4 AIDS cases

Regional level data on AIDS cases reported is not available. In the UNAIDS report (1998a), data is given for the proportion of males among reported AIDS cases for countries reporting 25 AIDS cases or more. This breakdown excludes AIDS cases for which information on sex distribution was not available, so that it is not be representative of the overall population.¹¹ Table 3 below summarises some of the country level data, but this is clearly too limited in coverage and the variance is too great between countries of the same region for it to have any significance at regional level.

Table 3: Estimates of sex distribution of reported AIDS cases by region

Region	Sex-distribution (% AIDS cases male – range of values)	No of countries in region with data available on sex distribution of AIDS cases (total countries)
Sub-Saharan Africa	42 – 83	25 (45)
North Africa & Middle East	52 – 93	9 (20)
South & South-East Asia	58 - 94	12 (19)
East Asia & Pacific	50 - 94	5 (8)
Latin America	42 - 91	20 (20)
Caribbean	59- 92	6 (7)
North America	85 - 91	2 (2)
Western Europe	70- 91	19 (23)
Eastern Europe & Central Asia	74 – 95	7 (23)
Australia & New Zealand	95 - 96	2 (2)

Source: Adapted from UNAIDS, 1998a

¹⁰ See section on gender bias in data collection and analysis for further discussion of the sentinel surveillance systems.

¹¹ Also, different definitions of an 'AIDS case' may be used in different regions (University of California 1997).

3.5 Regional trends

Given changes in estimation techniques and data sources, it is hard to assess regional trends over time.¹² The lack of a long time series of regional level gender-disaggregated data also makes this particularly difficult in terms assessing regional trends by gender. Some broad trends can, however, be highlighted.

Over time, the data on regional concentration of HIV/AIDS has altered dramatically. A comparison of regional WHO data on estimates and reports of HIV-infections and AIDS cases over time demonstrates the shift of attention to the problem in Sub-Saharan Africa (See Annexe 3, Tables 10-14). In 1985, only 3.5 percent of all AIDS reported cases were from Africa. By 1995, this had increased to 60 percent. Today it is estimated that 82 percent of all AIDS deaths since the beginning of the epidemic have occurred in Sub-Saharan Africa (see Table 11, annexe 3).¹³

UNAIDS (1998a) highlights the fact that infection rates are rising rapidly in much of Asia, Eastern Europe and Southern Africa. Alarming evidence from e.g. Botswana, Zimbabwe and South Africa shows rapidly rising infection rates among pregnant women.

In Latin America the picture is mixed, with HIV-prevalence rising rapidly in some countries but not in others. Homosexual and IDU transmission tend to dominate. There is some evidence though, that heterosexual transmission is on the increase with the prospect that greater numbers of women will become infected. Since fertility rates are lower and contraceptive use is higher in Latin America, HIV prevalence among pregnant women is likely to be less representative of the general sexually active female population than, say, in Africa (*ibid.*: 15)¹⁴.

In Asia, the picture is mixed and information is sparse. There are broadly two belts of countries:

- Those with rising infection rates where HIV/AIDS has become well-established, if mainly among certain sub-groups such as sex workers and drug users (this covers much of

¹² Previously, regions tended to be classified into pattern I and pattern II types, the former indicating a transmission pattern primarily concentrated among the gay population and other 'high risk' groups, considered typical of Europe, North America and urban Latin America. Pattern II regions were those where heterosexual contact dominated as the main mode of transmission and there was a more generalised spread, as in SSA, rural Latin America and the Caribbean. Pattern III regions, such as Eastern Europe, Asia and the Pacific had a later onset of HIV/AIDS, possibly imported from pattern I and II countries (Mann *et al* 1992:17). This regionally based classification has now been superseded by a country and group based approach (see below).

¹³ According to Anderson *et al* (1991:582) the high prevalence of HIV/AIDS in Sub-Saharan Africa has been linked with three characteristics:

1. The virus has been spreading throughout the region for a longer time period than elsewhere. It diverged from a monkey strain 140-160 years ago. As it has spread via the heterosexual route among a general and therefore large population, the manifestation of the epidemic took longer than within a small population of gay men or intravenous drug users, as in other countries.
2. A higher prevalence of untreated STDs, such as genital ulcers (e.g. syphilis), which promote HIV-transmission.
3. A higher range of sexual partner change in African societies than elsewhere.

In 1991 there was growing evidence for the first two aspects, whilst evidence for the third was still weak.

¹⁴ See section 5 for further discussion on this.

- Southeast Asia, plus India);
- Those with very low infection rates (including much of South Asia as well as Indonesia, Laos and the Philippines in Southeast Asia).

Most countries in Eastern Europe and the former Soviet Union are still assumed to be in the 'nascent' stage of the epidemic. However, the World Bank (1997: 98) predicts that the 'rapid social change' and 'economic dislocation' since the fall of socialism in Eastern Europe and the former Soviet Union gives rise to a concern that there will be a more rapid spread of HIV/AIDS in these regions in future. Consistently low prevalence began to shift around 1995, in part related to a growth in unsafe drug injecting, with some overlap in increased infection rates with sex workers. There are indications of a growth in HIV/AIDS among the general population: a recent dramatic increase in other STDs suggests a risk of rapid spread of HIV/AIDS.

4. Socio-economic correlates and determinants of HIV/AIDS transmission

Although AIDS has been named as the 'disease of poverty' (UNAIDS 1998a:20), the relationship between socio-economic indicators and HIV prevalence is complex. Whilst it is true that, globally, Africa as the poorest continent is the most affected, at country level, the association between poverty and HIV infection breaks down, since it is the richer countries of Sub-Saharan Africa which are most affected.

The same applies to education. Although, globally, countries with high literacy have lower levels of HIV-infection, in Sub-Saharan Africa the most affected countries are those with relatively high levels of education (*ibid.*). This may be because the social changes that accompany increased schooling are associated with other behavioural changes which increase risk and '*[t]his may be especially the case for women, who without education may have very much less social mobility and be exposed to a much narrower spectrum of social and sexual relationships*' (UNAIDS, 1998a: 21). Evidence from Zambia shows that while older women with more years of schooling are more likely to be infected than their less educated peers, the pattern is much less pronounced among younger women (*ibid.*). This suggests behavioural changes are occurring as awareness of HIV/AIDS is increasing. Similar evidence is reported from Uganda and Tanzania (Kirunga and Ntozi 1997; Barnett and Blaikie 1992:26).

Other social and environmental factors linked to increased risk of HIV/AIDS transmission are a high incidence of migration, particularly circular migration, and conflict or war. These are both associated with new patterns of sexual relationship and sexual networking (Barnett and Blaikie 1992:69ff), in the latter case often linked to widespread violence against women by members of armed forces (*ibid.*: 81).

However, the most important immediate determinant for the spread of HIV/AIDS is sexual behaviour, which is not uniformly related to education or wealth, but has a broad range of economic, social and cultural influences, including male-female relations and gender ideologies surrounding sexuality. There is a serious lack of information and research in this area (UNAIDS, 1998a: 23). Gender analysis provides a useful starting point for understanding the dynamics of sexual behaviour and the broader influences on this.

5. Limitations of existing data

5.1 General limitations

Most data available on HIV/AIDS is in the form of prevalence rates based on sero-surveys of selected population groups. Given the eight to ten year incubation period, prevalence rates reflect all those who have become infected over the past decade or so, as well as newly infected persons. They thus provide limited information beyond the early stages of development of the epidemic, to assess the current stage of the epidemic¹⁵. This suggests the need for more targeted surveys that focus on younger people who are likely to be newly infected, for example (UNAIDS, 1998a: 31ff). It has been suggested that resources might be better used in a more targeted way, rather than, for example, on large scale anonymous testing of pregnant women in ante-natal clinics (*ibid*:25; Zaba and Gregson, 1998).

The lack of data on sexual behaviour is also a major gap, in terms of understanding the trends underlying the spread of HIV/AIDS. UNAIDS (1998a) does report some data on a country by country basis (fact sheets), where available, e.g. on condom availability, reported non-regular sexual partnerships and reported condom use with non-regular partners. This data is also disaggregated by gender. Better data in this area would provide an 'early warning system' of behaviour likely to lead to HIV infection and is thus especially important in the early stages of the epidemic (UNAIDS 1998a:24).

Among the variety of other limitations on existing data, particularly in developing countries where access to health facilities is poor, are biases in small sample seroprevalence surveys, which focus on particular population sub-groups. There is selection bias here and where such surveys are used to generalise results across broader populations, this may skew estimates. (See Sida, 1998b for further discussion of data problems from a general perspective and section 5.2 below for further discussion of data problems relating to gender analysis.)

5.2 Gender-bias in data collection and analysis

Three areas of possible 'gender bias' in the way that data on HIV/AIDS is collected and used are identified here, with varying degrees of evidence in support of each. These are:

1. Diagnosis of AIDS and AIDS-related deaths
2. Selection bias in seroprevalence surveys
3. Inaccurate knowledge and assumptions about sexual behaviour and networks.

5.2.1 Diagnosis of AIDS and AIDS-related deaths

There are both health-related and social reasons, which suggest that AIDS may be more readily diagnosed in males than females. The disease leads to a depression of the immune system and diagnosis is often marked by malaria, TB or maternal mortality. To the extent that these affect women more than men (see 6.1.2 below), the cause of death among female AIDS sufferers may be less likely to be attributed to AIDS *per se*.

HIV infection and AIDS cases and deaths may also be under-reported among women,

¹⁵ Incidence (infections in a given time period) data can be calculated from successive prevalence surveys, or using mortality data in conjunction with prevalence data. But this relies on having a comparable time series and good quality demographic data.

compared to men because of the social stigma attached to HIV/AIDS infection, as well as STD infection more generally. The majority of cultures are sexually permissive for men and restrictive for women, with severe social sanctions resulting from transgression by women, including potential rejection by partners. This may be a factor in diagnosing HIV/AIDS whereby women are less likely to admit to having the disease or to seek treatment. There may also be a reluctance among medical personnel to diagnose women with HIV/AIDS for similar reasons.

Mortality in infants and young children due to AIDS can be used to estimate HIV infection rates among mothers on the basis of assumptions about peri-natal transmission. This provides a route for estimating HIV infection among women which is not available for men. However, where other diseases such as diarrhoea, respiratory tract infections and measles remain the overwhelming causes for infant mortality, these diseases are likely to mask the symptoms and diagnosis of AIDS (Anderson *et al* 1991:586). Consequently HIV infection among mothers is likely to remain undetected.

5.2.2 Selection bias in seroprevalence surveys

A major source of information on HIV infection levels among women is sero-prevalence surveys among pregnant women reporting to antenatal clinics (ANCs) in developing countries¹⁶. Research has shown, however, that prevalence levels are likely to be higher among women of reproductive age in the general population than among those reporting to ANCs (Zaba and Gregson, 1998), at least for populations with low levels of contraceptive use overall.

The reasons for this bias are related to differences in fertility between HIV-positive and HIV-negative women, whereby the former have lower levels of fertility except among the youngest age groups, where early start of sexual activity ensures higher fertility in the HIV-positive. Reasons for this may include higher rates of STD infection, adverse obstetric outcomes and menstrual problems among the HIV-positive leading to reduced fertility. Lower rates of sexual activity among HIV-positive women (particularly in the later stages and where partners are also infected) may also be a factor (*ibid.*: 10-12).

Similar biases may be inherent in sentinel survey data used to estimate infection rates in the male population but no literature was found which discusses this.

More generally, sentinel surveillance to track HIV infection rates defines population groups in terms of high or low risk behaviour and generalises from these findings. Often these groups are chosen for pragmatic reasons (e.g. anonymous testing of women in ANCs is relatively easy to organise and can be justified on medical and ethical grounds; similarly, army personnel) as much as representativeness for surveillance purposes. There are implicit (and often gendered) assumptions here about the nature and riskiness of sexual behaviour of population sub-groups, which do not necessarily hold up as the spread of HIV/AIDS develops over time. So, for example, pregnant women may be 'low risk' in the early stages of spread, but as the disease becomes better established, their exposure to infection increases. Similarly, risk behaviour

¹⁶ According to Zaba and Gregson (1998: 17), ante-natal surveillance accounts for over 70 percent of available prevalence estimates for adult females, compared to blood donor surveillance (10 percent - also with inherent downward bias) and about 20 percent based on community surveys which are more likely to be representative.

among sex workers may decrease as awareness spreads and behavioural changes occur. This points to the limitations of monitoring HIV/AIDS on the basis of so-called 'risk groups'.

5.2.3 Inaccurate knowledge and assumptions about sexual behaviour and networks

Different scenarios about the impact of HIV/AIDS on population size by Anderson *et al* (1991:586) illustrate the significance of age-specific sexual behaviour. However, as he puts it '...theoretical developments [of models] have outpaced data availability, given the many practical difficulties associated with the study of sexual behaviour and, in particular networks of sexual contact.'

As a reaction to this inadequacy of information, efforts have been made to collect data on sexual behaviour, through KAP surveys as well as DHS surveys and other more in-depth qualitative research (Anderson *et al* 1991; Schopper *et al*, 1993). In this context, the question arises of whether women are as readily prepared to admit to extra-marital or multiple sexual relationships as men, where sexual mores are generally permissive for men and restrictive for women. In a literature review, Anderson *et al* (1991:583) assumes a reporting bias, whereby men exaggerate their sexual activity, which in turn may have a significant impact on HIV/AIDS transmission estimates, if behavioural variables are incorporated into modelling. Schopper *et al* (1993) found a reporting bias, especially among women, when testing the validity of results of a WHO-KAP survey. They highlight the importance of continuously monitoring the quality of KAP-surveys and criticise the lack of open discussion on this issue (*ibid.*)

Conversely, if married women in reality have more varied sexual behaviour than they typically report, this would increase the risk for married men. However, the fact that most married women appear to develop AIDS later than their husbands indicates that this pattern is probably not significant (Zaba and Gregson 1998)¹⁷.

As highlighted above, in general there is a lack of knowledge in this area and a need for more systematic and detailed research, with attention to age as well as gender differences. This should incorporate attention to gendered beliefs and norms surrounding sexual behaviour, as well as attempts to 'quantify' and characterise sexual interactions, both for women and men, as the former will enable a more accurate evaluation of the latter.

¹⁷ However, research in Uganda (see 8.4) found that a high proportion of households had lost mothers before fathers (Topouzis and Hemrich, 1994).

6. Gender analysis of HIV transmission

Gender analysis is crucial to understanding HIV/AIDS transmission in that it highlights the socially constructed aspects of male-female relations that underpin individual behaviour, as well as the gender-based rules, norms and laws governing the broader social and institutional context.

Here, three aspects are focused on:

- The immediate physiological factors in male-female sexual relations and other forms of transmission (based largely on medical research), and their links with socio-cultural issues;
- The socio-economic and socio-cultural motivations underlying sexual behaviour, which differ for women and men;
- Power as an aspect of gender relations, affecting the ways in which men and women can negotiate sexual relations, *inter alia*.

