THE WORLD BANK/IFC/MIGA

OFFICE MEMORANDUM

DATE: December 18, 1991

TO: Mr. Lewis T. Preston, President, EXC

THROUGH: Mr. Attila Karaosmanoglu, Managing Director, EXC

FROM: Edward V.K. Jaycox, Vice-President, Africa Region

EXTENSION: 34000

SUBJECT: AIDS IN AFRICA

1. In 1988, the Africa Region adopted a statement of the Bank's strategy for dealing with AIDS in Africa. Since that time, the prevalence of HIV - the precursor of AIDS - has increased from an estimate of two million infected Africans to six million -- two thirds of the world's infected persons. The personal suffering this disease has caused and will cause is devastating.

2. We have recently reviewed our experience with the 1988 strategy. A re-articulation of our strategy is set forth in the attached report. The new paper documents the Bank's work performed to date on AIDS prevention and control in Africa, and proposes several points of emphasis for future efforts.

3. Our review found that considerable progress had been made since 1988 on many aspects of AIDS in Africa, despite the further growth of the epidemic. Particular success was identified in creating public awareness of the disease, promoting condom use and securing a safer blood supply. Further work, however, is required on a) determining the economic impact of AIDS; b) focussing assistance on populations that have yet to experience high levels of HIV and have high rates of other sexually transmitted diseases (STDs) (which appear to facilitate HIV transmission); (c) strengthening existing prevention and control programs for these other STDs; and (d) integrating AIDS issues into the Bank's broader development policy dialogue with African countries.

4. Despite concerns to the contrary, our own extensive analysis and modelling work indicates that AIDS is unlikely to have a major impact on population growth in Africa. Therefore, the need to pursue population policies and family planning programs remains -- even in the most severely affected countries. Also, the Bank must make an effort to balance its work on AIDS and not allow it to overshadow other important population, health and nutrition issues on our agenda.

5. The Africa Regional Management Team (RMT) discussed the review last month. While endorsing the report, it concluded that:

* AIDS can no longer be regarded solely as a health issue and must be seen as a generalized threat to development in Africa.

* Each Africa Region country department should draw up a multisectoral AIDS work program based on the recommendations made in the report.

* We should continue active exploration with IFC and UNFPA on the feasibility of local condom production in Africa.

* The feasibility of sponsoring an Africa-specific conference on AIDS and Development should be explored.

* The possibility of putting AIDS on the Agenda of the Global Coalition for Africa (GCA) should be considered.

cc (with attachment): Messrs./Mmes. Rajagopolan, Ryrie, Hamilton, Measham, Shakow, Stacy

cc (without attachment): Africa Regional Management Team, AFTPN staff

THE WORLD BANK'S AGENDA FOR ACTION ON AIDS AND OTHER SEXUALLY TRANSMITTED DISEASES (STDS) IN AFRICA

A Review And Update

December 10, 1991

LIST OF ACRONYMS

AFRO	Africa Regional Office, World Health Organization (Brazzaville)
AIDS	Acquired Immune Deficiency Syndrome
AFTPN	Africa Technical Department, Population, Health and Nutrition Division
CDC	United States Centers for Disease Control
CDR	Crude Death Rate
COD	Country Operations Division
GPA	Global Programme on AIDS, World Health Organization
HIV	Human Immuno-Deficiency Virus
IEC	Information, Education and Communication
IMR	Infant Mortality Rate
MTP	Medium-Term Plan for AIDS Prevention and Control
NACP	National AIDS Control Program
PHRHN	Population and Human Resources Department, Population, Health and Nutrition Division
SPPF	Special Project Preparation Facility
SOD	Sector Operating Division
STD	Sexually Transmitted Disease
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
WHO	World Health Organization

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EXECUTIVE SUMMARY

The conclusion emerging from an update of the World Bank's 1988 Technical Paper on AIDS in Africa is clear: No country in Sub-Saharan Africa can afford to delay stepping up its response to the AIDS epidemic. Not only has the prevalence of HIV risen--from two million cases in 1988 to more than six million in 1991--but a whole new class of poor is taking root, consisting in part of orphans under the age of 10 who are expected to number 10 million or more by the turn of the century. The STD/HIV-related problems that Sub-Saharan Africa is facing are far more complex than earlier thought, and the region must now gird itself for a vast array of new crises in its prolonged struggle to improve the quality of life of its people and lead them toward economic development. The current situation makes it all the more urgent for the Bank to strengthen and broaden its agenda for action on AIDS and other STDs in Africa.

The worsening epidemiological situation is confirmed by reports of significant increases in the HIV infection rate in virtually all African countries and at virtually all socioeconomic levels; nor is infection being confined to urban areas. Several countries are reporting rapid increases in the rate of infection among rural populations, and other countries are expected to suffer similar increases. The evidence concerning mortality consequences is also of grave concern: AIDS has become the leading cause of death of hospital patients in several capital cities. In Abidjan, it is the leading cause of death in adult males and the second cause among women, a trend in growing evidence throughout West Africa. The potential for further spread appears high, and experts are now predicting that Sub-Saharan Africa will have a cumulative total of 2.5 million AIDS cases by 1992. Although the infection is expected to eventually stabilize, the level at which this will happen depends on many factors--including sexual behavior, the level of other sexually transmitted diseases, and gender differences in high-risk behavior--all of which require immediate attention to promote stabilization.

Few would now dispute that AIDS has become a long-term problem, but its precise scope is not yet fully understood. Despite the work that has been done since 1988, information is poor concerning transmission processes and probabilities, the incubation period of the disease, variability of infectiousness, the behavior of the exposed populations, and many other vital aspects of the disease. Consequently, the demographic impact is difficult to predict, and may even take some unexpected turns. Although AIDS-related mortality is clearly on the rise, for example, demographic research indicates that this will have little effect on population growth in Sub-Saharan Africa because of the continued high fertility in the region. Moreover, population structure will only be affected moderately, since mortality is increasing among both adults and children.

Perhaps the most profound impact of AIDS will be seen in the growing complexity of Africa's health problems, in the healthy years of life lost, and the setback in social and economic development. Already HIV ranks among the top five health problems in Africa's urban populations, but it is believed to be increasing the risk of other endemic diseases, such as tuberculosis, and appears to be strongly associated with the occurrence of other STDs. Adding to the complexity of these problems is the fact that AIDS is draining scarce resources away from other, curable diseases and from efforts to build much-needed long-term health systems. AIDS control is now the target of a significant proportion of government health expenditures (greater than 20 percent in Rwanda), and manpower and facilities are being swamped with AIDS-related tasks. Clearly, African countries are in dire need of help in coming to grips with these resource allocation issues.

The socioeconomic issues are of no less concern. The most economically productive age group is being hard hit and in many cases leaving surviving family members without means of support. Children's schooling, health care, and other

life opportunities are bound to be affected, as is the quality of life of the elderly. Since AIDS affects adults in their prime productive years across all social levels, labor shortages may be experienced in many sectors, regions, and job categories. As the epidemic spreads to rural areas, food security may also be affected.

What this means is that, despite considerable progress in increasing public awareness of the disease, promoting condom use, and securing a safer blood supply, need to be sharpened and refocused in the light of the problems that have surfaced in the past three and a half years. More work needs to be done in determining the economic impact of the disease and to plan support for the most severely affected segments of society. Furthermore, the strategies for AIDS treatment and control have to be revised to take into account information collected about core groups that appear to be the main transmitters of the disease, the close tie with other STDs, and the importance of not draining all resources away from other urgent health problems. Additional operations research efforts are needed to 1) suggest ways in which AIDS care can be given at the home, within the community and at the peripheral level in order to alleviate overburdened hospitals and to lower costs, and 2) find out who constitute the neediest of AIDS survivors, where they stand in relation to other needy and misfortunate persons in their communities and what welfare programs provide the most cost-effective support and relief. High priority should be given to strengthening the health infrastructure and designing mixes of prevention and health care programs appropriate to African country circumstances, with cost-effectiveness a criterion for resource allocation.