These aspects are all inter-related. But it is helpful to separate them out analytically in order to identify areas where current understandings are weak.

Many accounts of gender and AIDS have tended to define the issues in terms of women-specific vulnerabilities (whether physical or socio-economic) and to some extent this bias is reflected here. Others have questioned this 'vulnerability' approach (e.g. Reid and Cohen, 1992), for its implicit suggestion that by addressing women's 'vulnerability,' HIV/AIDS transmission can be reduced. At the same time, there is widespread recognition that unless men are addressed and included in AIDS prevention efforts, there is limited scope for reducing HIV/AIDS transmission (Mbizvo and Bassett, 1996). And it remains the case, even if decreasingly so, that the majority of persons living with HIV/AIDS and of AIDS deaths are men.

6.1 Physical vulnerability¹⁸

It is widely agreed that women show a different pattern of vulnerability to HIV-infection to men. An early estimation by Anderson *et al* (1991:582) assumed a two-times greater probability of women contracting HIV from a man than vice versa. This is based on figures which show that men run an 11 percent risk of transmission from sexual intercourse with an infected partner, whereas the chance of being infected during intercourse is 20 percent for a woman. The likelihood of infection increases as the disease progresses and antigen concentrations rise.

Similarly, Webb (1997:87) suggests that women are 1.5 times more likely to contract the HIV-virus from a man than vice versa due to their physical vulnerability, whereas UNAIDS (1997b) estimates that the risk is 2-4 times as high. This is due to the physiology of genital mucosa, because infected male semen contains higher concentrations of the virus; because female surface area is larger and because semen is in contact for a longer period with the

¹⁸ The HIV-virus is transmitted through blood and sero-fluids as excreted during sexual intercourse, which makes it a 'sexually transmitted disease' (STD). The mean incubation period for adults ranges between 8 to 10 years, independent of sex or risk-group, but dependent on age and geographical area, as drug treatment which may delay or even prevent the onset of HIV/AIDS is more available to patients in the North. Perinatally infected infants usually die within the first two years after delivery (Anderson *et al* 1991:582).

female genital tract (Reid and Bailey, 1992; WHO *et al* 1995).

Young women may be particularly vulnerable to HIV infection, for a variety of reasons:

- Young women have immature cervix with a thinner mucous membrane, which secretes lesser amounts of protectants against viral penetration, thus increasing the risk of infection;
- Women having sexual intercourse before the age of 17 are at higher risk of contracting other viral infections too;
- Rapid intercourse without sufficient expulsion of mucous increases risk of injury of mucous membranes. (This links to social issues, since younger women may be less likely to resist.);
- Unprotected anal intercourse increases risk. Younger women may be more likely to have anal intercourse as this is thought to preserve virginity.

It is difficult to separate the social and physiological causes, especially when young women who are at particular physical risk are exposed to sexual practices over which they have limited control due to social conditions. For social reasons, whereby women tend to have older male partners, the peak age of new infection for women is between 15 and 25 years, whereas men tend to become infected 5-10 years later (WHO *et al* 1995:5; Reid and Bailey 1992:2). This may be exacerbated by responses to the epidemic. As awareness of HIV increases, there is evidence that men shift towards younger partners who are deemed less likely to be infected, whereby the greater age difference increases the risk of transmission (Oppenheim-Mason 1994). In some societies, it has been observed that people believe that they can be cured of AIDS by passing on the disease to others (Grundfest-Schoepf 1991: 756). In other cases, men who are HIV positive specifically seek out younger partners ('virgins') in the belief that this may 'cure' them.

Post-menopausal women also have particular physical susceptibilities that are often overlooked:

- At this time, a thinning of the mucosal lining occurs, which increases potential for infection;
- Post-menopausal women are not routinely monitored, or targeted through AIDS programmes, so that they are more likely to die of AIDS unnoticed

Among men, physical vulnerabilities also vary. The male entry point for infection is the delicate skin under the foreskin, but for the circumcised man this is reduced to the entrance to the urethra. Circumcised men seem to be relatively protected from infection with HIV and STDs (Reid and Bailey, 1992; Caldwell and Caldwell, 1994). Transmission rates may be greatly increased, in male to male sexual relations, for the partner who is being penetrated (Marcus, 1993a: 9).

6.1.1 Mother-child transmission

Mother-child transmission occurs through the placenta during pregnancy and through breast-feeding. It is estimated that the peri-natal transmission rate during pregnancy is 33 percent worldwide. Estimates vary by region of the transmission rate between mother and child, from around five percent in developed countries to an average of 25 to 35 percent or more in developing countries. In the North, the likelihood of transmission can be reduced through anti-viral drug-treatment (UNAIDS, 1998a), whereas the transmission rate in some developing countries is as high as 48 percent (WHO *et al* 1995:5). Breast-feeding may also contribute to

mother-child transmission – increasing transmission by as much as one third to one half (UNAIDS 1998a: 48), depending on the duration¹⁹. This is a particular problem in developing countries where other options are often neither affordable nor safe, and where mothers are advised to breast-feed for up to two years. This route of transmission is of particular importance in Africa, where almost 90 percent of infected children live, but it is also a rising phenomenon in India and Southeast-Asia, linked to an increase in heterosexual transmission (UNAIDS, 1997c:1, Table 2).

6.1.2 Co-infection patterns and other health-related factors

Tuberculosis (TB)

TB is a disease that coincides with HIV/AIDS. Both diseases speed up the progress of the other. It is thought that one third of the increase in TB incidence is attributable to HIV infection. TB is also the leading cause of death among people who are HIV-positive (WHO 1998b).

In May 1998, WHO released figures showing that TB is now the single leading cause of death among adult women of reproductive age (between 15 and 44 years)²⁰. At present, more than 900 million women and girls are infected with TB. Whereas HIV/AIDS accounts for three percent of all deaths in women of this age-group, 9 percent of deaths in this age group are attributed to TB (WHO 1998a).

In comparison to men, women are more susceptible to developing TB once they are infected, especially when their immune system is weakened due to another prevalent infection, such as HIV, or when their nutritional status is deficient (see below). Such a scenario gives rise to the concern that AIDS-related TB mortality will increase more rapidly for women than for men in the near future. Or, it may imply that AIDS-related mortality for women is concealed by their high death rate from TB, to a greater extent than for men (see 5.2.1).

Genital infection

Damage to the female genital tract will increase the risk for a woman of HIV infection through sexual intercourse with an infected man. Genital lesions, infections and inflammation may be linked to sexually transmitted diseases (STD), but can also occur as a result of lower reproductive tract infections which are due to other causes. Factors which contribute to the most common types of vaginal infections, vaginitis and cervicitis, include unfavourable hygienic conditions, trauma through insertion of foreign objects for contraception or abortion, or genital mutilation and its after-effects (McNamara 1991; WHO *et al*, 1995).

¹⁹ Estimates on the rate of transmission are somewhat confusing. According to UNAIDS (1997c: 3), the rate of mother-child transmission in industrialised countries without AZT-drug treatment and with low rates and duration of breast feeding is 15 to 25 percent, whereas in developing countries, the transmission rate was estimated to be around 25 to 45 percent, as the majority of mothers breast-feed for up to two years.

²⁰ It is not clear from the source how this relates to the death rate among men.

STDs

STDs can have two effects on the female genital tract,²¹ which increase the susceptibility of a woman to HIV/AIDS: a disruption of the epithelial mucosa and an increased local concentration of lymphocytes, which are target cells for HIV (McNamara 1991). In many developing countries, syphilis and chancroid are the most common STDs which, apart from causing localised infection, result in a diminished overall health status through enteric infection. Treatment and programmes related to STDs are mainly directed at people who are considered to be 'at risk', such as sex workers. Nevertheless, it is thought that there is a high prevalence of STDs among 'normal' (i.e. married, monogamous) women worldwide, and that infected women are often not aware of this (Elias, 1991). Gonorrhoea and syphilis are asymptomatic in 50-80 percent of women, while only 10 percent of affected men have no obvious symptoms (WHO *et al* 1995:6). Social stigma may also prevent women, more than men, coming forward to have STDs treated (*ibid*:11; Marcus, 1993a:6).

Nutrition

Major nutritional deficiencies, which particularly affect women in the South, are iron-deficiency-related anaemia and a lack of Vitamin A. Both play a role in increasing the risk of contracting HIV/AIDS. Women with anaemia are more likely to require blood transfusions, especially after delivery, raising the possibility of infection through transfusion (see below) (WHO *et al* 1995:11). Vitamin A plays a vital role in upholding the immune system and in keeping mucous membranes in function.

Maternal morbidity and mortality

HIV positive women who are pregnant are at greater risk of having spontaneous foetal abortions and stillbirths (Zaba and Gregson 1998) which poses an increased risk for maternal mortality. Data from Kigali suggests that HIV positive women, who give birth to living infants, experience a greater risk of postpartum haemorrhage and are more likely to give birth to a baby with birth weight below 2500 g (Leroy *et al* 1997)²². In such cases the link between maternal mortality and HIV/AIDS are likely to go unnoticed.

Women whose immune systems are already under attack through full blown AIDS may be less likely to survive the complications of pregnancy, resulting in maternal death. Also, some drugs for the treatment of AIDS may be inappropriate for pregnant women. On the other hand, AZT reduces the chance of the baby becoming infected, and so is particularly important for pregnant women, although it is very expensive and not available to most women in developing countries. HIV-infected blood is a major problem for women receiving blood transfusions as treatment for pregnancy complications. Women with known HIV/AIDS may be more inclined to seek illicit (and often unsafe) abortions, themselves a major cause of maternal death (13 percent of deaths worldwide) (Oxaal with Baden, 1996).

²¹ The relationship between male STD infection and HIV/AIDS is not explored here. This is due to lack of availability of relevant literature and time constraints.

²² In this study population, no difference in perinatal deaths was observed between HIV positive and HIV negative women.

6.2 Socio-economic and socio-cultural determinants of sexual behaviour

Apart from the physical and health-related factors believed to contribute to vulnerability to HIV infection, a range of socio-economic and socio-cultural factors underlie sexual behaviour, and contribute to the likelihood of infection (UNAIDS, 1997b; WHO *et al*, 1995). A range of such factors which have been identified in the literature are listed below

These can be summarised as:

- gender-differentiated awareness of issues of reproductive and sexual health;
- gendered ideology and norms around sexual behaviour;
- differing motivations for sexual activity;
- varying powers to negotiate around sex and other possible risks.

Differential access to education, information regarding sexual health/ AIDS

- Women's relative lack of knowledge about own reproductive system (Grundfest Schoepf 1991:758)
- Women's relative lack of awareness of health risks (including HIV infection) involved in sexual activity (Oppenheim-Mason 1994; Topouzis and Hemrich 1994).

Gender-based norms surrounding sexual behaviour

- Women are often taught to leave sexual initiative to men and/or to behave in ways which 'please men' (e.g. use of vaginal stimulants), whilst increasing risk to themselves;
- Double standards: women are expected to limit their sexual relations, often to marriage or long-term partnerships. Men, meanwhile, are often encouraged to express their masculinity and increase their social status by having many partners/ lots of sexual experience, increasing their own risk of infection, but also that of their monogamous partners (Oppenheim-Mason 1994:221, Durrant 1994:9).
- Women, in some societies, are expected to keep silent about and tolerate the sexual behaviour of their male partners (Cohen and Reid 1998, Oppenheim-Mason 1994:229);
- As part of the marriage contract, women are often expected to meet male sexual 'needs' and thus do not feel able to refuse sex, or unsafe sex. Where male sexual pleasure/power is a dominant factor driving sexual relations, risks to the female partner are unlikely to be considered (Oppenheim-Mason 1994:227, Bond and Dover 1997).
- There has been a tendency for women to be blamed as carriers of the virus as a result of public action against sex workers (Elias 1991:28, Abrahamsen 1997:177). This has contributed to a social stigma around HIV/AIDS, which brands women with AIDS as sexually 'loose'. This can have negative side effects by diminishing the attention to risks among married women and deflecting attention from other (male) actors.

Differing motivations for sexual activity:

- Due to limited livelihood opportunities and various forms of gender discrimination and harassment, women adopt sexual 'survival strategies,' i.e. they may 'sell' their bodies at the work place, or at school, in order to gain access to resources, security, patronage or protection. This may be aggravated, where women lose their livelihoods as they become widows through AIDS (Durrant 1994:6).
- Some women (and men) depend directly on sex for their livelihoods and thus are exposed to the risk of infection daily. High rates of infection have been found among sex workers in a variety of contexts (Berer and Ray, 1993; Podhisita *et al*, 1994). However, in some

cases, infection rates are falling due to the promotion of safe sex among sex workers and their clients.

- Condoms are incompatible with pregnancy and where men or women desire children or where there is strong social pressure to demonstrate fertility, they may be reluctant to use them (Oppenheim-Mason 1994:227, Bond and Dover 1997).

Differential bargaining power:

- Women have difficulty in saying no to sex or to unprotected sex because of their economic and social dependence on male partners (Oppenheim-Mason 1994; Cohen and Reid 1998). Evidence suggests that it is often more difficult for women to insist on condom use in long-term sexual relationships than in casual or commercial ones (Bond and Dover 1997). This may be changing as a result of the HIV/AIDS epidemic and women may be able to gain support from e.g. family members to assert their right to refuse sex.
- Women, especially young women, are particularly, though not uniquely, at risk from sexual coercion and violence, including within marriage. Violent sex increases the risk of infection (McNamara 1991).

These issues are further illustrated by examples from the country studies in section 8 below.

7. Impact of HIV/AIDS: gender implications²³

Assessments of the impact of HIV/AIDS have focused on (1) demographic impacts at the macro-level (e.g. UNAIDS, 1994) and (2) overall and sectoral socio-economic impacts (e.g. Barnett and Blaikie, 1992; Mann *et al*, 1992:195ff).²⁴

The social and economic impacts of AIDS are difficult to estimate, especially at national level. This is related to the complexity of the different factors influencing the supply and demand of productive resources, particularly labour. One specific difficulty is that the labour contributions of many individuals, and particularly of women, are not quantified in standard data collection and economic accounting systems.

At macroeconomic level, the World Bank (1997: 33) concludes that the net impact of AIDS on gross domestic product (GDP) per capita will remain small, even where population growth rates are expected to fall. In societies where skill levels are generally low and unemployment rates high, it is easy to replace workers, who have left due to AIDS related illness or death. A recent background paper by the U.S. Bureau of the Census (Biggs and Shah 1996, cited by World Bank 1997:35) compared 992 African firms mainly employing low-skilled workers. It showed that turnover due to sickness and death comprised only a small percentage of overall turnover and that it was eight times as difficult to replace professionals compared to unskilled workers. However, one identified negative impact, which is thought to result in a reduction of up to 0.5 percent in GDP per capita, is the fact that savings are more likely to be spent for health care of AIDS patients rather than for productive investments (World Bank 1997: 34). This analysis, however, does not incorporate consideration of the impact of increased demands on women's unpaid labour time from care of HIV/AIDS sufferers.