Already, the World Health Organization, through its Global Program on Aids, has taken important steps to help the countries of Sub-Saharan Africa meet the challenges of the epidemic, but it, too, has found that its priorities need to be reviewed and refined. Similarly, with this report the Bank has examined the shortcomings of its agenda on AIDS and other STDs in Africa. This is not to say that substantial progress has not been made. The Bank has extensive studies under way on the economic impact of the disease, the channels through which the AIDS epidemic may affect key sectors of the economy (notably agriculture and industry), and on methods of planning to provide information and education about STD/HIV infection. Efforts have also been made to inform countries of the Bank's increasing attention to AIDS, to encourage these countries to add STD/HIV issues to their own policy agenda, to support seminars on related issues, and to collaborate with the World Health Organization in research and other activities related to AIDS and other STD prevention and control.

Experience thus far, however, indicates that some changes are needed in the Bank's agenda. First, AIDS was incorrectly defined as an isolated issue in the health sector. Consequently, more emphasis needs to be put on corrdinating AIDS work with other programs, such as those connected with population control and safe motherhood, and on informing staff in all sectors of the current and potential impact of STD/HIV. Second, the Bank has confined its AIDS-related lending to currently affected countries and has done little to initiate prevention in countries where the risk of spread is high. Moreover, current prevention methods have overlooked the association with conventional STDs.

The Bank's strategy must now take into account the realization that AIDS represents a serious threat not just to health, but to development in Sub-Saharan Africa. As a result, its agenda for research and fieldwork should be expanded to include policy dialogues on the impact of AIDS on economic development in the seriously affected countries. This also means that the work on the demographic impact, for example, needs to be expanded well beyond the question of population growth and fertility to the effect on households in various economic sectors. The emphasis on population policies and programs must continue since adult survivors will have to bear the burden of raising the children of deceased family members, and information about safe sexual behavior should be made part of family planning services. In addition, the Bank's country departments should focus increasing attention on countries where the opportunity to stem the epidemic is strong, notably, those with high levels of STDs and low levels of HIV. STD/HIV

interventions should be a continuing concern of population, nutrition, and health projects in Africa, and, where appropriate, the reasons for not incorporating components on STD/HIV into projects should be spelled out at an early stage of the project cycle. Control programs also need continuing financial support, which can be strengthened through further collaboration with WHO programs and those of other groups concerned with STD/HIV control.

Recent experience also suggests, however, the Bank's attention to AIDS-related problems must not overshadow the other important population, health, and nutrition issues on its agenda in Africa. Whatever resources are directed toward the vast and complex AIDS situation, their allocation must taken into account the importance of the long-term development of health care systems in the region. Otherwise it will be doubly difficult to help Africa raise itself from the morass of disease and poverty in which it finds itself. At the same time, it should be recognized that progress can be made--and is being made. AIDS is being prevented today in Africa, and an even larger impact is expected from improved testing and counseling facilities and from educating uninfected adolescents, among the many other activities being recommended and supported by the Bank and other donor organizations.

THE WORLD BANK'S AGENDA FOR ACTION ON AIDS AND OTHER STDS IN AFRICA

A REVIEW AND UPDATE

I. INTRODUCTION

1. In August 1988 the Africa Technical Department issued a Technical Paper on AIDS outlining the Bank's Agenda for Action on AIDS in Sub-Saharan Africa.[1] The following paragraphs provide an update on the issues discussed in that paper, on the action taken by the Bank since then, and on the revised strategy adopted in the wake of that action and the current and likely AIDS situation in Africa.

II. HOW SERIOUS IS THE AIDS EPIDEMIC IN AFRICA?: AN EPIDEMIOLOGICAL UPDATE

2. Since 1988, the AIDS epidemiological situation in most of the countries of Sub-Saharan Africa has deteriorated. The August 1988 AIDS Strategy Paper, citing World Health Organization (WHO) estimates, stated that well over two million people in Africa were infected by HIV at that time. In September 1990, the figure had risen to an estimated 5 million HIV-infected adults, with 70,000 officially reported and 0.6 million estimated cumulative cases. WHO staff expect the cumulative total to reach upward of 2.5 million cases by 1992 and predict that about two-thirds of these cases will be among the most economically active age groups (15-49 years).

3. Infection rates among the general population and the groups at risk of contracting AIDS have increased significantly in virtually all African countries. In 1987/88 about 20-30 percent of adults were infected with HIV in the worst-affected urban areas, notably, northwest Tanzania, Rwanda, and Uganda. Since then, the seroprevalence rate among pregnant women in Kigali, for example, has risen from 18 percent to an estimated 30 percent. Also, contrary to expectations in 1988, data from Tanzania, Uganda, and Côte d'Ivoire indicate that rural populations are rapidly becoming infected, and it is now generally felt that HIV will spread in many rural areas, although at a slower pace. Furthermore, AIDS has become the major cause of death among hospital patients in several African capital cities--Abidjan, Kinshasa, Kampala, Kigali, and Lusaka. Tables 1 and 2 show HIV-1 and HIV-2[2] seroprevalence rates (the proportion of individuals who have antibodies to HIV) by residence and risk factor, and Maps 1 and 2 show the level of HIV infection in urban populations.

4. The potential for the further spread of HIV appears high (Annex 1). In Abidjan, HIV-1 seroprevalence in low-risk groups was less than 1 percent in

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1 To avoid confusion with the Bank's Agenda for Action on Implementation of Population Programs in Sub-Saharan Africa, the AIDS Agenda paper is referred to in this report as the 1988 AIDS Strategy Paper.

2 There are at least two HIV strains in Africa. HIV 1, the predominant strain, is most prevalent in Central Africa, and HIV 2 is more prevalent in West Africa. HIV 2 does cause AIDS, but its incubation period (the period between the onset of HIV 2 infection and AIDS) is longer.

1987 compared to 8.5 in 1990;[3] AIDS has become the leading cause of death in adult males, and the second leading cause among women, after pregnancy and abortion. This pattern is being observed increasingly throughout West Africa, where a widespread HIV-1 epidemic is under way in many large cities. Table 3 provides data on the current level of HIV infection and the potential for further spread in African countries. Several factors are used to assess the potential for further spread, notably,

(a) The incidence of HIV infection in urban populations. The urban epidemic might eventually spread into rural areas through interaction between towns and villages.

(b) Current HIV prevalence among prostitutes and other high risk groups. Prostitutes represent a "core group" of HIV transmitters, (Table 4).[4] Other identifiable core groups such as clients of commercial sex workers, truck drivers and military personnel can also play a role in transmitting the virus to prostitutes and other partners.

(c) The frequency of conventional sexually transmitted diseases (STDs), such as syphilis and gonorrhea, among the general population, pregnant women and persons seeking STD services. The frequency and distribution of STDs reflects sexual behavior patterns conducive to HIV transmission, and studies suggest several conventional STDs facilitate HIV transmission.

According to the available data (see Table 3), 11 African countries--Cameroon, Djibouti, Ethiopia, Gabon, Gambia, Ghana, Guinea, Lesotho, Madagascar, Somalia, and Swaziland--have a low level of HIV infection and known high levels of STDs. The epidemic appears to have a high potential for further growth in these countries, which should therefore become the focus of the Bank's attention.