²³ This is a huge area and cannot be covered comprehensively here - a few pointers are given to the issues.

²⁴ A methodological problem in making assessments of the impact of HIV/AIDS is the absence of a counterfactual, i.e. what would have happened in the absence of HIV/AIDS.

HIV/AIDS has important fertility implications, with consequences for individuals and households, but also, potentially, for overall population growth (Zaba and Gregson, 1998). This relates not just to reduced fertility among the HIV-positive population but also to indirect effects (due to behavioural changes) on the HIV-negative population. Evidence for the impact of HIV/AIDS on overall fertility (and consequently population growth) is currently limited and likely to be significant only where prevalence levels are high. Behavioural changes thought to be important in governing fertility reduction are increase in the age of start of sexual activity; decrease in remarriage following widowhood and separation; and increase in separation linked to reduced tolerance of infidelity (*ibid.*: 20).

This points, also, to a likely increase in the number of female headed households, through voluntary or involuntary separation, as a result of HIV/AIDS. The likelihood that men will die earlier than their infected partners (if they are assumed to have been infected earlier) also suggests a likely increase in female headship, often of relatively young women. Given association between female headship and poverty (in some, but not all cases), this may indicate the emergence of a particularly vulnerable group

The demographic impact of HIV/AIDS has implications for the age structure of the population, for household composition, and for the dependency and care burden on different sections of the population. In this respect, it relates to the 'reproductive' sphere, where women have typically provided the bulk of the labour. One of the most noted effects is the rise in the number of 'AIDS orphans', children whose mothers, and in some cases fathers too, have died and so lack primary carers (see Table 3 above). The phenomenon of AIDS orphans has brought to the attention of communities the work of women in rearing children. While extended family structures have, in some instances, been able to absorb these children, in many cases, they are already overstretched by other economic and social pressures (UNAIDS, 1998a).

These issues have also been picked up in some micro-level studies of the impact of HIV/AIDS on women and gender relations (Durrant, 1994; Abrahamsen, 1997), emphasising women's role as carers and issues of home-based care, as well as access to resources and socio-economic status, including of female headed households.

Other discussions of impact focus on economic activity, e.g. shifts, for example, in patterns in household labour use including the gender division of labour, in different sectors, which may also result in increased use of child labour and withdrawal of children from school. Where men are likely to contract AIDS first (assuming they have infected partners), this may mean productive/income earning tasks increasingly falling to women in order to support households. At the same time, the expectation that women will care for sick partners and/or children creates extra demands, both on time and financial resources (WHO *et al* 1995:19)

A discussion of the gender impact of the HIV/AIDS epidemic illustrates the importance of linking discussions of the demographic and economic impacts. The issue of gender impacts of HIV/AIDS will be revisited in the country case study on Uganda.

8. Country experiences

8.1 Classification of countries in the HIV/AIDS epidemic

Some country case studies are examined below in order to illustrate the general points raised above, and to identify similarities and differences between the experiences of countries at different 'stages' of the epidemic. Three countries are examined, which are classified in different ways under the World Bank model (see below) and relevant issues are examined in each context, according to the availability of data and research.

Recent thinking has moved away from a regional classification of the stage or progression of the HIV/AIDS epidemic, to a country by country classification, and within this, even classification of sub-groups within a population. A three-fold country classification has been developed by the World Bank (1997: 87), as follows:

Nascent: HIV prevalence less than five percent in all known sub-populations presumed to practice high-risk behaviour for which information is available;

Concentrated: HIV prevalence has surpassed five percent in one or more sub-populations presumed to practice high-risk behaviour, but prevalence among women attending urban antenatal clinics is still less than five percent;

Generalised: HIV has spread far beyond the original sub-populations with high-risk behaviour, which are now heavily infected. Prevalence among women attending urban antenatal clinics is five percent or more.

This classification is based on the prevalence of HIV-infection from sentinel surveys, rather than according to estimations. It has the advantage of picking up where women are affected, even when a country does not yet present with large numbers of people who suffer from AIDS.²⁵

According to this classification, an association between region and pattern of infection only exists in the 'generalised' classification, which affects most of Southern, Eastern and Western Africa, where the main mode of transmission is through heterosexual contacts (UNAIDS 1998a). Countries classified as 'concentrated' are those with marked 'at risk' behaviour, which accounts for more than half of the Latin American countries and two large patches of Asia (India, Pakistan and Myanmar, Thailand, Cambodia down to Malaysia), mainly through intravenous drug use and exposure of sex-workers (World Bank 1997:89 ff.).

The classification does not, however, suggest a necessary progression from one stage to another. This is illustrated by the fact that, where social marketing programmes have resulted in a behavioural change towards safer sex, as in Thailand or Senegal, the spread of the virus has been kept lower than estimation curves would have suggested without the intervention (UNAIDS 1998a). In other countries, HIV infection rates have remained stable, or fallen, in spite of high prevalence levels, while those with similar or lower prevalence levels may have rapidly increasing rates of infection.

²⁵ However, Zaba and Gregson (1998) suggest that this may not be the most useful, accurate or cost effective way of collecting HIV/AIDS data and propose a stronger focus on other 'risk groups'.

Bangladesh is taken as an example of a country where HIV/AIDS is nascent. Here the focus of discussion is on the dangers of denial and the possibility of facilitating a more open environment to respond to HIV/AIDS, including attention to current data collection procedures.

Brazil is taken as an example of a country that is classified as 'concentrated' in terms of the HIV/AIDS epidemic. The analysis here looks at 'at risk' groups, how these are defined, and the implications for the course of the disease.

Uganda is taken as an example of a country with a 'generalised' pattern of HIV/AIDS. Here the emphasis is on the demographic and socio-economic impacts of HIV/AIDS and how these are experienced differentially by men and women. There is also some discussion of the available data on sexual knowledge and behaviour.

8.2 *Bangladesh*

Only ten AIDS cases have been reported to WHO by the Bangladeshi government (as at the end of 1997), but it is estimated that 21000 people are currently living with the HIV-virus, around 15 percent of whom are women. It is furthermore estimated that heterosexual transmission accounts for approximately 50 percent of HIV/AIDS transmission (see Table 4). An estimated 4200 people have already died of AIDS, but went unreported (UNAIDS, 1998b), of whom 1,300 in 1997.

According to UNAIDS (1998b), there has been only one large scale HIV prevalence survey in 1989, which tested pregnant women, sex workers, IDUs and the military outside major urban areas. None of these surveys revealed any occurrence of HIV-infection. Recently, in 1996, additional testing was done with sex workers in urban areas, and 0.2 percent of the sample was found to be infected. The focus of surveillance on sex workers and a common understanding that contact with prostitutes constitutes high risk behaviour (Mitra *et al*, 1996: 143) suggests that this group may be blamed for the spread of HIV/AIDS, leading to further stigmatisation of those with the disease. In a context where sex workers are perceived as '*socially deviant women who need to be rehabilitated into society via placement in "corrective" institutions*' (Guthathakurta, 1985, cited in Baden *et al*, 1994: 83) this may pose particular difficulties for women who contract HIV/AIDS.

Table 4: UNAIDS HIV/AIDS profile for Bangladesh

Indicator	year	Percentage /number/type	Sex distribution
First reported AIDS case	1990		
Dominant mode of transmission		Hetero - 52 percent Homo - 45 percent IDU - 2 percent Blood - 0 Mother-child - 1 percent	
HIV prevalence among high risk groups (%)	1996	0.2 percent	Female sex workers (urban - Dhaka)
	1989	0.0 percent	Female sex workers (rural)
	1989	0.0 percent	Injecting drug users
Urban Prevalence (median)			
Rural prevalence (median)	1989	0 percent	Based on testing on pregnant women outside major urban areas and military
Estimated HIV prevalence among adults (15-49) (%)		0.3 percent	
Estimated number of persons living with HIV/AIDS - infection		21,000	3,100 women (percent) 270 children (percent)
Reported AIDS-cases	1997	10	-
Estimated AIDS cases	1997	4,900	-
Estimated AIDS deaths:			
Adults and children (1997)		1,300	
Adults and children cumulative		4,200	
Current living AIDS-orphans		720	-
Cumulative orphans		810	-

Source: UNAIDS (1998a) unless otherwise stated.

Bangladesh is a densely populated, largely rural society with only 19 percent of the population urbanised (UNAIDS 1998b). But the estimated annual growth rate of the urban population of five percent indicates a high rate of migration from rural to urban areas, while a network of connection remains to the rural population. This rural-urban migration may be a predisposing factor to HIV/AIDS transmission. Another factor potentially contributing to the spread of HIV/AIDS is the migration of labour to foreign countries and sex-tourism (Panos, 1997; Shah, 1998).

There are a number of social and biological factors, which appear to put Bangladeshi women at particular risk of contracting HIV/AIDS. The 1996/1997 Demographic Health Survey

(Mitra *et al*, 1996) picks up some of the issues, but leaves out other important factors, which will be discussed below.

- **Low median age at first marriage and birth.** The median age at first marriage for all women between 20 and 49 years is currently 14.2 years (Mitra *et al*, 1996:84). However, there is a clear trend towards marriage at an older age over the generations. Young women in urban areas and with secondary education stay single for considerably longer so that their median age at marriage is 19.6 years. By the age of 30 years, 99 percent of women reported that they have been married (*ibid.*:82). The median age at first birth is 17.4, showing similar trends to those identified above (*ibid.*:39). The relatively young age of first marriage and birth of women suggests an enhanced risk of infection, for reasons outlined in section 6.1.
- **Taboos surrounding sexual relations.** A comparison of data from 25 countries, asking for the age at first intercourse before marriage, did not contain data about Bangladesh (Kishor and Neitzel 1996:76). This indicates the taboo associated with extra-marital sex of women, which may inhibit discussions relating to sexual behaviour and risk of HIV/AIDS infection.
- **Nutritional status:** An international comparison reveals that the average Body Mass Index (BMI) and height of Bangladeshi mothers is exceptionally low, even allowing for regional differences in body structure. While height is an indication of chronic malnutrition and increased risk for maternal complications, the BMI demonstrates acute lack of calories, which is generally accompanied by the lack of essential nutrients, such as protein, iron, Vitamin A and Iodine, all of which are essential for an intact immune system. 52 percent of mothers had a BMI below 18.5, which is considered the cut-off point to acute malnutrition (Mitra *et al*, 1996:139). Other evidence shows sex differences in nutritional outcomes for under fives, again pointing to poor physical development of girls, which has negative implications for maternal and general health. As highlighted above, poor nutritional status may weaken the immune system and expose women to greater likelihood of complications during birth.
- **Breastfeeding.** This is widely practised, with 97 percent of all children breast-fed at some point, although supplementary foods are given as early as in the first month. This points to dangers of mother-child transmission should HIV/AIDS become established among the female population.
- **Access to health facilities:** The DHS gives information on the availability of different types of health and family planning (FP) services in urban and rural areas, placing an emphasis on accessibility of FP methods. It suggests that 91 percent of the urban and 87 percent of the rural population lives close to some kind of basic health facility (Mitra *et al*, 1996:147). There is no information, however, on gender differences in demand or utilisation rates.
- **Antenatal care.** A minority (27 percent) of women visited a modern professional for antenatal care, the majority coming before six months' pregnancy and visiting the health service two to three times before birth. However, 95 percent of births take place at home, of which 84 percent of mothers deliver their infants with the help of untrained TBAs or relatives. Questions on attitudes to antenatal care revealed that 85 percent of women below the age of 34 felt it to be necessary. This has implications for the scope for screening the

female population through surveillance testing at ANCs, as well as for picking up potential complications in delivery.

- **Women's status and double standards.** Female subjugation and male authority over women's sexuality is socially accepted in Bangladesh and reflected in violent behaviour within marriage (Marcus, 1993b: 3ff; Baden *et al*, 1994: 6). Women's mobility is restricted by *purdah*. Men are permitted to have more than one wife, although monogamy is generally the norm. Although men do not openly admit to using sex workers, it is more acceptable for them to have multiple relationships than for women (personal communication, Imran Matin). On the one hand, women's risk of infection is perhaps lowered by the moral restrictions on their own sexual behaviour, but on the other, the fact that their male partners are unlikely to admit extra-marital sex may put them at increased risk. More information is needed on the nature of sexual networks, particularly outside marriage.
- **Taboos surrounding sexual relations** may inhibit discussions of sexual behaviour and the risks of HIV/AIDS infection. This is reflected in the low levels of AIDS awareness as shown in Table 5.
- **Knowledge of AIDS**
The majority of Bangladeshi women and men have never heard of AIDS, especially in rural areas (see Table 5) but twice as many men as women were aware of HIV/AIDS. The low levels of knowledge, particularly among younger women, pose a considerable risk, since women are likely to be infected earlier than men. Of those who had heard about it, most were aware of that it is a generally fatal disease, which can be present in a person who does not show any symptoms. The most common sources of information for both men and women are TV and radio, although men seem to hear proportionally more through the radio. Asked about ways on how to avoid HIV/AIDS, women showed a more fatalistic attitude than men: 41 percent thought that there is no way of avoiding HIV/AIDS. (See Annexe 4, Tables 15-16 for further details).

Table 5: Knowledge of HIV/AIDS among men and women in Bangladesh, by age, marital status, residence and education

	Women* ever heard of AIDS	Men** ever heard of AIDS
Age		
15-19	17.2	X
20-24	19.7	25.0
25-29	20.2	36.9
30-39	19.1	35.9
40-49	16.5	33.0
50-64		26.3
Marital Status		
Currently in union	19.1	33.1
Formerly in union	13.7	x
Residence		
Urban	58.4	71.6
Rural	13.5	27.8
Education		
No education	6.4	11.0
Primary incomplete	12.8	25.6
Primary complete	23.8	33.0
Secondary	58.6	70.6
Total	18.7	33.1

Source: Mitra *et al*, 1996:142

*ever married women

** currently married men

Bangladesh has only just started to develop a national HIV/AIDS programme (Panos, 1997; World Bank, 1998). There is considerable international support for reproductive health services in general (particularly family planning) in Bangladesh. It is important to learn from the African situation and in developing a gender-aware response to HIV/AIDS and also to recognise the differences. A report on the Asia Pacific situation in general (University of California, 1997) highlights the following factors:

- The progress of the HIV/AIDS epidemic in Asia is still slow as revealed by a flat prevalence curve. It is difficult at this time to draw conclusions about the likely course of the disease;
- Antenatal clinics are of limited suitability as surveillance sites, as only a small proportion of women make use of them;
- Reproductive health services in Asia tend to be sought from private and traditional practitioners which means that any system of surveillance and counselling needs to work through these systems;
- More attention needs to be focused on risk groups other than sex workers, e.g. intravenous drug users and the gay population.