5. AIDS is now an urgent problem. The number of cases is rising, yet information about the epidemiology of the disease is still poor.[5] At the same time, the HIV infection is expected to eventually stabilize in each population affected and there is already limited evidence that the seroprevalence rate among

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[3] Data taken from HIV/AIDS Surveillance Database compiled by U.S. Bureau of the Census for International Research.

[4] "Core transmitters" is an epidemiological concept designating a relatively small group of individuals who are directly or indirectly the source of a disproportionately high number of infections. With AIDS, this is usually a result of sexual behavior. According to a recent modelling exercise, when a case of HIV infection is prevented in the core group, the total health impact is three to six times greater than preventing a case in the non-core group. See M. Over and P. Piot, "HIV Infection and Other Sexually Transmitted Diseases," in D. Jamison and H. Mosely, eds., Evolving Health Sector Priorities in Developing Countries (Washington, D.C.: World Bank, 1990 forthcoming), chapter 10, Table 10.14.

[5] There is considerable uncertainty among researchers about heterosexual transmission probabilities. Underlying probabilities may be quite heterogeneous. From studies on US populations, the probability of transmission appears to fall in the range of .001 to .01 per contact for male to female and 1/4 to 1/10 of that from female to male contact. The presence of ulcerations appears significantly to increase transmission probabilities; they multiply the risk to males more than to females, thus roughly equalizing transmission probabilities. Some modelers have moved from using multiplier factors for STDs of 5 or 6 to between 10 and 200 for increasing the transmission probability. (Source: Memorandum of R. Bulatao, January 15, 1991)

pregnant women and blood donors may be leveling off in Kinshasa at about 6 to 7 percent. The level at which it will stabilize, however, will depend on a number of variables, including sexual behavior, level of other STDs, and gender differences in high-risk behavior. By influencing these variables now, countries can influence the eventual stabilization level. But these responses must be sustainable because it is also a fact that AIDS has become a long-term problem.

III. CONSEQUENCES OF THE AIDS EPIDEMIC

6. The 1988 Strategy Paper stated that AIDS would seriously affect many African economies. Since then, the scope of its demographic, health, and economic impact has become clearer.

A. Demographic Consequences

7. AIDS will affect mortality and fertility, and therefore the rate of population growth and the age structure. Mortality estimates can be made if we know precisely the HIV prevalence in the country. However, the future level of HIV is difficult to predict and therefore mortality rates cannot be estimated with accuracy for the long term. Various models have been developed to estimate mortality on the basis of a number of assumptions that have yet to be tested for their validity. Fertility rates are also difficult to estimate since no one can say how people will react to AIDS in their family size decisions.

8. Mortality. The scope and intensity of the impact of AIDS on mortality in the future will depend on the long-term evolution of the epidemic. This in turn will be governed by numerous factors, including transmission processes and probabilities, incubation period, variability of infectiousness, and the behavior of the exposed population (pairing behavior, sexual practices, other behavior affecting exposure to the virus). Although the epidemiology of AIDS may be similar in various settings, behavioral differences make it particularly difficult to arrive at a clear understanding of the disease. Moreover, behavior may change in the future, with the result that current assumptions about behavior may not hold for any length of time. It is little wonder, then, that differences in seroprevalence are difficult to explain--in 1989, for example, HIV-1 seroprevalence among all pregnant women in Kinshasa was 6.0 percent in contrast to 30.3 percent in the same group in Kigali. To complicate matters even further, the long-term prevalence of HIV cannot be forecast in any society without taking into account the prevalence of other sexually transmitted diseases such as syphilis, which can serve as a predictor of HIV seroprevalence and facilitator of HIV infection: in other words, it is safe to assume that societies with the highest rates of conventional STDs present the greatest risk for the spread of HIV.

9. What can be predicted with reasonable accuracy is the impact of a known level of HIV prevalence on mortality at the present and for the near future. Currently, overall mortality among those 15-45 years of age is about 5 per thousand per year. Assuming a seroprevalence rate of 1 percent in 1987, adult mortality is expected to increase 25 percent by 1992 in areas such as Luanda, Ouagadougou, and some rural parts of Côte d'Ivoire. A 5 percent seroprevalence rate would mean a 50 percent increase in adult mortality (as in some rural areas of Tanzania and in Kinshasa), 10 percent seroprevalence would mean a 100 percent adult mortality increase (in Lusaka), and 20 percent seroprevalence would push adult mortality up 200 percent (16.4 in Blantyre, 16.3 in Bujumbura, 24.3 in Kampala; see Figure 1). [6] In the age group 5 and younger, AIDS is expected to contribute 10 to 50 deaths per thousand, but in some areas it will reach 100 per thousand in this age group, which represents an increase of anywhere from 10 to 50 percent (see Figure 2).

10. Fertility. The potential impact of AIDS on fertility has not been studied and merits investigation. Current population projection models assume that AIDS will have no impact on fertility. That is, fertility is expected to

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[6] Figures obtained from J. Chin, WHO/GPA

continue to decline gradually, as would be the case without AIDS. Crude birth rates are influenced by (a) the proportion of women of childbearing age; and (b) the total fertility rate. The proportion of women of childbearing age is not likely to vary significantly because their high mortality rates will be partly offset by increased infant and childhood mortality. What AIDS will do to individual fertility decisions is unclear. Couples raising many children from deceased family members might want to limit their own family size. Yet, there are already anecdotal reports from severely affected countries that couples experiencing numerous child deaths from AIDS want to have more children. Young adults might get married earlier to avoid high-risk sexual behavior, thereby increasing their fertility. Because of the long incubation period of AIDS, women infected with HIV and unaware of their status are likely to conceive several children before they develop AIDS and die. Once made aware that they are infected, some women might decide to stop conceiving to avoid transmitting the infection to newborns. Other women, especially the childless, might be more inclined to conceive than their non-infected counterparts. For these women, it might be worth taking the risk of giving birth to an HIV-infected child. In Africa, the 30-50 percent probability that the child of a seropositive mother would be born HIV seropositive and die of AIDS has to be compared with the current 20 percent probability that any child will die before age five. The effect of AIDS mortality on dependency ratios also deserves attention.

11. Population structure. The impact of AIDS on population structure will be minor because it is increasing the mortality of both adults and children. An estimated 30 to 50 percent of infants born to infected mothers will develop AIDS and will die within two years. The number of orphans will increase dramatically during the 1990s as a result of the children who are born to HIV-positive mothers but not infected themselves, as well as the children born before their mothers became infected. It is estimated that in high-fertility countries in Eastern Africa, for every mother dying of AIDS three children become orphans. More than 10 million children under the age of 10 are expected to be AIDS-related orphans in Africa during the 1990s.

12. Rate of Population Growth. Most demographic modelers agree that the impact of HIV prevalence on population growth in Sub-Saharan countries will be moderate. Bongaarts (1988) first showed that the population growth rate would only be about 1 percent lower, even if a country's HIV prevalence level was to reach 20 percent -- a level twice that of Uganda today. Because so little is known about the spread of HIV, modelers have often created "worst case" scenarios to find upper limits to the spread of the disease and its effects on population. Such scenarios usually assume no change in sexual behavior and no medical interventions, although there are indications that in some countries behavior is already changing. Annex table 1 summarizes the results generated by a selection of the more well-known models applied on African countries or patterns. Only the model Anderson et al. (1988) found effects high enough to generate negative population growth. Their work has been criticized for assuming transmission rates that are not consistent with what is known about the spread of the disease. Other models, while finding serious effects on infant mortality and life expectancy, have shown only moderate effects on population growth. This can be explained by the fact that even in the worst affected countries, the majority of the population will be free of the disease and unlikely to limit family size significantly. Moreover, the pattern of early and high fertility in Sub-Saharan countries means that infected women are likely to have borne several children before dying of AIDS.