8.3 Brazil

8.3.1 Sex distribution of HIV/AIDS in Brazil

Brazil is classified as a 'concentrated' country in terms of the HIV/AIDS epidemic (see page 20 for definition). It has the highest absolute number of estimated HIV/AIDS population in Latin America and the second highest (after the US) number of reported AIDS cases of any country in the world. Overall prevalence rates, however, are lower than in some other Latin American and Caribbean countries (Guyana, Argentina, Suriname, Honduras, Belize, Venezuela) and at 0.63 percent lower than the regional average of 0.97 percent. (UNAIDS, 1998a: Annex: p66). Overall, the sex distribution of HIV/AIDS is estimated at approximately 75 percent male, 25 percent female.

However, prevalence rates are higher among particular population sub-groups as reported in Table 6 below and in more detail in Annexe 5. Heterosexual transmission and homosexual transmission are responsible for around a third of cases each, with a quarter of HIV infections thought to be due to intravenous drug use.

Available data shows a geographical concentration in industrialised urban areas, and particularly in São Paulo (a major industrial and port centre with a high level of in-migration from rural areas). Younger age groups are more heavily affected than older ones though detailed information on this was not available.

8.3.2 Data availability and quality

Surveillance data on HIV/AIDS in Brazil is almost all collected in urban areas and most is collected on perceived 'risk groups' (e.g. prostitutes, IDUs, homosexuals/bisexuals, transvestites). Surveillance data is also collected on various segments of the 'normal population,' including pregnant women, and the military. Data on rural areas was only available for the 1980s, but not subsequently, showing very low prevalence rates²⁶. Other groups surveyed include port workers, youths (street based, home based), health care professionals and mothers of new-borns. Annexe 5 gives a detailed summary of the available seroprevalence data on particular population sub-groups.

While some data is gender-specific or gender disaggregated, this is not systematic for all surveillance. Much data is collected at maternity or antenatal clinics (ANCs) or other specialised health facilities, which may introduce a problem of selection bias, particularly where attendees come because they suspect they are infected. Generally poor availability and affordability of public health facilities are also a problem in terms of collecting data, as well as in terms of people coming forward to seek testing, advice and treatment.²⁷

Commentators assess that there is widespread under-reporting of HIV/AIDS in Brazil due to the lack of publicly funded screening facilities and also to the prevalence of diseases associated with HIV, such as TB, diarrhoea, wasting and pneumonia, especially among poorer populations. This implies that many AIDS related deaths go unrecognised and unreported.

²⁶ For example, 1986 data on female vs. male Indians (indigenous groups) showed prevalence rates of 3.8 percent vs. 2.0 percent.

²⁷ In 1994, only seven publicly funded facilities for free and anonymous AIDS testing were available in the whole country (Scheper Hughes, 1994: 993).

Table 6: UNAIDS HIV/AIDS profile for Brazil

Indicator	year	Percentage /number/type	Sex distribution
First reported AIDS case	1980 ²⁸		
Dominant mode of transmission	1993-96	Hetero - 34 percent Homo - 34 percent IDU - 25 percent Blood - 4 percent Mother to child - 4 percent	
HIV prevalence among high risk groups (%)	1995 1994 1996 1996	18 percent 6.3 percent ²⁹ 29 percent ³⁰ 8.9 percent [♠]	male STD patients female sex workers - urban areas IDUs major urban areas homosexual/bisexual men
Urban Prevalence (median)	1996	5.1 percent ³¹	women in urban ante-natal clinics
Rural prevalence (median)	-	-	-
Estimated HIV prevalence among adults (15-49) (%)	end 1997	0.63 ³²	
Estimated number of persons living with HIV/AIDS - infection		580,000 (Adults and children)	130,000 women 15-49 (approx 23 percent) 7600 children
Reported AIDS-cases Estimated AIDS cases	1994-7	110,845 310,000 (adults and children)	75 percent male
Estimated AIDS deaths: Adults and children Adults and children cumulative	1997	44,000 290,000	-
Current living AIDS-orphans Cumulative orphans	-	-	-

Source: UNAIDS (1998a) unless otherwise stated.

♠ World Bank (1997).

For most categories, long time series are not available and so it is hard to assess trends. Also, it is often unclear to what extent surveys are comparable across time.

²⁸ Scheper-Hughes (1994: 993) states that the first AIDS case in Brazil was in 1982.

²⁹ World Bank (1997: Statistical Appendix Table 1) gives a figure of 11.2 for female sex workers (1992-3).

³⁰ World Bank (ibid.) gives a figure of 40.4 percent for injecting drug users of both sexes (1994-5)

³¹ World Bank (ibid.) gives a figure of 1.7 (1995) for women in urban antenatal clinics.

³² World Bank (ibid.) gives 0.7 percent for 1994.

Detailed demographic data is available from DHS surveys in 1986, 1991 and 1996 (BEMFAM/ Macro International, 1997), which covers various aspects of reproductive health. While the most recent survey indicates that questions were included about STDs including HIV/AIDS, the existing report does not appear to present any analysis of this data.

8.3.4 Trends in HIV/AIDS³³

As predicted by some specialists (Daniel and Parker, 1993; Goldstein, 1994), the AIDS epidemic has followed a different trajectory in Brazil to that in North America, even though it first appeared among similar 'risk groups' (i.e. sex workers, homosexuals etc.). Unlike in North America and Europe, the pattern of transmission is shifting away from these original groups to the wider population, as demonstrated in Table 7.

Table 7: Shift of 'risk factors' for notified AIDS cases from 1980-6 to 1992

<i>Risk factor</i>	<i>1980-6 percent</i>	<i>1992 percent</i>
Homosexual activity	47	23
bisexual activity	22	11.5
Heterosexual activity	5	22
IDU	3	25

Source: Adapted from Raffaelli *et al* (1993: 662), citing Ministry of Health data.

Linked to the increasing importance of both IDU and heterosexual transmission, a rapid rise in the number of HIV infected women has occurred in the last few years. In São Paulo, for example, the ratio of male to female HIV infection fell from 38: 1 in 1985 to 7: 1 in 1991. Of these, around one third of women had been infected by a heterosexual or bisexual partner and around 40 percent from IDU (Goldstein, 1994: 919). Trends suggest that by year 2000 number of women with AIDS will approximate the number of men (*ibid.*).

Commentators have argued that the increasing rate of infection of women is due to an increase in drug use among the poor, and to the cultural construction of sexuality in Brazil (see below). Blood transfusion still accounts for at least four percent of AIDS cases in Brazil (UNAIDS, 1998a³⁴ and this may particularly affect women, in a country with high rates of sterilisation, caesarean section at birth and illegal and unsafe abortion.

8.3.5 Factors underlying transmission of HIV/AIDS in Brazil:

Sexual culture and gender relations

The sexual culture in Brazil and the way in which gender interacts with this are key factors underlying the pattern of transmission of HIV/AIDS and in particular its implications for women.

Sexuality and sensuality are deeply embedded parts of Brazilian national identity and as such it

³³ Annexe 5 gives a detailed summary of HIV/AIDS among different 'risk groups'.

³⁴ Another study (Scheper-Hughes, 1994) claims that one in five AIDS cases are due to infected blood.

is difficult in public discourse to problematise these areas. Specifically it is difficult to raise issues or discuss measures that might curtail male sexual freedom. While the *machismo* of Brazilian culture is linked to high levels of homophobia (and associated derogatory terms for people practising this), homosexual relations between men are seen in symbolic gender terms, such that 'passive' (female) and 'active' (male) partners are perceived differently. In this way, men may engage in homosexual relations while defining themselves as heterosexual, even though in practice they are bisexual (Goldstein, 1994; Scheper-Hughes, 1994).

It has been argued that male sexuality in Brazil is based around eroticising transgression or the forbidden (Goldstein, 1994). In this scenario, men frequently wish to engage in sexual practices, which are unpalatable or unacceptable to women, such as anal sex, and see this as a conquest, on a par with deflowering virgins. This culture of transgression, on the one hand and resistance/ passivity on the other places women in a weak position in term of negotiating safe sex with long-term partners. In a similar vein, female virginity is prized and women relate stories about their sexual naiveté and ignorance when younger and how they were forced to have sex on the first occasion. Again, their passivity or resistance is underlined, which creates difficulties when attempting to change sexual behaviour. There are also pervasive double standards around fidelity. Women are much less likely than men to have adulterous relationships³⁵ and the consequences for women of being caught in an adulterous affair can be severe, since this is deemed to damage their partners' honour. There is no parallel issue of women losing honour when men have adulterous relations. In this context, poor heterosexual women are particularly vulnerable, since they are unaware of or unable to openly acknowledge the sexual practices of their male partners (*ibid.*).

A study (Goldstein, 1994) conducted interviews with 60 male and female factory workers and 18 interviews with women's groups (mainly black) in *favelas* in Rio and São Paulo to explore sexual behaviour and attitudes as a basis for developing AIDS education materials. The focus groups discussions with women workers and *favela*-dwellers revealed that married women feel unable to ask husbands to use condom, even if they know they are not monogamous. Women themselves also express ambivalence about use of condoms (*ibid.*).

Women in heterosexual unions, but also 'passive' partners in homosexual relations (e.g. transvestites, street children) are in a weak position to insist on safe sex and therefore different approaches needed to protect these groups (see below). Also, because they do not define themselves as homosexual, 'active' male partners in homosexual relations do not perceive themselves to be at risk.

According to Goldstein (1994: 919) 'male sexual freedom is protected in the name of sexual freedom for all, while women's sexuality, protected in the private sphere, remains unchanged and locked into Brazil's cultural norms.'

Reproductive health factors

These issues around sexual culture are also related to wider reproductive health factors which themselves have a bearing on responses to HIV/AIDS. Female sterilisation is a widely used method of contraception (used by 40 percent of contracepting women) (BEMFAM/ Macro International, 1997), linked to women's need to work, the lack of childcare and affordable

³⁵ In a study about love, 49.8 percent of women interviewed revealed that they had had sexual relations with only one partner; this was only true for 7.2 percent of men (Goldstein, 1994, citing DataFolha).

health facilities; to aggressive promotion of sterilisation as a method and also to *machismo*. Women themselves may choose sterilisation because it does not involve negotiation with a partner (Goldstein, 1994).

Partly because of the Catholic church, there are ambivalent public attitudes towards fertility, population control etc and this is reflected in very poor reproductive health services, with heavy reliance on private and informal services for reproductive health (Campanile, 1995). Thus choice of contraceptive methods is not wide.

8.3.6 Politics of response to AIDS in Brazil

The response to HIV/AIDS in Brazil was initially slow. It was three years after the first reported case before an official AIDS programme was established, four years before AIDS was made a notifiable disease and six years before registration of blood donors was required (Scheper-Hughes, 1994). This official complacency led to many unnecessary deaths (*ibid.*). Much of the response to the HIV/AIDS epidemic was and is left to NGOs, many led by gay activists.

Scheper Hughes (1994) argues that the interests and perceptions of dominant groups (e.g. relatively affluent gay community; international funders of AIDS programmes) have led to a Western style, education focused campaign in Brazil which upholds male sexual freedoms and thus has failed to stem the tide of the epidemic. 'Education programmes assume non-reproductive, recreational and consensual sex - in short, an assumption of sexual citizenship which ... many Brazilians do not have' (*ibid.*: 995). Sex positive messages are embedded in these campaigns, which are far from the reality of poor working class women.

AIDS activist organizations in Brazil, as elsewhere, have favoured the eradication of the notion of risk-group categories feeling that this notion does not take into account the peculiarities of Brazilian sexuality and more importantly, the fact that almost anybody could be at risk through the practice of risk behaviours.
(Goldstein, 1994: 920)

However, as Scheper-Hughes (1994) argues, although resistance to discourse of 'risk groups' by AIDS activists in Brazil and outside serves to deflect stigmatisation from gay community and protect civil liberties of those groups, it is dangerous to women and other marginalised sectors in that it obscures the sexual behaviours of (male) partners which put them at risk.

The original campaigns designed to address IDUs, homosexuals and sex workers; need to be reoriented to address 'ordinary' women. These programmes focused on condom literacy, which is mostly geared to men or women in non-stable relationships, while the issues are different for women in long-term relationships. There is a need for a feminist approach to AIDS prevention with women and for 'Campaigns that allow women to reconstitute themselves as sexual subjects, empowered to negotiate sexual practices and safe sex regulations with their partners.' (Goldstein, 1998: 928).

8.4 Uganda

8.4.1 Sex distribution of HIV/AIDS

The HIV infection rate of almost 9.5 percent in Uganda is just above the average for Sub-Saharan Africa of 7.8 percent, which incorporates heavily affected countries like Zimbabwe (26 percent) or Zambia (19 percent). Table 8 summarises available data on the sex distribution of HIV/AIDS. Women are 49 percent of the estimated HIV infected population (1997) and 59 percent of reported AIDS cases (1996). The prevalence rate of 14.6 for urban areas is based on data from antenatal clinics as is the rural prevalence rate of 8.8 percent. Prevalence among higher risk groups is given as 40 percent, but with no further disaggregation.

Table 8: UNAIDS HIV/AIDS profile for Uganda:

Indicator	year	Percentage /number/type	Sex distribution
First reported AIDS case	1983		No data
Dominant mode of transmission		Hetero	No percentages given
HIV prevalence among high risk groups (%)♣	1997	40	No info
Urban Prevalence♣ (median)	1997	14.6	Data from antenatal clinics
Rural prevalence (median) ♣	1997	8.8	Data from antenatal clinics
Estimated HIV prevalence among adults (15-49) (%)	1997 (Estim.)	9.51	430 000 women (49%)
Estimated number of persons living with HIV/AIDS - infection	1997 (Estim.)	930 000	
Reported AIDS-cases	1996 1997	3021 435	m: 41%; f: 59% ?
Current living AIDS-orphans	1997	1 100 000	
Cumulative orphans	(estim)	1 700 000	
Projected No of AIDS orphans (2010)*	2010	1 585 448 (82% of all orphans)	

Sources: UNAIDS 1998; ♣ Sida (1998b); *Hunter S and Williamson J., *Children on the Brink*, USAID, cited in Sida (1998b)

8.4.2 Surveillance procedures

Five different groups have been surveyed for the prevalence of HIV/AIDS:

- Pregnant women in urban areas since 1985
- Pregnant women outside major urban areas since 1989
- Military forces in major urban areas 1992-1995
- Military forces outside major urban areas 1992 and 1996
- STD patients (male), 1989-1992 and 1996 (UNAIDS, 1998c)

The data is taken from the US Bureau of the Census and mostly refers to only one sentinel site, except for antenatal clinics (urban: up to three sites; 'rural': up to 23 sites). The distinction between 'major urban' and 'outside major urban' sites does not provide adequate representation of rural areas. There is no information about the sample size tested in each case, so that it is difficult to establish whether more women or men are tested, although given that the most widespread data is from ANCs, it is highly likely that more women than men are tested overall. It appears that the most reliable and stable data sources are antenatal clinics, where the peak of HIV prevalence occurred between 1987 and 1992 in urban areas. Prevalence rates are lower and more stable in rural areas.