B. Health Consequences

13. As estimated from the number of discounted productive healthy years of life lost per capita, HIV infection ranks among the top five health problems in urban populations with a moderate to high prevalence of HIV. The others are measles, malaria, gastroenteritis, and birth injury.[7] Even in low-endemic situations, HIV infection ranks among the twenty most important diseases by the criterion of discounted healthy years of life lost. Furthermore, the burden of conventional STDs in urban areas is a substantial fraction of the entire disease burden on the urban population (see Figure 4).

14. HIV infection is having an impact on other endemic diseases. The preliminary reports about tuberculosis referred to in the 1988 Strategy Paper have been confirmed. A substantial increase in tuberculosis cases has been documented in several African countries (e.g., Malawi, Tanzania, and Uganda), and the incidence of tuberculosis in people already carrying the tubercle bacillus and exposed to HIV is expected to rise because their immunity will be lower. With a growing number of sources of infection, the risk of tuberculosis in the population at large will also increase.[8]

C. Health Resource Allocation Issues

15. With the emergence of AIDS, the allocation of resources for health has been changing drastically in Africa. There is a risk that expenditures on the development of longer-term health systems and on other diseases may be reduced as a result, and that the morbidity and mortality from these diseases will grow worse. The implications of these changes are particularly significant for the health systems in African countries. The medium-term plans (MTPs) for AIDS control prepared by African countries with WHO support, through its Global Programme on AIDS, represent a significant proportion of government health expenditures, ranging from 0.5 percent in Botswana to 21.4 percent in Rwanda, with a mean of 6 percent. Because AIDS programs supported by donors tend to offer higher salaries than other health activities, scarce public health manpower is being drained from other activities and channeled into AIDS programs.

16. In areas with moderate to high levels of HIV seroprevalence and AIDS, hospitals are becoming swamped with the care of AIDS patients and are therefore becoming less effective in treating patients with curable diseases. Up to 50 percent of all hospital beds in Abidjan and the major cities in central and eastern Africa are now occupied by AIDS patients. Before dying, the average AIDS victim in Tanzania suffers 15-17 episodes of illness. This requires over 280 days of care, including home care. The use of often expensive drugs for palliative relief and treatment of the opportunistic infections (infections incurred when the immune system is damaged) associated with AIDS might take away resources from other hospital patients. If all AIDS patients in Tanzania were to receive care from the formal health infrastructure (assuming sufficient quantities of drugs were available), such care would consume approximately one-half of the Tanzanian recurrent public health budget for one year.[9] Estimates of the direct cost of health care per symptomatic person infected with HIV range from a low of $132 to a high of $1,585 in Zaire and from $104 to $631 in Tanzania

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7 See M. Over and P. Piot, "AIDS and other STDs," in Richard J. Feachem and Dean Jamison, eds., Disease Priorities, 1990.

8 C. Murray, A. Rouillon, and K. Styblo, "Tuberculosis," in D. Jamison and H. Mosely, eds., Evolving Health Sector Priorities in Developing Countries (Washington, D.C.: World Bank, forthcoming 1990), chapter 11.

9 See Tanzania AIDS Planning Assessment (Washington, D.C.: World Bank, forthcoming 1991.

(in 1987-88 U.S. dollars).[10]

17. There is an urgent need to help African countries come to grips with the resource allocation issues raised by AIDS. Country policy makers cannot ignore the issue because of the fatal nature of the disease, nor should they concentrate resources unduly on AIDS to the detriment of other diseases and longer-term health system development. The wide range of estimates of the direct cost of AIDS reflects the health care options accessible to individuals depending on their socioeconomic status and location, and the complexity of the problem of resource allocation. Encouraging AIDS care at the home and peripheral facilities is one way of alleviating overburdened hospitals and budgets. Concentrating public resources in areas and on groups with high levels of STDs would help. Public resources should be focused on the provision of public goods and services, i.e., those activities that benefit all the people and for which one person's benefit does not reduce the benefits enjoyed by others; this criterion buttresses the case for the public authorities to give particular attention to all forms of information, whether that be information to educate the public about the disease or to educate health care providers about options for care. Similarly, despite the importance of health care -- a largely private good -- public resources for care should be largely concentrated on prevention programs. Finally, in order to be able adequately to finance their AIDS and other health care programs, African countries will also need vigorously to pursue economic reform programs.

D. Economic and Social Consequences

18. Since 1988, evidence of the wider implications of the AIDS epidemic has been mounting at both the micro and macroeconomic levels. By selectively killing people in the most economically productive age groups (15-45 years), the epidemic is creating two highly vulnerable groups of survivors--the elderly and young orphans--who have lost their principal source of support. In some areas (such as northwest Tanzania) the epidemic is stressing, to the breaking point, the traditional coping mechanisms of households and communities as they attempt to deal with catastrophic adult mortality. Surviving family members are often required to take on non-traditional roles and activities, for which they have little or no training or experience. AIDS orphans may suffer not only discrimination as well as fewer life opportunities because they will not have the schooling, health care, and other amenities usually provided by parents.

19. The epidemic also has important distributional implications. Unlike many other causes of adult death in Sub-Saharan Africa, AIDS does not spare the elite. To the contrary, there is evidence in several countries that infection rates among men are positively correlated with socioeconomic status. Since AIDS affects adults in their prime productive years, labor shortages may be experienced in many sectors or particular regions of the affected countries, and in some of the highly skilled job categories in urban areas. These could, in turn, lead to slower or perhaps even negative growth in the economic sectors or regions that are most severely affected. Industries may have to reconsider their investment plans as skilled workers become severely infected. As the epidemic spreads to rural areas, food security may also be affected. School enrollment may suffer, as orphaned children lose the funds needed to cover these school fees and are required to contribute more time to agricultural tasks to make up for the loss of their parents' labor. In sum, the AIDS epidemic means human tragedy on a wide scale in severely affected areas and a major setback for population and development policies aimed at improving the quality of life of Africans.

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[10] These cost figures are from M. Over, S. Bertozzi, J. Chin, B. N'Galy, and K. Nyamuryekung'e, "The Direct and Indirect Cost of HIV Infection in Developing Countries," in A. Fleming et al., eds., The Global Impact of AIDS (New York: Alan R. Liss, 1988).

IV. AFRICAN COUNTRY RESPONSES TO AIDS

20. Although no major success can be reported in curbing the epidemic and many problems remain, progress in country-level efforts is generally encouraging. For example:

(a) Increased awareness. Surveys of knowledge, attitudes, and practice indicate that the knowledge and awareness of AIDS have increased substantially in African countries. Demographic and health surveys carried out in Botswana (1988) and Zimbabwe (1989) show that public education campaigns, using radio and the print media have helped increase the public's awareness of the disease and of the role of heterosexual sex in its transmission.

(b) Increased condom use. The methods of social marketing adopted to promote the use of condoms (e.g., in Kinshasa, Zaire) appear particularly promising. Zaire, which distributed 300,000 condoms in 1986, sold 9,000,000 condoms in 1990. However, the issue of distributing condoms as a marketing program is far from being resolved. In Zaire, one condom is sold for less than 2 cents, but actual costs range between 2 and 5 cents, depending on where the condom was procured. [11]

(c) Safer blood supply. Progress has been made in securing safer blood supplies, particularly in the large cities. However, in some large countries (Zaire, for example) it is estimated that not more than 20 percent of all blood donations are tested for HIV infection. Blood screening is costly and may not be cost-effective under all circumstances.