8.4.3 Trends in HIV/AIDS

Interestingly the age distribution of HIV-positive women in antenatal clinics has changed over the years. While in 1991, 38 percent of women tested under the age of 20 years were HIV-positive, in 1996 this figure had declined to seven percent. In 1996, the Uganda Ministry of Health published a report which showed that trends in HIV prevalence is declining in some parts of Uganda, as a result of a behavioural change towards safer sexual practices. It is unclear from available sources whether the surveillance system has yet captured the situation in rural areas. According to Government of Uganda/ MacroInternational (1996:105), 90 percent of all rural and 95 percent of all urban women receive antenatal care by a trained health personnel, but sentinel surveillance may have been restricted to more urbanised areas, as argued above.

8.4.4 Curable STDs

Some data is available on the prevalence of STDs in Uganda, which, as seen above, are a predisposing factor towards HIV infection and also indicate behaviour patterns likely to increase risk of infection (UNAIDS 1998c). Estimates taken from the 'Rakai Project preliminary data' (1996) on the prevalence of the most common diseases (Chlamydia trac., Gonorrhoea, Syphilis and Trichomonas) show that overall women have a slightly higher prevalence of STDs than men. Prevalence of Trichomonas is six times as high for women than men, affecting 24 percent of the women tested.³⁶

8.4.5 Knowledge and behaviour

A recent survey gave the proportion of people citing at least two acceptable ways of protection from HIV infection. This showed that men had slightly greater knowledge than women, with a wider gap between the two in rural areas, although even there, more than 60 percent of women could answer the question (UNAIDS 1998c).

In terms of sexual behaviour, data from 1989, which is not disaggregated by rural/urban

³⁶ Rates for male and female infection are taken from the STD/AIDS control programme, whereby the incidence for male STDs relates to men reporting urethritis over the period of one year (population based KABP survey in four districts). Female STDs are measured as prevalence data taken from blood samples tested for Syphilis. There is no information available on STD management according to sex. As noted above, the fact that STD data are gathered from men at STD clinics but from women at ANCs may result in biases in the data, since women affected by STDs are less likely to report to clinics and less likely than uninfected women to attend ANCs. In addition, syphilis is only one kind of STD, which can be detected via blood samples. Other STDs and reproductive tract infections go unnoticed.

location, shows major differences between male and female behaviour. 1995 data which is disaggregated by rural/urban location indicates that it is unacceptable for women to have extra-marital sex in rural areas. In the urban environment, both men and women have more frequent non-regular partnerships, especially among the 15-19 years age group. Data on condom use during the most recent 'intercourse of risk' indicated wide differences again between rural and urban behaviour but less so between men and women. It is striking that the use of condoms in the younger age groups in rural areas (men: 20-24 years and women 15-19 years) is reported as zero, as they represent the major group at risk. A similar situation exists in town, where only 22 percent of the women between 15 and 18 years reported condom use, whereas 65 percent of men in the same age group reported condom use. Overall, the rural rate of condom use is around 20 percent and the urban one around 65 percent. Where men report higher rates of condom use, this may be due to a reporting bias, as it becomes common knowledge that responsible sex is associated with condom use. The higher use rates in town also indicate that changes in sexual behaviour towards safer sex are possible. Overall condom use has increased, but is still less than ten percent of women have ever used a condom (data were only given for women, 1989, 1995).

A high proportion of teenage pregnancy is reported (71 percent of women interviewed were mothers by the age of 19, nearly eight percent by the age of 15), indicating an early start to sexual activity, with the associated risks to younger women.³⁷

Where heterosexual transmission predominates, marriage is a high risk factor, but a behavioural change towards condom use within marriage involves a complex change of attitudes. If a man or a woman suggests condom use within marriage, this may imply promiscuity, and in the case of women, condom use may be associated with prostitution (Durrant 1994:8). In-depth anthropological studies, such as on that on migrant workers in Zambia by Bond and Dover (1997) explore the cultural understandings of sexual practices, such as condom use. Within marriage, sex has a different meaning than outside and is associated with male potency and male and female fertility, creating negative attitudes towards condom use. An important aspect of responding to HIV/AIDS highlighted in the study is male and female motivation for unprotected sex, despite the knowledge of the risk involved. Whereas women may be in a subordinate position and feel unable to negotiate (*ibid.*), men may put themselves at risk, because they are tied to masculinist ideologies. This also becomes evident in the case of widow-inheritance (Topouzis and Hemrich 1994; see below) and where men refuse safe behaviour, even where they are openly promiscuous (Cohen and Reid 1998).

8.4.6 Impact of HIV/AIDS

Studies or essays concerned with the socio-economic impact of AIDS typically refer to individual sectors and regions, and rather than coming to definite conclusions, they describe general trends and point to areas for further investigation (Durrant 1994; Topouzis and Hemrich 1994; Cohen 1993; Barnett and Blaikie 1992). The best-studied areas in Uganda are the Rakai and Masaka Districts, where AIDS was first diagnosed and sero-prevalence remains high (Ntozi *et al* 1997:146; Cohen 1993). Increasingly, the data on other areas is improving and this illustrates that even within a country, the profile of the epidemic can vary greatly (Topouzis and Hemrich 1994:1). Problems are identified in the following sectors:

³⁷ Available data on mean age at first intercourse is of limited value, as it does not cover all age groups.

8.4.6.1 Economic impacts

Agricultural Sector: 87 percent of the population in Uganda is rural and agriculture accounts for about two thirds of GDP and virtually all exports, mostly produced on smallholdings. Women are responsible for up to 80 percent of the agricultural production, which involves both subsistence and cash crops, even though major control of production decisions and of income generated rests with men (Elson and Evers 1997:6). Local supply of foodstuffs may be endangered due to loss of labour both for subsistence and cash crop production (e.g. tea, coffee, plantain) (Cohen 1993: 5). No data was found to indicate specific impacts of HIV/AIDS on agricultural labour supply or production structure. Separating these effects out is difficult as many other factors can influence such shifts, e.g. technological change and structural adjustment programmes.

Public sector: Since higher levels of education and social status are thought to enhance the risk of HIV infection in general, there is likely to be a specific impact of HIV/AIDS on civil servants and technical staff, who may also be difficult to replace due to skills shortages. (Cohen 1993: 5, Barnett and Blaikie 1992:26). Topouzis and Hemrich (1994:2) note that coverage of agricultural extension staff has been reduced due to AIDS, and that lost staff are difficult to replace. In addition, work time and productivity is reduced, as staff have to attend the funerals of colleagues or clients.

Even where the identified effects on the macro-economic situation and individual sectors are hard to isolate, there is no doubt that at micro-level, HIV/AIDS increases poverty (World Bank 1997:34), which raises new potential demands on government spending. Where the number of poor households is rising, communities also face changes in their capacity and necessity to deal with AIDS. As women tend to lack access and control to resources such as land and income-generating technologies as well as the income from agricultural production, they are more likely to be poor, or are more vulnerable to poverty though the impact of HIV/AIDS (Durrant 1994:5 citing Obbo 1991; Elson and Evers 1997; Topouzis and Hemrich 1994:8).

8.4.6.2 Social impacts

Health care system: In Uganda the legacy of neglect and underfunding of the health service due to the war situation is exacerbated as demand for health treatment grows due to HIV/AIDS. As a consequence, AIDS patients and their families seek help from traditional healers. Moreover, the demand for care due to HIV/AIDS diverts resources away from other treatment, such as TB and malaria, which thus become more severe as health problems in their own right, but may also exacerbate the course of HIV/AIDS (as discussed in previous sections). In 1993 there was no comprehensive STD in Uganda programme, although STDs play a major role in the transmission of HIV (Cohen 1993: 6). It has also been noted that the proportion of women compared to men in hospital care has decreased in some areas of Southern Uganda, and that women with AIDS die faster than men (Durrant 1994: 10).

Education system: The impact on the educational sector is twofold. School age children are taken out of school, as they have to contribute to household production and care; and teachers are lost, as they die from AIDS, since they belong to a relatively at-risk population of high social and educational status (Barnett and Blaikie 1992:26; Kirunga and Ntozi 1997). A further impact for the educational sector is the demand on schools to supply education about HIV/AIDS and sexual practices, which requires investment of public resources. The development of an appropriate curriculum should take into account the different social positions and vulnerability of boys and girls, contributing to increased control over their own bodies and sexuality by girls. At the same time, schools are faced with the direct impact of AIDS on school-age children and associated needs for attention from orphans and children of ill parents.

8.4.6.3 Household structure and relations

Changes in division of labour

As individual productivity is affected, costs diverted to the illness are likely to have an impact on household food security, where the husband is falling ill, and his wife takes over a caring role, while being less involved in her traditional 'productive' activities (Cohen 1993:5). Children become important contributors in both care and production, which results in reduced schooling for children, especially as financial resources become scarce. According to TASO personnel,³⁸ only one in five children from HIV-infected households stay at school (Topouzis and Hemrich 1994:18). Furthermore, health care for the rest of the family may suffer, as it becomes unaffordable (Cohen, 1993). Barnett and Blaikie (1992: 89) illustrate how over a period of ten years, a household reacts to the course of AIDS, which affects different members of the family and eventually leaves the children as orphans, who have to labour for other households, as their own land has been abandoned.

Widows and widowers

A UNDP analysis in the three districts of Uganda, Kabarole, Gulu and Tororo, revealed that that far more women had lost their husbands than vice versa. A man tends to be relatively cushioned after his wife's death, as he can either rely on his other wives in the case of polygyny, or may even start looking for a new wife while the first one is ill (Topouzis and Hemrich 1994:7). For women, widowhood leaves them highly vulnerable to poverty. The situation of widows in Uganda can be summarised as follows (*ibid.*):

- Women have no right to property during marriage and are likely to lose their husbands' property to his family, unless explicitly stated in his will. If there is a son older than 13 years, he may inherit his father's property, which can then serve as a security for the rest of the family;
- A widow may be passed on to her husband's brother or male relative, or else remains in her conjugal home, but without protection;
- A widow remains responsible for her children and has to face the difficulties of being a female-headed household after a sharp decline in their living standard due to her late husband's illness.

According to the UNDP-study, a widow's future perspectives depend greatly on the way her

³⁸ TASO is an AIDS counselling service in Tororo District, Uganda.

husband's family perceives his death. It is not uncommon that his wife is blamed for his illness and is accused of promiscuity and immorality. If she then feels forced to leave the area, she may become a migrant, with associated risks of poverty and insecurity (Topuzis and Hemrich 1994:8). In this situation, widows are likely to seek a new partnership to secure her livelihood, but this puts her future partner at risk, if she is infected and is frightened to let him know about her past.

The experience of TASO, a community counselling service in Tororo illustrates the importance of working with both men and women according to their specific needs, for example in the case of wife-inheritance. For example, counsellors and widows reported that it was not uncommon that brothers-in-law would disregard the dangers of infection and would even abandon HIV-infected sisters in law who refused sex on the ground of not wanting to infect the extended family (Topouzis and Hemrich 1994:10). An infected husband can help prevent poverty for his family, if he agrees to write a will, which grants their common property to his wife. In order to challenge social traditions such as wife inheritance the support of male members of the community is required. They have to be mobilised at the same time as giving women support and economic alternatives to enable them to resist to the practice.

Orphans and child-headed households

The understanding that women are heavily infected and will eventually fall ill has created an additional problem, that of a rising number of orphans. UNAIDS (1998c) estimates that 1.1 million orphans live in Uganda. A survey of 1797 rural and urban households in six districts in the South of Uganda by Ntozi *et al* (1997) showed an overall orphanhood prevalence of 42.7 percent, reaching as high as 64 percent in Masaka District³⁹. A general national census 1991 based on a random sample revealed an overall average prevalence of orphans nationwide of 10.7 percent. This does not clarify the extent to which orphanhood is attributable to HIV/AIDS *per se*.

However, according to the Ntozi *et al* (*op. cit.*) study, in 54 percent of cases overall the death of a parent was AIDS related.⁴⁰ In Masaka District, this rose to 82 percent. The data also revealed that more children had lost their fathers rather than their mothers with an overall sex ratio of 159 fathers to 100 mothers. This was the case for AIDS and AIDS-related diseases (sex ratio of 1.24 and 1.51 respectively) but more so for other causes of death⁴¹. The fact that more men than women had died from AIDS confirms that more men are dying and that within families, it is usually the man who presents first with the disease. AIDS-related paternal orphanhood (i.e. children who have lost their fathers) accounted for almost 40 percent of all causes of death of parents. There is no indication as to how many children had lost both parents, which is likely to be the case once the mother has died. However, the author discusses 'surviving fathers', which indicates that at least some wives acquired the disease (and died) before their husbands.

The gender implications of the analysis of the demographic impact lies in the sudden

³⁹ However, this extremely high rate may be a result of the fact that households were chosen which were known to have suffered from AIDS in the past. This raises ethical questions about confidentiality in research on HIV/AIDS.

⁴⁰ In this case, orphans were defined as children below the age of 18 years without at least one parent (Ntozi *et al* 1997 p 23 cites Republic of Uganda 1995)

⁴¹ Other causes of mortality specific to men are related to the civil unrest in Uganda (Ntozi *et al* 1997:27).

recognition of reproductive tasks of women, as they disappear as carers, especially when the mother has died. The UNAIDS definition does not even consider paternal orphans as orphans, with the implicit assumption that mothers will just get on with the care. Especially in the case of AIDS, there is a strong likelihood that the surviving mother will be infected and therefore requires assistance to secure the livelihood of herself and her children. Surviving fathers are more likely to re-marry (Topouzis and Hemrich 1994:7) or give their children up into the care of grandparents (Ntozi *et al* 1997:29). More research is required to understand the different coping strategies of men and particularly women, when their partners die and they are left with the children.

When the extended family takes over part of all of care of the children, this raises the question of who will do the bulk of the work. It seems more than likely that the main carers are women, who are then consequently restricted in their own activities to secure their own livelihood (Topouzis and Hemrich 1994:15, Grundfest-Schoepf 1991:756). Another problem is the age of alternative carers who may be either very young or very old (since AIDS deaths peak in early adulthood) are themselves highly vulnerable to poverty (Sengendo and Nambi 1997:106 citing Hunter 1990). In the Ntozi *et al* (1997) survey sample older siblings reported to be primary carers for the orphans in 7.2 percent of cases, which indicates a growing phenomenon of 'child-headed households'.

According to the study by Ntozi *et al* (1997:32), paternal orphans suffer more from lack of parental care whereas maternal orphans especially lack money. Both have serious implications on the future development of the child. In general, the most striking effect for children seems to be poverty due to the processes described above, whereby children of female-headed households are most affected where widows have lost access and control of productive family resources (see section above on widowhood). It is likely that girls, more so than boys, will be taken out of school, as they can easily substitute for mothers in domestic tasks.