21. The 1988 Strategy Paper called for action at the country level in the following areas: (a) resolving policy issues; (b) improving the efficiency of resource allocation; (c) mobilizing financial resources; (d) preparing detailed action plans; (e) strengthening country implementation capacity; and (f) improving the information base. Progress has been made in all these areas, although it has admittedly varied, depending on the country and the issue. The following specific problems now merit particular attention:

(a) Coping with the micro and macroeconomic impact of the AIDS epidemic. Irrespective of the degree of success of national programs in preventing the spread of HIV, countries with high seroprevalence will face increased adult mortality in the next 10-15 years owing to the large number of people already infected but as yet asymptomatic. Governments urgently need to develop multisectoral policies for coping with the economic and social impact of the inevitable surge in adult morbidity and mortality. They need to analyze further the impact of the disease and the current coping mechanisms, and to plan support for the most severely affected communities and sectors. Operations research is badly needed to find ways in which more care (of sound quality) can be given AIDS patients in the home and at the community level, thus by-passing the crowded hospitals. Additionally, we need more information on what criteria should be used to identify the neediest of orphans (poverty level may be a better indicator of need than an AIDS-related criterion) and on what welfare programs are the most effective in providing support and

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[11] Social marketing refers to the use of commercially developed techniques to promote and market products and services subsidized for social reasons; often the social marketing organization is a nonprofit body acting on contract with the government. This social marketing program was developed by Population Services International (1988).

(b) Targeting interventions to population groups with the highest impact. Resources for AIDS prevention and control must be allocated on at least three levels: among countries, among communities in each country, and among specific subgroups within each community. The typology of countries by level of STD proposed in the 1988 Strategy Paper remains valid, although the classification of a few countries has changed in light of increased knowledge.[12] Resources for prevention should be preferentially allocated to countries, communities, and target groups within communities that can be characterized as having low rates of HIV infection and high rates of other STDs. On these criteria, the following countries are recommended for particular attention (Table 3).

CD1: Cameroon, Gabon, Guinea
CD2: Ethiopia, Somalia
CD3: Djibouti, Madagascar
CD4: Ghana, Nigeria
CD5: Gambia
CD6: Lesotho, Swaziland

Within communities, STD prevention and STD treatment programs targeted at "core transmitters" responsible for a disproportionately large share of HIV transmission can have up to eight times as large a preventive impact as those aimed at the general population. There is an urgent need to focus a larger share of AIDS and STD resources on these core groups in every country.

(c) Establishing a core STD/HIV prevention and control program. Each disease control program is defined by its core interventions. For instance, the Expanded Program on Immunization has its Global Immunization Schedule, and the Diarrheal Disease Control Program is built around the administration of a solution to oral rehydration. Both the GPA and individual countries were initially reluctant to establish such a core program to deal with AIDS, since too little was known about the costs and effects of each intervention. In the last year it has been recognized that in order to avoid oversized, understaffed and unsustainable programs, priorities need to be established for interventions. Core strategies for STD/HIV prevention and control under varying conditions are proposed in Table 5.

(d) Determining the pace and process for coordinating HIV activities with the prevention and control of other STDs. With the exceptions of Benin, Cameroon, Guinea, Lesotho, Senegal, Togo, Ethiopia, Tanzania and Zimbabwe, most African AIDS control programs have been developed independently of programs to control other STDs. A statement elaborated at a July 1990 WHO consultation on global strategies for the coordination of AIDS and STD control programs recommended "the close coordination or, where appropriate, the combining of AIDS and STD control programs". In our view, AIDS and

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[12] The Strategy Paper classified countries into three groups: Group I consists of countries with a high level of HIV infection (CAR, Congo, Kenya, Uganda, Malawi, Burundi, Rwanda, Zaire, Tanzania, Zambia, Guinea Bissau, Burkina Faso, Côte d'Ivoire, and Botswana); Group II comprises countries with a low level of HIV infection and a high rate of other STDs (Cameroon, Gabon, Ethiopia, Ghana, Senegal, Swaziland, Zimbabwe, Somalia, Nigeria, and Mozambique); and Group III consists of those with a low level of HIV and an unknown rate of other STDs (Benin, Equatorial Guinea, Guinea, Togo, Mauritania, Sudan, Comoros, Djibouti, Madagascar, Liberia, Sao Tome, Sierra Leone, Chad, Gambia, Mali, Niger, Lesotho, and Angola).

STD programs should normally be carried out jointly. HIV infection is fundamentally an STD. Syphilis, for example, has similar transmission modes and had the same lethal outcome until the discovery of penicillin. The same prevention and control interventions apply to HIV infection and other STDs, with the exception of curative treatment. Because STD control is a priority in its own right, HIV infection prevention and control activities should generally be incorporated into STD prevention and control, and not the opposite. It would be unwise to concentrate only on those STDs that facilitate HIV transmission, since other STDs have a great impact on fertility and health and all people infected with STDs should be informed that their sexual behavior puts them at high risk.

(e) Strengthening key elements of the health infrastructure to implement STD/HIV prevention and control programs more effectively. High priority should also be given to strengthening those elements of the health infrastructure that are critical to the prevention and control of STD/HIV (see Table 5). In view of the urgency of controlling HIV infection and the time it takes to strengthen the infrastructure, there may be justification for continuing with the vertical program until the heath systems are developed to provide a range of services effectively. The medium-term goal should, however, remain to integrate AIDS and other STD services into ongoing basic programs of disease prevention and health care, and to provide support to the most seriously affected segments of the population (especially orphans). Each country will need to determine the optimal mix between integrated and vertical approaches, and review it over time.

V. WHO'S GLOBAL PROGRAM ON AIDS (GPA)

22. Since 1988, the GPA has made significant contributions to AIDS control and prevention in Africa. With GPA support, 41 of the 43 countries in Sub-Saharan Africa have set up a National AIDS Control Program (NACP) and have taken steps to mobilize resources to implement the Medium-Term Plan (MTP) (Table 6). Fifteen programs were reviewed about one year after implementation was initiated and the results have led WHO to revamp the program in 17 countries. The steps that have been taken to build national AIDS programs in these countries in a matter of only three and a half years represent no small achievement. Together with the countries concerned, GPA deserves credit for increased AIDS awareness and condom use as well as safer blood supplies.

23. Dr. Michael Merson, as the new GPA director outlined the following priorities during the Fifth Conference on AIDS in Africa (Oct. 11-12, 1990):

(a) strengthen national AIDS control programs, focusing more on those few key interventions that are likely to have the greatest impact on reducing HIV transmission (condom promotion and STD treatment are obvious examples);

(b) place higher priority on effective and efficient program management;

(c) strengthen the social response to HIV and AIDS by recognizing that community-based organizations are key to providing this response;

(d) plan now for the social and economic consequences of HIV/AIDS;

(e) continue strong working relationships with United Nations Development Program (UNDP), the World Bank, UNICEF, UNFPA, UNESCO, and the European Economic Communities (EEC) and expect that over the next few years, national AIDS control programs in many African countries will be implemented as multisectoral programs;

(f) build upon what has been learned about women and AIDS;

(g) undertake more intervention-related studies to strengthen the technical basis of AIDS control strategies; and

(h) accelerate and focus research and development activities, especially with regard to new vaccines and drugs.

Since the October conference, WHO has taken action internally to increase attention to STDs and gradually merge its AIDS and STD work.

24. The Bank should continue its close cooperation and contact with GPA, especially on analytical work. Cooperation and consultation should be sought also on operational work and technical assistance.

VI. THE BANK'S CONTRIBUTION TO STD/HIV PREVENTION AND CONTROL IN AFRICA

A. Country-level and Regional Activities

25. Economic and Sectoral Studies. The Bank's 1988 AIDS Strategy Paper called for systematic reviews of the current and potential extent of both AIDS and STDs as part of regular sector work, project preparation and supervision (see Tables 7a and 7b). To help carry out these reviews, the Bank's Africa Technical Department, Population, Health and Nutrition Division (AFTPN), circulated to the Sector Operating Divisions (SODs) guidelines developed jointly with the EEC AIDS Task Force (Annex 2). Out of 30 planned assessments one has so far been carried out (in Togo). The slow progress on sector work can be explained by:

(a) the lack of internalization of the program by the SODs;

(b) the reduction of SOD resources for sectoral work;

(c) the overall staff shortage for the lending program.

26. Although progress has been slow, several important studies are under way. Sectoral studies are addressing the AIDS issue in Tanzania and Uganda. The Tanzania study is also pursuing different approaches to analyzing the economic impact of the disease. The analyses are focusing on the discounted healthy years of life lost and on the development of a new model using recent output and employment data in an to attempt to estimate the impact of AIDS on the labor force, GNP, savings increment, and exports. Fiscal implications will also be examined nationally and in selected sectors. The study will review the alternatives for cost-effective interventions and the decentralized process for selecting these interventions according to the epidemiologic and institutional situation of districts in Tanzania. The study on Uganda will describe the channels through which the AIDS epidemic may affect key sectors of the economy and, where possible, quantify these effects. In addition to exploring the consequences of AIDS for agriculture and industry, the study will quantify drug costs associated with AIDS, highlighting the opportunity costs of treating AIDS patients.

27. Despite delays, the Regional Study program called for in the Strategy Paper is being carried out largely as initially proposed: (a) The government of Mali is receiving assistance through the Special Project Preparation Facility (SPPF) to develop a planning methodology to assess country-wide infrastructure for providing effective information and education about AIDS; (b) AFTPN is collaborating with WHO/GPA on AIDS program costs and on the conceptual framework needed to integrate patient management into health care systems; and (c) Senegal and Uganda, with SPPF support, are working on a low-cost methodology of assessing STD prevalence. The initial study report, completed by WHO with the assistance of the U.S. Centers for Disease Control (CDC) is now being reviewed. WHO plans other tests worldwide. About 11 percent of PHN staff work weeks were devoted to AIDS in the African region in FY90 (Table 7b).

28. Research. AFTPN and the Population and Human Resources Department of the Population, Health and Nutrition Division (PHRHN) have launched a three-

year cooperative study of the economic impact disease-related adult mortality on households and communities; the study is being carried out in Tanzania with the participation of Tanzanian researchers. In addition to quantifying the impact of AIDS mortality, the study will define criteria for identifying the most severely affected survivors and will estimate the costs and effects of alternative governmental and nongovernmental policies to assist them. The study's policy workshops will guide evolving national policies on survivor assistance, and the final report will estimate the macroeconomic implications of the microeconomic findings. Additional research in PHRHN, also supported by AFTPN, is using macroeconomic models to estimate directly the impact of typical epidemic scenarios on both the aggregate and sectoral growth of African economies.

29. Policy dialogue. The 1988 Strategy Paper urged the Bank to convey its willingness to assist countries with high HIV prevalence in their efforts to prevent and control AIDS and to help the less-affected countries by focusing on the prevention and control of STDs as a ways of stemming the spread of HIV. These messages have been communicated to governments through Bank participation in MTP resource mobilization meetings, and through SOD staff. As yet, however, the efforts to put the AIDS issue on the policy agenda of low-HIV/high-STD countries have been minimal.

30. Lending. The projects with AIDS components (FY82-93) are listed by country department in Tables 8a, 8b and 9. The Strategy Paper called for 21 AIDS components/projects in the Bank's operations program (FY89-92). Three percent of total FY90 PHN lending and supervision time was directed to AIDS. Twenty Bank projects approved or under consideration for Africa in FY82-93 have AIDS components (See Table 9). These components would strengthen the management of health services, disease surveillance, and blood safety. One approved project, in Zaire, is a free-standing AIDS project. The Ugandan government has requested IDA support for a multisectoral strategy to fight AIDS. An identification mission took place in early 1991 with full collaboration from WHO/GPA, UNDP, and other donors active in Uganda.

31. Donor Coordination. WHO-sponsored resource mobilization meetings have taken place for 35 of the 42 African countries that have MTPs. The Bank has been represented at most of the meetings, where it has commented on the MTPs and indicated its willingness to finance AIDS prevention and control. However, African governments have been reluctant to borrow funds for AIDS programs, even on IDA terms. With the significant exception of Nigeria--a low-prevalence country--most African countries have been able to mobilize sufficient resources for their MTPs from donor grants. Some opportunities to raise the AIDS issue, such as the Niamey Safe Motherhood Conference, have, however, been not been fully exploited.

32. Staff Resources. A total of 3.3 staff years were devoted to AIDS work in FY89, which was approximately at the level of the 3.6 staff years proposed in the 1988 AIDS Agenda paper. In FY90 staff input was expected to rise to 7.0 staff years, but instead fell to about 1.3 staff years (Table 10). In FY89 a separate allocation was made by the RMT for AIDS work. In FY90 there was none, and it is possible that the total figure for staff resources in FY90 reflects some underreporting. In any case, more work clearly needs to be done on AIDS, and, equally important, it needs to be integrated as much as possible into broader health sectoral analyses, project work, macroeconomic analysis, and policy dialogue. The work should not be undertaken independently. The staff resource problem is expected to be reduced by the secondment of a CDC staff member to AFTPN for two years financed by CDC.

33. Staff Training. Eight "AIDS Updates" have been issued jointly by PHRHN and AFTPN and circulated to staff in the Region. Since July 1988, eleven AIDS Working Group meetings have been organized by PHRHN with relatively strong participation from the Africa Region. The AIDS Working Group has served as a forum for exchange of experience and staff orientation; a draft of this review was the subject of one AIDS Working Group Meeting. A one-day workshop on AIDS and population programs and policies in Africa was held in August 1990, which was attended by outside experts from GPA, the U.S. Census Bureau, and other

institutions.

34. Conferences and Seminars. The 1988 Strategy Paper recommended that the Bank support separate seminars on AIDS in Africa. No such seminars have yet been held. However, Bank staff organized four subregional seminars in Africa on the ongoing Health Policy Study during October-November 1989 at which AIDS was discussed with African health officials. In addition, the Bank participated in a workshop on AIDS information, education, and communication (IEC), sponsored by GPA, in Bangui in November 1988 and in conferences on AIDS in Africa, in Kinshasa, in October 1988 and 1990. Bank staff also participated in the Fifth International Conference on AIDS in Montreal in June 1989, where they presented papers and led a panel on AIDS Program Management in Developing Countries. A Bank staff member participated in the Sixth International Conference on AIDS, in San Francisco, in June 1990, and Bank staff played an important role in the fifth International Conference on AIDS in Africa, during October 10-12, 1990, co-chairing working sessions on the integration of AIDS control in the health system and delivering a plenary session speech on the economic and demographic impact of AIDS.