So far, little has been done to address psychological effects for children of parents' deaths from AIDS (Sengendo and Nambi 1997). A recent study showed that the trauma of experiencing the death of one or two parents, and the lack of emotional support was felt especially by maternal orphans. They were more predisposed to physical and psychological risks and tended to be more 'externally orientated' (*ibid.*), which may have implications for their sexual behaviour during adolescence. The study, which was undertaken at a school in Rakai District concluded that all orphans felt less optimistic about the future compared to non-orphans, decreasing their potential to cope with their life ahead. It is estimated that 50 percent of all new infections occur among the population between 15 and 24 years and a further ten percent in children under 15 years (Lyons 1998:2), so that these children are passing directly into a high-risk phase for infection.

A final effect is that on family values and traditional norms and customs, which may influence children differently according to their gender. When families are breaking up, children miss out on family-based education and guidance, especially if they are expected to mature fast and take on responsibilities (Topouzis and Hemrich 1994:18). It has been suggested that this leads to early sexual activity, with all its inherent dangers (*ibid.*). The fact that women suffer the brunt of the impact of HIV/AIDS may act as a deterrent to promiscuity, among girls, however. There is also a possibility that boys might develop a better understanding and sense of responsibility for reproductive tasks, but this can only be maintained if society is supportive. In Tororo district, increasing numbers of children run away from home to escape poverty and the

stigma of being AIDS-orphans (*ibid.*:12). The growing number of street-children indicates that they do not experience a supportive environment for development from their community.

8.4.6.4 Demographic impact

The demographic impact of HIV/AIDS becomes evident if changes in the population pyramid occur which would not happen in the absence of AIDS. In order to compare scenarios, the US Bureau of the Census has produced estimates of a range of demographic indicators for 28 countries (of which all but seven are African), with or without AIDS (Advance tables of the World Population Profile, cited by Sida 1998b). According to those tables, which give information about population growth, life expectancy and crude death rates as well as child and infant mortality, HIV/AIDS has had a significant demographic impact in Uganda.⁴²

A comparison of demographic impact between Brazil and Uganda (Table 9) illustrates the severity of the situation in Uganda, where infant and child mortality rates are exceptionally high even without HIV/AIDS⁴³. A limitation of the model on which the estimations is based is that it does not account for HIV transmission other than through heterosexual contact, whereas in Brazil, same sex relations and drug use are major contributors to HIV transmission. This may mean that the estimates for Brazil are biased (U.S. Bureau of the Census 1998).

Table 9: Estimated demographic impact of AIDS in Uganda and Brazil, 1998

	Uganda	Brazil
Population growth rate with AIDS	2.8	1.2
without AIDS	3.5	1.5
Life expectancy with AIDS	42.6	64.4
without AIDS	54.1	71.4
Crude death rate with AIDS	19	8.5
without AIDS	12.5	5.6
Infant mortality with AIDS	92.9	37.0
without AIDS	83.1	33.5
Child mortality with AIDS	164.5	47.3
without AIDS	132.9	37.5

Source: World Population Profile advance tables 1998, US Bureau of the Census (cited in Sida 1998b)

⁴² In the previous World Population Profile 1996, demographic estimations were developed using 'iwgAIDS', a complex dynamic model by the U.S. Department of State (U.S. Bureau of the Census 1998). This model refers to heterosexual transmission of HIV. It distinguishes population groups according to age, sex, marital status, infection class and region (rural/urban), as well as by behavioural attributes, which put each population group at additional risk through, e.g., multiple partnerships, migration, duration of infection, use of condoms, STDs and transmissibility (Stanley *et al.* 1991:121). For the 1998 estimation, the underlying model is not known, as the tables are not yet published.

⁴³ It is unclear from the literature whether the estimates on infant and child mortality are purely derived from the assumed mother-child transmission rates. However, more indirect factors, such as malnutrition and diseases as a result of household food insecurity or reduced sources for health care are unlikely to be included in these estimations.

Fertility

Changes in fertility due to HIV/AIDS have so far not been systematically incorporated into demographic projections, although they have been discussed in the literature (Zaba and Gregson 1998; Ntozi *et al* 1997).

In their evaluation of survey material from Masaka and Rakai Districts and other localities in Uganda, as well as Tanzania and Zambia, Zaba and Gregson (1998:7) observe that a ten-percent prevalence of HIV has the impact of a four- percent decrease in the total population fertility. Ntozi *et al* (1997) come to the conclusion that fertility rates declined from 7.3 to 6.0 between 1992 and 1995 in six Ugandan districts surveyed, whereby women in AIDS-affected households showed significantly lower fertility compared to those in non-affected households. Zaba and Gregson (1998) point out that fertility estimates do not account for changes in behaviour in the general population, as knowledge about AIDS and fear of infection change their sexual behaviour. Annexe 6 lists factors which may influence fertility and assigns each of them a negative or positive value according to their influence on the overall fertility. They make a distinction between individual biological and behavioural as well as structural factors, which affect HIV-positive, HIV-negative women or the population as a whole. They conclude that the impact on fertility from HIV-infected women is small in relation to the overall effect. To give an example, the increased foetal mortality experienced by HIV-positive women may have an overall negative effect on fertility. However, as infected infertile women die early, average fertility for the remaining population rises and may outweigh the decline (*ibid.*: 11).

Infant and child mortality

A recent evaluation of the impact of HIV/AIDS on infant and child mortality in Uganda by Ntozi and Nakanaabi (1997) found a positive association of mortality rates with parents who are educated, polygamous, formerly employed and in business. This reflects the understanding that parents with higher income are more at risk of contracting HIV/AIDS and therefore mothers are more likely to transmit the infection to children during pregnancy and breast-feeding. However, this analysis overlooks infant and child mortality not directly caused by AIDS, but rather associated with the reduction in available health care, due to increased demands on services due to AIDS (as discussed above), or because diseased parents or impoverished relatives have reduced childcare capabilities.

9. Conclusions

9.1 *Summary of situation and trends*

Globally, current levels of HIV/AIDS are considerably higher than previously thought, due to revised estimates produced in 1997 (UNAIDS, 1998a). Worldwide women form 41 percent of those who are HIV infected and a slightly lower proportion (40.4 percent) of new infections. Approximately 45 percent of AIDS deaths are female. On average, women become infected 5-10 years before men, although this varies by region.

At a regional level, the proportion of women who are HIV infected is especially high in those regions where overall infection levels high (SSA, Caribbean) and where heterosexual transmission dominates. In SSA, 50 percent of those infected are female (overall adult HIV prevalence rate of 7.41 percent) while in the Caribbean it is estimated that 33 percent of those infected are women (overall adult prevalence of 1.52 percent).

It is hard to ascertain global/ regional trends in HIV/AIDS because of changes in data collection/ estimation methods and also due to lack of time series in sex-disaggregated data, although the situation is improving. (In most cases, the best time series data is that collected on pregnant women). There is continued growth in overall numbers of infected adults and children of both sexes, as well as children, but overall the estimated share of women affected does not appear to have increased in the last 3-4 years. However, there are indications that proportion of women infected is rising in some parts of Latin America. More generally there is a rapid rise of infection rates in parts of Asia and Southern Africa, including among pregnant women, such that increasing numbers of women (and through them children) are likely to be affected. In some countries where infection rates were high in earlier periods (Uganda, Senegal, Thailand, Tanzania), prevalence rates seem to be stabilising, or even falling, in part at least to interventions and to behavioural changes, especially among younger people.

9.2 *Data availability and quality*

The report has also highlighted areas of possible gender bias in data reporting and estimations. There is incomplete sex-disaggregated data on reported AIDS cases and mortality. It is possible that female AIDS deaths may be masked by mortality associated with maternal causes, or TB, for example, both major causes of female death which have a relationship with HIV infection. Similarly, infant mortality associated with AIDS may go undetected, leading to inaccurate assumptions about HIV infection among mothers. Serosurveillance procedures are likely, at least in Africa, to underestimate HIV infection among women, because of failure to take into account fertility differences between the HIV positive and HIV negative populations.

As the epidemic matures, data derived from general monitoring of women reporting to antenatal clinics, whilst it highlights HIV as an issue among women, becomes less useful as a means to monitor overall trends. Targeted monitoring of younger age groups has more direct relevance here. Better data on sexual behaviour is also important in order to inform preventive efforts before the epidemic becomes generalised and it remains an issue, where heterosexual spread of the disease is high and behaviour is related to different sexual motives.

9.3 Understanding HIV/AIDS: the importance of gender analysis

Current understanding of the HIV/AIDS epidemic highlights the different pattern of development as between countries of the same region, or even between different groups within a country, moving beyond the regionally based models used earlier. This more disaggregated approach incorporates more careful monitoring of HIV/AIDS among different population groups, and allows for improved estimations.

Data availability is still very patchy, with the most comprehensive information on SSA, while data on other countries is more sparse and less consistent. This is particularly of concern in areas (as in parts of Asia and Latin America, as well as Eastern Europe) where, although overall rates are low, they are rising rapidly.

Understanding of the factors underlying the spread of HIV/AIDS is still weak. While at macro-level, poverty and illiteracy appear to be associated with high levels of infection, for example, on a regional basis the reverse is true. Education among women, for example, may be associated with mobility and increased incomes, which are associated with increased social and sexual relationships and expose them to greater risk. The socio-economic and socio-cultural influences on sexual behaviour need to be better understood, and gender analysis is a critical input here. Gender analysis highlights the gendered socio-cultural norms surrounding sexuality, the different motivations of men and women for sexual activity and the issue of bargaining power in male-female relationships, all of which are critical to understanding sexual behaviour patterns and networks and the potential for change in this behaviour.

There has not been scope in this report to review systematically the literature on impact. A few pointers are given about gender issues in examining impact of HIV/AIDS. Studies divide into those focusing mainly on demographic, and those focusing on broader socio-economic impacts. A gender analysis would also need to examine the interaction between these spheres and the HIV/AIDS epidemic underlines the linkages here. Particular issues of concern are changes in household/gender divisions of labour, which may impact on women and children, especially if male household members become sick or die first; the care burden on women; the likelihood of women being abandoned or left alone without care; and changes in household composition and structure likely to result in more female headed (and child headed) households.

9.4 Possible improvements in data collection/ analysis

Some suggestions are made here about ways to improve data collection and analysis from a gender perspective, in line with current understandings of HIV/AIDS and its likely trajectory.

1. Refocus monitoring efforts onto different groups, with attention to implicit gender biases in current surveillance procedures. This should definitely include younger age groups, with systematic gender disaggregation, raising the question of whether 'children' (under 15s) as a category should be further disaggregated (by gender). The younger average age of infection among women makes this a priority. Better outreach to groups currently overlooked by the current system – e.g. women affected by STDs (who are unlikely to come forward or to be captured by ANCs); post-menopausal women is also desirable.

2. Closer integration of reproductive and sexual health/ demographic data with HIV/AIDS monitoring/estimation procedures, to allow for better understanding of relationships and correcting of HIV/AIDS estimates. This includes data on fertility, STD prevalence broadly, infant and child mortality, as well as HIV/AIDS. Improved estimates and analysis of the former should improve accuracy of the latter, which depends on these indicators for estimation purposes. Closer integration of HIV/AIDS monitoring with data collection on maternal and child mortality might also highlight where AIDS related deaths are currently being missed.
3. Improved data/ research on sexual behaviour, from the starting point of gender analysis, which is central to understanding different socio-cultural beliefs and norms, motivations and capacities for negotiation around sexuality.
4. Closer links between data-collection and support services for HIV/AIDS victims. Given the socio-economic implications that women face when their partners become ill, families need counselling in order to develop forward looking perspectives for survivors. A gender-sensitive community-based approach to coping with the impact of HIV/AIDS is essential in the creation of a supportive environment and can potentially contribute to a lessened social stigma associated with HIV/AIDS.

Bibliography

- Abrahamsen, R., (1997). 'Gender dimensions of AIDS in Zambia,' Journal of Gender Studies, Vol. 6. No. 2
- Anderson, R.M., May, R.M., Boily, M.C., Garnett, G.P., Rowley, J.T. (1991). 'The spread of HIV-1 in Africa: sexual contact patterns and the predicted demographic impacts of AIDS,' Nature Vol. 352, pp 581-589
- Baden, S., Green, C., Goetz, A.M. and Guhatakhurta, M., (1994). 'Background report on gender issues in Bangladesh,' BRIDGE Report No 26, Commissioned by ODA (UK), BRIDGE, IDS, Sussex.
- Barnett, T., and Blaikie, P (1992). 'Simple methods for monitoring the socio-economic impact of AIDS: Lessons from research in Uganda and Kenya,' Development Studies Discussion Paper No 233, University of East Anglia, Norwich
- Barnett, T., and Blaikie, P., (1992) Simple Methods for Monitoring the Socio-Economic Impact of AIDS: Lessons from Research in Uganda and Kenya, Development Studies Discussion Paper no. 223, School of Development Studies, University of East Anglia, September.
- Barnett, T., and Blaikie, P., (1992), AIDS in Africa: its Present and Future Impact, Belhaven Press, London.
- Berer, M., and Ray, S., (1993), Women and HIV/AIDS : An International Resource Book: Information, Action and Resources on Women and HIV/AIDS, Reproductive Health, and Sexual Relationships, Appropriate Health Resources and Technologies Action Group, Pandora, London .
- BEMFAM (Sociedade Civil Bem-Estar Familiar no Brasil)/ Macro International, (1997). Brasil: Pesquisa Nacional Sobre Demografia e Saude 1996, BEMFAM, Rio de Janeiro, DHS Macro International Inc., Maryland, USA. March
- Chin, J. and Lwanga, S.K. (1991). 'Estimation and projection of adult AIDS cases: a simple epidemiological model', Bulletin of the WHO, Vol. 69, No 4, pp 399 – 406
- Cleland, J., and Way, P., (eds.) (1994). 'AIDS impact and prevention in the developing world: demographic and social science perspectives,' Health Transition Review, Supplement to Volume 4, Health Transition Centre, The Australian National University, Canberra Australia.
- Cohen, D.,(1993) The HIV Epidemic in Uganda: a Programme Approach, UNDP Study Paper No. 1, UNDP
- Cohen, D. and Reid, E. (1998). 'The vulnerability of women: Is this a useful construct for policy and programming?' UNDP HIV and Development Programme, Issues Paper No 28