B. Relations with WHO [13]

35. The Bank has consulted and collaborated extensively with GPA in operational work in several African countries, attended meetings on resource mobilization for AIDS in African countries, and is providing support for studies by GPA. With Bank support, GPA has completed costing guidelines for AIDS programs. The Bank's Special Grants Program provided the GPA with $1 million in FY89 for the development of operational research related to AIDS prevention and control. The implementation of this research program is overseen jointly by GPA and WHO's Tropical Disease Research and Human Reproduction Programs. Although expenditures for the research areas are only just beginning, the proposals funded are important initial steps in understanding the links between the prevention and control of HIV/AIDS, tropical diseases, and reproductive health policy. The Bank authorized another grant of $1 million to GPA in FY90 under similar arrangements. Future contributions will be allocated to operations research for evaluating and refining the core strategy (see para 19 (c)). WHO is gradually decentralizing operational responsibility for its AIDS work in Africa to its Regional Office in Africa, WHO/AFRO; Bank contacts with AFRO may well need to increase.

VII. FUTURE BANK STD/HIV WORK IN AFRICA: CONCLUSIONS AND RECOMMENDATIONS

36. In view of the 1988 decision to deal with AIDS using existing resource levels and the small PHN staff that has had to handle a steadily increasing work program, we conclude that the agenda in the 1988 Strategy Paper has been reasonably well implemented. However, the following shortcomings should be pinpointed:

(a) In general, AIDS has been incorrectly defined as an isolated issue in the health sector. AIDS work has not been sufficiently coordinated with other Programs of Special Emphasis, such as population and safe motherhood. Nor have enough resources been devoted to analyzing the impact of AIDS on population and other sectors. Staff in other sectors with countrywide responsibilities have not been sufficiently informed about the current and potential impact of AIDS.

(b) AIDS-related lending has been confined to currently affected countries, and little has been done by the Bank to prevent AIDS in less affected countries with a high potential for spread. Prevention and control efforts have focused too much on AIDS, with the result that conventional STDs have often been neglected.

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[13] Contacts have also been established with UNFPA on their work on AIDS.

37. AIDS represents a serious threat not just to health, but to development in Sub-Saharan Africa. The Bank's analytical and operational agenda on AIDS should concentrate on the following:

(a) The policy dialogue in Country Departments and with borrowers should devote attention to the impact of AIDS on development in the currently seriously affected countries as well as those with low levels of HIV but a high level of STDs; this covers a total of 25 countries (Table 3). An AIDS/STD Overview (see Annex 2) should be prepared before substantial dialogue is initiated. Because AIDS is affecting increasing numbers of people across all sectors of society, neither the analytical work nor the operational follow-up can be handled effectively by the population and human resources divisions alone.

(b) AIDS is also affecting population variables to the extent that it should be included in our dialogue on population issues. Even in those countries that are most affected, the macroeconomic argument for controlling population growth remains valid. The emphasis on population policies and programs must continue, particularly since adult survivors will have to bear the increased burden of foster children from their deceased family members and will have an increased incentive to limit the number of their own children. As the majority of adults will stay free of HIV infection, they will continue to need family planning services. Such assistance should include information and advice about safe sexual behavior as part of family planning counseling and the distribution of condoms, even to those clients who are more interested in preventing STD/HIV transmission during casual sex than in preventing pregnancies with their regular partners. In less affected countries, we should take the opportunity during our dialogue on population issues to highlight the effects of AIDS on development and the benefits of preventing the epidemic at early stages.

(c) Country Departments should focus more attention on countries with high levels of STDs and low levels of HIV, because these countries represent opportunities to stem the epidemic.

(d) AIDS control should be made a subcomponent of our population efforts, as well as of the Safe Motherhood Initiative. Population projections produced by PHRHN need to take AIDS into account; this is a demanding task.

(e) The analytical agenda devoted to assessing the impact of AIDS needs to be strengthened and broadened. More work needs to be done on the demographic impact of AIDS well beyond the question of population growth, to determine how AIDS is affecting fertility, dependency ratios, and other such factors. The impact of AIDS on households and on various economic sectors needs to be assessed within a macroeconomic framework. The sector work under way in Uganda should be used to develop such a framework. Consideration should be given to AIDS issues in Bank-supported household surveys such as the SDA surveys and the DHS series financed by USAID.

(f) AIDS studies should eventually be expanded beyond PHN. Once our understanding of the microeconomic impact of AIDS is more advanced (as a result of the joint PHRHN/AFTPN study in Tanzania) plans for STD/HIV overviews as part of non-PHN sectoral studies can be initiated.

(g) Analytical work on methods of improving STD/HIV interventions should continue. The AFTPN regional study program addresses key issues and should continue. Sector work should include systematic reviews of AIDS and other STDs, which should also be made part of the identification and appraisal of the PHN projects; these reviews should feed into policy dialogue at the macro and sectoral levels as

well. The reasons for not incorporating STD/HIV components in projects we approve should be spelled out early on in the Project Cycle, i.e., IEPS and white cover, pre-appraisal SARs, in countries singled out for priority attention.

(h) PHN lending should continue to focus on health policies and on the development of health systems. High priority should be given to developing those elements critical to STD/HIV control and prevention (see Table 5). Where STD/HIV control programs need support, the Bank should generally concentrate on supporting STD prevention and control. This cooperation should concentrate on analytical work; but consultation on operations and technical assistance should also be encouraged. In addition, the Bank should cooperate in studies and technical assistance on AIDS being sponsored by UNDP.[14] Since the health systems alone cannot possibly cope with the magnitude of the AIDS/HIV epidemic, nongovernmental and community groups will need to be increasingly involved, and their roles strengthened.

(i) Information on AIDS should continue to be distributed to PHR staff. AIDS updates should now go to staff in Country Operations Divisions (CODs) and non-PHR SODs, as well as to those already receiving them; furthermore, these updates should be made a quarterly publication [15]. AFTPN should continue to collaborate with PHRHN in organizing AIDS Working Group seminars. The composition of the Working Group should be expanded to include other SOD and COD staff.

(j) The Bank should continue to collaborate with GPA and the other WHO programs and groups concerned with STD/HIV control.

(k) A specific, multi-sectoral work program on AIDS should be developed by each Africa Region country department; the Region's Group Team Six, which brings together the division chiefs of the population and human resources divisions, should monitor and evaluate the AIDS program, and particularly the follow-up on the recommendations in this report.

(l) Despite its importance, AIDS should not be allowed to dominate the Bank's agenda on population, health, and nutrition issues in Africa. Population and family planning programs need continued and increased attention, and health policies and systems require further work to ensure they will adjust and adapt to the full range of demographic, economic, and health realities African countries are facing in the 1990s. Maintaining the right balance will be one of the major challenges in allocating resources to health in Africa in the years ahead.

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[14] UNDP has funded local studies to better understand the social circumstances of the AIDS epidemic and is preparing plans for a global technical assistance project in Africa on how countries can address the social and economic impact of AIDS; Bank staff are consulting with UNDP on these activities.

[15] This task may be assigned to a CDC staff member expected to join AFTPN on a two-year secondment financed by the CDC.