- Daniel, H. and Parker, R., (1993). Sexuality, Politics and AIDS in Brazil - In Another World?, from the series Social Aspects of AIDS, The Falmer Press, 1993.
- Daniel, H., and Parker, R., (1993). Sexuality, Politics and AIDS in Brazil: In Another World? Social Aspects of AIDS Series, The Falmer Press, London/ Washington DC.
- do Valle Silva, N., Henriques, M. H. F. T., de Souza, A., (1990). 'An analysis of reproductive behaviour in Brazil,' Instituto de Estudos Econômicos, Sociais e Políticos de São Paulo, Demographic and Health Surveys Further Analysis Series Number 6, Macro International Inc., Maryland, USA. April.
- Durrant, V., (1994). 'Impact of AIDS on Women in Uganda,' Michigan State University. Office of Women in International Development, Working Papers on Women in International Development, No. 249, East Lansing, Michigan, October.
- Elias C (1991). 'Sexually transmitted diseases and the reproductive health of women in developing countries', The Population Council Working Paper No 5, Population Council, New York
- Elson, D and Evers, B (1997), Gender Aware Country Economic Reports, Working Paper Number 2, Uganda, Graduate School of Social Sciences, University of Manchester Genecon Unit.
- Food and Agriculture Organisation (FAO) (1995). 'Effects of HIV/AIDS on farming systems in Eastern Africa,' Farm Management and Production Economics Service; FAO, Rome.
- Goldstein, D.M. (1994). 'AIDS and women in Brazil: The emerging problem,' in Social Science and Medicine, Vol. 39, No 7.
- Government of Uganda (1996). Declining Trends in HIV Infection Rates in Sentinel Surveillance Sites in Uganda, STD/AIDS Control Programme, Ministry of Health, P.O. Box 8, Entebbe, Uganda, October.
- Government of Uganda/Macro International Inc. (1996), Demographic and Health Survey 1995 Statistics Department, Ministry of Finance and Economic Planning, Entebbe, Uganda; Macro International Inc., Maryland, USA, August.
- Government of Uganda/UNICEF (1989), Uganda Country Programme 1990 – 1995, Government of the Republic of Uganda in co-operation with the United Nations Children's Fund, Kampala, Uganda.
- Kishor, Sunita and Neitzel, Katherine, 1996, 'The Status of Women: indicators for twenty five countries,' Demographic and Health Surveys, Comparative Studies No. 21, Macro International Inc., Calverton, Maryland, December
- Leroy, V., Ladner, J. *et al* (1997). 'Effect of HIV-1 infection on pregnancy outcome in women in Kigali, Rwanda, 1992-1994,' AIDS, Vol. 12, No 6, pp 643-650 (ABSTRACT)
- Low-Beer D and Stoneburner RL (1997). An age- and sex-structured HIV epidemiological model: features and applications, Bulletin of the World Health Organisation 75 (3): 213-221

- Lyons, M, (1998) The Impact of HIV and AIDS on Children, Families and Communities: Risks and Realities of Childhood during the HIV Epidemic, UNDP Issue Paper No. 30 UNDP
- Majumder, M, K., (1997), Bangladesh Blueprint to Avert AIDS Disaster, Panos News One World Website
- Mann, J.M., Tarantola, D.J.M., Netter, T.W. (eds.) (1992). AIDS in the World, The Global AIDS Policy Coalition, Harvard University Press
- Marcus, R., (1993a). 'Gender and HIV/AIDS in Sub-Saharan Africa: the cases of Uganda and Malawi' BRIDGE Report No. 13, BRIDGE, IDS, Sussex
- Marcus, R. (1993b). 'Violence against women in Bangladesh, Pakistan, Egypt, Sudan, Senegal and Yemen,' BRIDGE Report No. 10, BRIDGE, IDS, Sussex.
- Mbizvo, M.T.; Bassett, M.T. (1996). 'Reproductive health and AIDS prevention in sub-Saharan Africa : the case for increased male participation' In: Health Policy And Planning : A Journal On Health In Development, 11,no.1, 84-92
- McNamara, R. (1991). 'Female genital health and the risk of HIV transmission,' UNDP HIV and Development Programme, Issues Paper No. 3, UNDP, New York
- Mitra, S. N., Al-Sabir, A., Cross, A. R., and Jamil, K., (1996), Bangladesh Demographic and Health Survey 1996 – 1997, National Institute of Population Research and Training (NIORT), Dhaka, Bangladesh; Mitra Associates, Dhaka, Bangladesh; and Macro International Inc., Maryland, USA., October.
- Mitra, S. N., and Al-Sabir, A., (1996) Contraceptive Use Dynamics in Bangladesh, DHS (Demographic and Health Surveys Program) Working Paper No. 21, Institute for Resource Development /Macro International Inc., Maryland, USA, October.
- Ntozi, J. P. M., Anarfi, J. K., Caldwell, J.C., and Jain, S., (eds.) (1997) 'Vulnerability to HIV infection and effects of AIDS in Africa and Asia/India,' Health Transition Review, Supplement to Volume 7, Health Transition Centre, The Australian National University, Canberra Australia, 1997.
- Oppenheim, M.K., (1994), 'HIV transmission and the balance of power between women and men: a global view' in Health Transition Review, Supplement to Vol.4 pp 217 - 240
- Oxaal, Z., with Baden, S., (1996). 'Challenges to women's reproductive health: maternal mortality,' BRIDGE Report No. 38, prepared for ODA, BRIDGE, IDS, Sussex.
- Raffaelli, M., Campos, R., Payne Merritt, A., Siqueira, E., Antunes, C.M., Parker, R., Greco, M., Halsey, N., and the Street Youth Study group (1993). 'Sexual practices and attitudes of street youth in Belo Horizonte, Brazil,' in Social Science and Medicine, Vol. 37. No. 5. pp. 661-670

- Reid, E. and Bailey, M. (1992). 'Young women: Silence, susceptibility and the HIV epidemic,' UNDP HIV and Development Programme, Issues Paper No. 12, UNDP, New York
- Topouzis, D. and Hemrich, G.(1994), The Socio-Economic Impact of HIV and AIDS on Rural Families in Uganda: An Emphasis on Youth UNDP Study Paper No. 2, UNDP
- Scheper-Hughes, N. (1994). 'An Essay: "AIDS and the Social Body"' in Social Science and Medicine, Vol. 39, No. 7. pp. 991-1003.
- Grundfest-Schoepf, B. (1991), 'Ethical, Methodological and Political Issues of AIDS Research in Central Africa', in Social Science and Medicine, Vol.33, No.7. pp 749 -763
- Schopper, D., Doussantousse, Serge; Orav, John, (1993), 'Sexual behaviours relevant to HIV transmission in a rural African population: how much can a KAP survey tell us?' in Social Science and Medicine, Vol 37., No.3 pp 401-12
- Sida (1998a). Implementation Plan for the Task force to Develop A Strategy for Swedish Development Co-operation in the Area of HIV/AIDS, Sida, Stockholm
- Sida (1998b). HIV in the World Today: A Summary of Trends and Demographic Implications (draft)
- UNAIDS (1998a). Global HIV/AIDS Surveillance, Internet version
- UNAIDS (1998b). Epidemiological Fact Sheet on HIV/AIDS and Sexually Transmitted Diseases: 'Bangladesh', UNAIDS/WHO, Geneva
- UNAIDS (1998c). Epidemiological Fact Sheet on HIV/AIDS and Sexually Transmitted Diseases: 'Uganda', UNAIDS/WHO, Geneva
- UNAIDS (1997a). Report of the Global AIDS Situation, UNAIDS, Geneva
- UNAIDS (1997b). 'Women and AIDS,' UNAIDS Point Of View, Best Practice Collection, Geneva
- UNAIDS (1997c). 'Mother to child transmission of HIV,' UNAIDS Technical Update, Best Practice Collection, Geneva
- United Nations (1994). AIDS and the Demography of Africa, Department for Economic and Social Information and Policy Analysis, Population Division, ST/ESA/SER.A/137, United Nations Press, New York, 1994.
- University of California (1997) HIV Insite, Monitoring the HIV/AIDS Epidemics, University of California Website
- US Bureau of the Census (1998). HIV/AIDS Surveillance Database, Population Division, International Programs, January
- Webb, D. (1997). HIV and AIDS in Africa, Pluto Press, London

WHO (1998a), Press release: 'TB is single biggest killer of young women'

WHO (1998b), TB Advocacy: A Practical Guide, Global Tuberculosis Programme, WHO/TB/98.239, Geneva, Switzerland

WHO/ Royal Tropical Institute/ SAFAIDS (1995). Facing The Challenges Of AIDS, STDS: A Gender-Based Response, SSN, The Netherlands

World Bank (1997) Confronting AIDS, Public Priorities in a Global Epidemic, World Bank Policy Research Report, Oxford University Press, Oxford 1997.

World Bank (1998) The World Bank to Provide US\$250 Million to Support Bangladesh's Health and Population Programme, Press Release, No. 99/1860/SAS

Zaba, B. and Gregson, S. (1998). 'Measuring the impact of HIV on fertility in Africa,' forthcoming in AIDS, Vol. 12 suppl. 1, pp 41-50 (draft).

Annexe 1: Draft Terms of Reference for Gender and HIV/AIDS study for Sida.

1. Introduction

- Scope and purpose of study

2. Global gender-disaggregated data on patterns/trends of HIV epidemic

Gender/age disaggregated data for

- HIV prevalence rates; progression rates (to full AIDS); mortality rates.
- Trends – 1980s-1990s. Changes in rates of infection by gender. Projections.
- Transmission mechanisms and their gender-relevance. Extent to which different transmission mechanisms are thought to be differentially significant for men and women of different ages.

3. Regional level data on patterns/ trends

As above. differentiated by broad region, highlighting major differences in patterns of infection from a gender perspective.

4. Summary of broad trends.

- Brief analysis of the above, highlighting trends.
- Commentary on availability and quality of gender disaggregated data.

5. Country level data

(For selected countries – needs further discussion)

More detailed analysis, of different social groups/sectors (looking at e.g. age, ethnicity, occupation, as well as gender) and their relative risks of HIV-infection, with gender-disaggregated data and analysis. Identification of context-specific gender-related factors (biological, social) which increase vulnerability to HIV infection/ mortality. (NB country information could be in Appendix, while this section pulls out key points, perhaps using examples in boxes).

6. Conclusion

- Main points drawn out from above.
- Final section highlighting existence of other issues/ wider literature, e.g. on:
Impact of HIV/AIDS: (e.g. looking at care burden, impact on household composition/ organisation, work patterns productivity etc.); gender aware prevention/ control strategies.

Appendices:

- Key sources of gender-disaggregated data on HIV/AIDS
- Major research initiatives on gender/AIDS
- Bibliography

Sally Baden, BRIDGE Manager
Monday, April 27, 1998

Annex 2: HIV/AIDS models and estimation procedures

Broadly, two types of models of HIV/AIDS can be distinguished:

Dynamic models provide mainly qualitative descriptions of the spread of HIV. They are concerned with biological and behavioural determinants of HIV-transmission, but they have a limited relevance for large-scale quantitative estimations, as effects are difficult to quantify. They are commonly used to design interventions into the process of transmission and are concerned with long-term effects.

Estimation models enable short-term forecasting, based on reported AIDS cases and sero-prevalence studies in different population subgroups. The aim is to provide conclusions about HIV prevalence and incidence for the population as a whole, and for particular sub-groups.

WHO developed an *estimation model* in 1987, which has been subsequently improved as the understanding of the course of the disease has become better and prevalence data in different sub-groups more widely available (Chin and Lwanga 1991; Low-Beer and Stoneburner 1997). The current version of the model permits the projection of HIV-infection curves, which are disaggregated by time period, age, sex and population sub-groups (Low-Beer and Stoneburner 1997). Such projections give an idea of the phase of the epidemic in a given country, i.e.: Is prevalence of AIDS just building up, at its peak level or starting to level off? (UNAIDS 1998).

Such models are valuable when they confirm observable patterns of HIV/AIDS. As not all countries have the same accuracy of reporting and surveillance, sources of reporting bias are identified in order to define estimations. Reporting accuracy varies between 10 and 80 percent in different countries (Low-Beer and Stoneburner 1997:220).

Inputs to the WHO model:

a) *Estimates of HIV-Prevalence and date of epidemic onset, containing information about subgroups:*

- Period of growth in HIV incidence
- Date of epidemic onset (when prevalence of at least 1 percent among sentinel groups)
- Percentage of whole population or sub-groups

a) *Demographic data (on population by age for any single year):*

- Age-specific fertility and mortality
- Population growth

a) *Natural history data:*

- Annual progression rate from HIV infection to AIDS and consecutive death (as utilised in EPI-model). In this example, the median incubation period is not varied by age, but by subgroup.
- Transmission rates from mother to child, according to region

a) *Age profile of risk of HIV-infection:*

- Age distribution of HIV-incidence in a fully susceptible population, defined by a substitute for sexual risk of infection, such as STD incidence by age (youngest, peak and oldest age)

The data processed is using a computer-programme called the EPI-model, whereby different variables can be adjusted according to the country-specific situation. Although this is not specified in the available sources, sex differences in estimates of infection rates seem to be derived from available demographic data, mother-to-child transmission rates, seroprevalence surveys which provide gender-specific data, and disaggregated data on STDs as available.

Source: Low-Beer and Stoneburner 1997: 214

Annexe 3: Statistical data on global and regional trends in HIV/AIDS

Table 10: People living with HIV/AIDS, end 1997 (numbers)

Region	Population 1997	Estimated number of people living with HIV/AIDS, end 1997						
	Total (thousands)	Adults 15-49 (thousands)	Adults and children	Adults (15-49)	Adult rate (%)	Women (15-49)	Children (0-14)	% adult women living with HIV/AIDS
sub-Saharan Africa	593,027	268,439	21,000,000	20,000,000	7.41	9,900,000	960,000	50
North Africa & Middle East	322,211	164,259	210,000	200,000	0.13	40,000	7,000	20
South & South-East Asia	1,859,821	954,510	5,800,000	5,700,000	0.61	1,500,000	81,000	26
East Asia & Pacific	1,451,707	814,557	420,000	420,000	0.05	53,000	1,800	13
Latin America	455,247	241,482	1,300,000	1,300,000	0.52	240,000	15,000	18
Caribbean	30,932	16,368	310,000	300,000	1.82	98,000	9,000	33
North America	301,591	156,277	860,000	850,000	0.55	170,000	8,600	20
Western Europe	400,181	201,131	480,000	480,000	0.23	100,000	5,000	21
Eastern Europe & Central Asia	373,424	193,385	190,000	180,000	0.09	38,000	4,700	21
Australia & New Zealand	21,891	11,450	12,000	12,000	0.11	700	<100	6
Total:	5,837,110	3,035,425	30,600,000	29,400,000	0.97	12,200,000	1,100,000	41

Source: UNAIDS 1998

Table 11: Estimated AIDS deaths, orphans and cases, 1997

Region	Estimated AIDS Deaths			Orphans	Estimated AIDS cases
	Adults and children 1997	Adults and children, cumulative	1997 deaths as percent of cumulative deaths	Orphans Cumulative	Adults and children, cumulative
sub-Saharan Africa	1,800,000	9,600,000	19	7,800,000	10,500,000
North Africa & Middle East	13,000	42,000	31	14,000	49,000
South & South-East Asia	250,000	730,000	34	200,000	850,000
East Asia & Pacific	5,000	11,000	45	2,200	14,000
Latin America	81,000	470,000	17	91,000	510,000
Caribbean	18,000	110,000	16	46,000	120,000
North America	29,000	420,000	7	70,000	690,000
Western Europe	15,000	190,000	8	8,700	230,000
Eastern Europe & Central Asia	<1000	5,400	<19	<100	<10,000
Australia & New Zealand	700	7,000	10	<500	<10,000
Total:	2,300,000	11,700,000	20	8,200,000	13,000,000

Source: UNAIDS 1998

Table 12: Trends in regional distribution of new AIDS cases (1980-95).

Region	New AIDS cases reported to WHO 1980		New AIDS cases reported to WHO 1985		New AIDS cases reported to WHO 1990		New AIDS cases reported to WHO 1995	
	Total Numbers	Percent	Total Numbers	percent 1985	Total Numbers	percent 1990	Total Numbers	percent 1995
Africa	0	0.0	518	3.5	49301	35.8	6387	60.0
Americas	185	91.1	12682	85.4	69882	50.8	1186	11.1
Asia	1	0.5	27	0.2	482	0.4	707	6.6
Europe	17	8.4	1475	9.9	17251	12.5	2356	22.1
Oceania	0	0.0	142	1.0	758	0.6	2	0.0
Total	203	100.0	14844	100.0	137674	100.0	10638	100.0

Source: WHO 1995, Global Programme on AIDS

Table 13: Trends in regional distribution of cumulative reported AIDS cases: 1980-95

Region	Cumulative AIDS cases reported to WHO 1980		Cumulative AIDS cases reported to WHO 1985		Cumulative AIDS cases reported to WHO 1990		Cumulative AIDS cases reported to WHO 1995	
	Total Number	Percent	Total Number	Percent	Total Number	Percent	Total Number	Percent
Africa	0	0.0	744	2.7	130100	29.8	418051	35.7
Americas	187	91.2	24379	87.3	245385	56.2	580129	49.6
Asia	1	0.5	46	0.2	1226	0.3	23912	2.0
Europe	17	8.3	2457	8.8	56713	13.0	141275	12.1
Oceania	0	0.0	315	1.1	3030	0.7	6444	0.6
Total	205	100.0	27941	100.0	436454	100.0	1169811	100.0

Source: WHO 1995, Global Programme on AIDS

Table 14a: Comparison of estimates of HIV/AIDS between 1995 (WHO) and 1997 (UNAIDS) (part 1)

Region	Estimated distribution of cumulative adult HIV-infections until mid 1995		Estimated distribution of HIV-infected adults alive, mid 1995		Estimated cumulative deaths from AIDS until 1995 *	
	Total Numbers	Distribution in %	Total Numbers	Distribution in %	Total Numbers	Distribution in %
sub-Saharan Africa	11000000	59.54	8500000	58.95	2500000	61.65
North Africa & Middle East	150000	0.81	100000	0.69	50000	1.23
South & South-East Asia	3500000	18.94	3000000	20.80	500000	12.33
East Asia & Pacific	50000	0.27	50000	0.35	0	0.00
Latin America and Caribbean	2000000	10.83	1500000	10.40	500000	12.33
Caribbean		0.00		0.00	0	0.00
North America	1100000	5.95	750000	5.20	350000	8.63
Western Europe	600000	3.25	450000	3.12	150000	3.70
Eastern Europe & Central Asia	50000	0.27	50000	0.35	0	0.00
Australia & New Zealand	25000	0.14	20000	0.14	5000	0.12
Total:	18475000	100.00	14420000	100.00	4055000	100.00

Source: WHO 1995, Global Programme on AIDS

*Based on own calculation: Cumulative HIV infection deducted by HIV-Infections alive

Table 14b: Comparison of estimates of HIV/AIDS between 1995 (WHO) and 1997 (UNAIDS) (part 2)

Region	Estimated distribution of HIV-infected adults alive, end 1997		Estimated AIDS deaths, Adults and children, cumulative, 1997		Estimated distribution of HIV-infected adults cumulative, end 1997
	Adults (15-49)	Percent	Total numbers	Percent	No data
sub-Saharan Africa	20,000,000	68.0	9,600,000	82.1	
North Africa & Middle East	200,000	0.7	42,000	0.4	
South & South-East Asia	5,700,000	19.4	730,000	6.2	
East Asia & Pacific	420,000	1.4	11,000	0.1	
Latin America and Caribbean	1,300,000	4.4	470,000	4.0	
Caribbean	300,000	1.0	110,000	0.9	
North America	850,000	2.9	420,000	3.6	
Western Europe	480,000	1.6	190,000	1.6	
Eastern Europe & Central Asia	180,000	0.6	5,400	0.0	
Australia & New Zealand	12,000	0.0	7,000	0.1	
Total:	29,400,000	100.0	11,700,000	100.0	

Source: UNAIDS 1998

* No regional data available

Annex 4: Data on HIV/AIDS awareness in Bangladesh

Table 15: Knowledge of ways to avoid HIV/AIDS, by gender and residence,* Bangladesh

	<i>Women (%)</i>		<i>Men (%)</i>	
	<i>Urban</i>	<i>Rural</i>	<i>Urban</i>	<i>Rural</i>
<i>No way to avoid AIDS</i>	34.0	45.3	16.1	31.3
<i>Avoid sex with prostitutes</i>	19.4	10.0	59.4	33.3
<i>Have only one sex partner</i>	20.9	9.3	24.5	13.5
<i>Avoid sex with homosexuals</i>	0.9	0.5	2.8	1.3
<i>Use sterile syringes</i>	13.1	5.4	23.8	8.7
<i>Don't know any way</i>	56.5	76.0	31.2	57.8

Source: Mitra *et al*, 1996:143

* Percentages do not add up to 100%, as multiple answers possible and only a selection of answers is taken, sample: ever married women and currently married men

Table 16: Awareness of AIDS-related health status, by gender, Bangladesh*

	<i>women</i>		<i>men</i>	
	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
<i>Can a healthy looking person have the AIDS virus?</i>	67.8	13.6	81.5	7.6
	<i>Almost always</i>	<i>Sometimes</i>	<i>Almost always</i>	<i>Sometimes</i>
<i>Is AIDS a fatal disease?</i>	60.6	19.5	68.6	17.2

Source: Mitra *et al*, 1996:144

* Percentages do not add up to 100%, as only a selection of answers is taken; sample: ever married women and currently married men

Annex 5: HIV/AIDS prevalence among population sub-groups in Brazil⁴⁴

STD patients:

Detailed data is available on prevalence rates among STD patients, but it is mostly not broken down by gender (although see Table 17). Data is available for many urban centres in several regions, from 1985-6 up to 1995. In 1991, a survey of five state capitals found a prevalence rate of 4.4 percent for HIV1 among STD patients (sex not specified). Other surveys give a range of prevalence rates from 0.9 percent (Aracaju, Sergoipe, 1994) up to 22.7 percent (Rio de Janeiro, in 1994). Prevalence rates are particularly high in Rio and in Salvador (Bahia).

Because there is such variation and because there are few long time series, trends are not clear. Where there are long time series (e.g. Belo Horizonte, Southeast) prevalence rates among STD patients have risen from 0 (1985/6) to 3.5 percent (1994). In Salvador, Bahia, prevalence rates of 9.4 percent were recorded among STD patients in 1993, up from 3.4 in 1989-90.

Some disaggregated data was available from Rio (1995) and São Paulo (1994) which showed higher prevalence rates among male STD patients than female (see Table 17).

Table 17: HIV prevalence rates STD patients, by gender

	Rio de Janeiro (1995)	São Paulo (1994)
Both	-	14.4
Male	18.0	16.1
Female	5.2	8.6

Source: US Bureau of Census, January 1998 release:

Prostitutes

Detailed surveillance data is also available on prostitutes, mostly female, but also male (homosexual and transvestite). Almost all the data available is from urban areas. Rural surveillance data up to 1990 in Minas Gerais is reported by US Bureau of the Census (January 1998), showing prevalence rates of 0 among female prostitutes.

In general, the data show much higher prevalence rates among male prostitutes, and this is particularly the case for street boys and transvestites. Prevalence rates are recorded of up to 62 percent (street boys, male 1989-90, location not specified); 72 percent (homosexual male prostitutes, Rio, 1993-5); and 90 percent (transvestites, Rio, 1993-5).

Most surveys find prevalence rates below 15 percent for female prostitutes (some as low as 0) but rates as high as 35.2 percent are also found (low income prostitutes, São Paulo, 1991). Some data is disaggregated according to income, showing higher prevalence rates among lower income prostitutes. For example, 6.0 percent prevalence was found among higher income prostitutes vs. 13 percent among lower income sex workers in São Paulo in 1990-1. Again, limited time series are available but data from Rio and São Paulo suggest rising prevalence among all groups, especially male prostitutes and transvestites.

⁴⁴ Unless indicated otherwise, all data presented in this section derives from printouts downloaded from the country database for Brazil of the US Bureau of the Census, Population Division, International Programs Center, HIV/AIDS Surveillance database, January 1998 release.

Homosexuals (male)

All surveillance data on homosexuals are for urban areas, e.g. Belo Horizonte, Rio, Salvador and São Paulo. Prevalence rates range from 6.6 percent (bisexual and homosexual men, Belo Horizonte, 1994) to 32.2 percent (homosexual drug users, Rio 1994,1996). Trends are unclear, with some indications of a reduction in HIV infection, e.g. in Belo Horizonte in 1994, 6.6 percent of bisexuals and homosexuals surveyed tested HIV positive compared to 9.6 percent in 1986/7.

Intravenous drug users (IDUs)

Again, prevalence rates among IDUs are highly varied, although mostly around 30 percent or more. Some extremely high prevalence rates recorded for female IDUs in Rio and São Paulo, higher in some cases than men tested in the same surveys. Rates of up to 80 percent were recorded among female drug users in Rio 1989 (although this was based on a very small sample).

Table 18: Prevalence rates among IDUs, by gender and location

Location/ date	Both	Male	Female
Bahia, Salvador, 1994-6	53.1	47.6	76.5
Rio de Janeiro, 1991	34.5	35.3	28.6
Santos, São Paulo, 1994-5	71.8	66.7	90.9

Source: US Bureau of the Census, January 1988 release

Street youth

There are an estimated 7-17 million street children/ youth in Brazil. Street youth in different contexts have been found to have higher HIV prevalence rates than general adolescent population. Estimates of their HIV/AIDS prevalence rates vary between 1.0 percent and 7.5 percent (Raffaelli *et al*, 1993). These infection rates were relatively low (e.g. compared to North American street youth) but levels of risky behaviour were higher.

Qualitative field research conducted on the sexual culture of 9-18 year old street youth living and working on the streets of Belo Horizonte underlined the fact that youth engage in risky behaviour which is likely to expose them to risk of HIV infection. It also investigated the motivations for sexual relations and found these to be multi-dimensional, with sex used as a means of survival, for finding pleasure, for seeking comfort, and for psychological reasons.

The study revealed high levels of risky sexual activity and STDs among street children, and of pregnancy and abortion among girls, suggesting limited use of contraception. Street youth had early experience of sex compared to the general population (10.8 year vs. 15 for boys; 12.4 vs. 16.9 for girls). Condom use was rare and inconsistent. Many girls were coerced into sexual activity (42 percent of girls said that their friends were coerced into sex) and girls were more likely than boys to have had their first sexual experience with an adult. Gang rape was used as form of punishment for both boys and girls.

Gender differences were revealed in terms of sexual partners and practices. Girls tended to resist anal sex (or at least claimed to - see also below). 'Whereas boys spoke openly about

their sexual activities, described sexual acts in detail and linked sex with pleasure, girls were more inhibited, were reluctant to go into details about their activities and linked sex with violence.’ (Raffaelli *et al*, 1993: p 668).

The study suggests that sex is integral part of street youths’ life and identity. They form a link between lower income communities and others, often through sex. Programmes to address the HIV/AIDS issue among this group must avoid stigmatisation, either by integrating HIV/AIDS related activities with range of other services; or by inserting them into community-wide measures (*ibid.*).

Pregnant women

The data on prevalence rates among pregnant women indicate that HIV/AIDS in Brazil (or at least in the São Paulo region) may be on the verge of becoming ‘generalised,’ applying the definition of five percent or more of the ‘normal’ population being infected, where the ‘normal’ population is equated with women using ANC.

However, prevalence rates among pregnant women are highly varied and appear to be under three percent in some areas, based on 1994/5 data (see Table 19). Where data are available spanning a period of at least 4-5 years, there appears to be a rising trend, although this does not apply in all locations, or year on year. Where data is disaggregated by age, rates are considerably higher among pregnant women aged 20-24 and 25-29 than in other age groups.

Table 19: Prevalence rates among pregnant women by location, date and age.

<i>Location/date/age</i>	<i>Prevalence rate</i>
<i>Belem, Para</i>	
1992	0.0
1994	0.2
<i>Itajia, Santa Catarina</i>	
1992	2.2
1994	2.0
<i>Porto Alegre</i>	
1994	2.6
1995	2.3
20-24 yr.	4.8
25-29 yr.	5.3
<i>Recife, Pernambuco</i>	
1993	0.1
1994-5	0.7
<i>Rio de Janeiro</i>	
1990-1	0.8
1995	2.7
<i>Santos, São Paulo</i>	
1988-9	3.7
1996	5.1
25-34 yr.	6.6

Source: US Bureau of the Census, 1988.

Annex 6: Impacts of HIV/AIDS on Fertility

<i>Level</i>	<i>Type</i>	<i>Mechanism for fertility change</i>	<i>Population affected:</i>		
			<i>most women</i>	<i>mainly HIV+</i>	<i>overall effect</i>
Individual	Biological	Increased partner mortality		--	-
		Reduced coital frequency due to illness		-	-
		Increased foetal mortality		---	--
		Increased menstrual disorders		--	-
		Decreased production of spermatazoa		-	-
		Increased infant mortality		+	+
		Treatment for other STD's	+		+
Individual	Behavioural	Delayed age at start of sexual activity	--		--
		Increased divorce and separation		--	-
		Reduced partnership re-entry rates	--		--
		Fear of leaving orphans		-	-
		Condom use by non-contraceptors	-		-
		Switch to condom use by contraceptors	+		+
		Reduction in breastfeeding		+	+
		Reduction in post-partum abstinence	+		+
		Insurance and replacement effects		+	+
Population	Structural	Change in age structure			+
		Excess mortality among infertile			+
		Excess mortality among contraceptors			+

Source: Zaba and Gregson (1998, Annexe, table 1)

+ upward pressure on fertility - downward pressure on fertility (-- strong downward pressure)



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