Table 1. ESTIMATES OF HIV-1 SEROPREVALENCE BY RESIDENCE AND RISK FACTOR, FOR AFRICAN COUNTRIES, CIRCA 1990

	CAPITAL/MAJOR CITY		OUTSIDE MAJOR CITY	
	LOW-RISK GROUP	HIGH-RISK GROUP	LOW-RISK GROUP	HIGH-RISK GROUP
*Angola	1.3 a	14.2 a	-	-
*Benin	0.1	4.5	6.7	-
Botswana	0.8 c	1.2 c	0.1 c	-
*Burkina Faso	1.7 b	16.9 a	3.1 a	44.7 a,b
Burundi	17.6	18.5 b	-	-
*Cameroon	1.1	8.6	0.4	-
*Cape Verde	0.0	0.0	-	-
Central African Rep.	7.4	20.6	3.7	7.9
Chad	0.0	-	0.0	-
Comoros	-	0.1	-	-
Congo	3.9	34.3 b	1.0	-
*Djibouti	0.3	2.7	0.0 b	-
*Equatorial Guinea	0.3	-	0.3	-
Ethiopia	2.0	18.2	0.0	-
*Gabon	1.8	-	0.8	-
*Gambia, The	0.1	1.7 a	-	0.0 b,c
*Ghana	2.2	25.2	-	-
*Guinea	0.6 a	-	0.2	-
*Guinea-Bissau	0.1	0.0 b	0.0	-
*Ivory Coast	8.5 a	23.8 a	3.3 a	-
Kenya	7.8	59.2	1.0	-
Lesotho	0.1	-	-	-
Liberia	0.0	0.0 b	0.0 c	-
*Madagascar	0.0	0.0 b	-	-
Malawi	23.3	55.9	-	-
*Mali	0.4	23.0 a	-	-
*Mauritania	0.0 b	0.0	-	-
Mauritius	0.0	-	-	-
*Mozambique	1.1	2.6	0.8	-
*Namibia	2.5	-	-	-
Niger	-	5.8	-	-
*Nigeria	0.5	1.7	0.0	0.5
*Rwanda	30.3	79.8 b,c	1.7	-
*Sao Tome & Principe	0.0	-	-	-
*Senegal	0.1 a	2.3 a	0.0 b	-
Seychelles	-	-	-	-
*Sierra Leone	3.6 a	2.7 a	-	-
Somalia	0.0	0.4	-	-
South Africa	0.1	3.2	-	-
Sudan	0.0	16.0 b	-	-
Swaziland	0.0 b,c	-	-	-
*Tanzania	8.9	38.7	5.4	11.7
Togo	-	-	-	-
Uganda	24.3	86.0 b	12.3	76.0 b
Zaire	6.0	37.8	3.6	17.7
Zambia	24.5	54.0 b	13.0 b	13.0 b
Zimbabwe	3.2 c	-	1.4	6.6 b

- No data found.
* See Table 2 data.
a Rate represents infection with HIV-1 only and dual infection (HIV-1 & HIV-2).
b Data are best available but are not necessarily reliable due to small sample size (<100).
c Data refer to prior to 1986.

Notes: High risk -- prostitutes and clients, STD patients, or other persons with known risk factors. Low risk -- pregnant women, blood donors, or other persons with known risk factors.

Source: Adapted from "Recent HIV Seroprevalence Levels by Country: February, 1991," Health Studies Branch, Center of International Research, U.S. Bureau of the Census, Washington, D.C.

Tab1.wk1/dt

Table 2. ESTIMATES OF HIV-2 SEROPREVALENCE BY RESIDENCE AND RISK FACTOR, FOR AFRICAN COUNTRIES: CIRCA 1990

	CAPITAL/MAJOR CITY		OUTSIDE MAJOR CITY	
	LOW-RISK GROUP	HIGH-RISK GROUP	LOW-RISK GROUP	HIGH-RISK GROUP
*Angola	1.3 a	13.7 a	-	-
*Benin	-	3.7	0.9	-
*Burkina Faso	0.0 b	22.8 a	1.9 a	23.7 a,b
*Cameroon	0.0	0.7	0.0	-
*Cape Verde	1.4	8.2	-	-
*Djibouti	-	0.0	-	-
*Equatorial Guinea	0.0	-	0.0	-
*Gabon	0.3	-	0.0	-
*Gambia, The	1.7	25.6 a	-	3.2 b,c
*Guinea	0.2 a	-	0.0	-
*Guinea-Bissau	6.5	25.6 b	4.7	-
*Ivory Coast	3.2 a	17.2 a	2.1 a	-
*Madagascar	0.0	-	-	-
*Mali	1.4	27.4 a	-	-
*Mauritania	0.0 b	0.0	-	-
*Mozambique	2.2	1.1	-	-
*Namibia	0.0	-	-	-
*Nigeria	1.2	0.9	0.1	0.7
*Rwanda	0.0	-	0.0	-
*Sao Tome & Principe	0.0	-	-	-
*Senegal	0.1 a	10.0 a	0.0 b	-
*Sierra Leone	5.0 a	1.8 a	-	-
*Tanzania			0.1	0.3

- No data found.
* See Table 1 for HIV-1 data.
a Rate represents infection with HIV-2 only and dual infection (HIV-1 & HIV-2).
b Data are best available but are not necessarily reliable due to small sample size (<100).
c Data refer to prior to 1986.

Notes: High risk -- prostitutes and clients, STD patients, or other persons with known risk factors. Low risk -- pregnant women, blood donors, or other persons with known risk factors.

Source: Adapted from "Recent HIV Seroprevalence Levels by Country: February, 1991," Health Studies Branch, Center for International Research, U.S. Bureau of the Census, Washington, D.C.

Tab2.wk1/dt

TABLE 3: PRIORITIES FOR BANK AND AFRICAN COUNTRY ACTION ON AIDS
Indicators of Current and Potential Spread of HIV by Country, based on HIV and STD Prevalence, 1990

	STD Prevalence \a		
	HIGH	MED-LOW	UNKNOWN
Medium/High Urban HIV (> 3%)	CAR (I) KENYA (I) RWANDA (I)* ZAMBIA (I)*	ZAIRE (I) ZIMBABWE (II)	BURUNDI (I)* CONGO (I) COTE D'IVOIRE (I)* MALAWI (I)* SIERRA LEONE (III) TANZANIA (I)* UGANDA (I)*
Low Urban HIV (< 3%)	CAMEROON (II) DJIBOUTI (III) ETHIOPIA (II) GABON (II) GAMBIA (III) GHANA (II) GUINEA (III) LESOTHO (III) MADAGASCAR (III) NIGERIA (II) SOMALIA (II) SWAZILAND (II)	SENEGAL (II) SUDAN (III)	ANGOLA (III) BENIN (III) BOTSWANA (I) BURKINA FASO (I) CAPE VERDE CHAD (III) EQ. GUINEA (III) GUINEA-BISSAU (I)* LIBERIA (III) MALI (III) MAURITANIA (III) MAURITIUS MOZAMBIQUE (II) NAMIBIA SAO TOME (III) TOGO (III)
Unknown			COMOROS NIGER SEYCHELLES TOGO

Notes: Shading denotes priority; particular attention is merited to low-HIV/medium-high STD countries.

\a As estimated from data on the prevalence of syphilis and gonorrhea in pregnant women or urban population samples.

* denotes an urban HIV seroprevalence ≥ 10%.

Numerals in parentheses indicate country classification in the 1988 strategy paper:

I. Countries with a high level of HIV infection;
II. Countries with a low level of HIV infection and a high rate of other STDs;
III. Countries with a low level of HIV and an unknown rate of other STDs.

AFTPN, April 11, 1991

Table 4: HIV Seroprevalence in Prostitutes, 1990

High (> 20%)	BURKINA FASO	CAR
	CONGO	COTE D'IVOIRE
	GAMBIA	GUINEA-BISSAU
	KENYA	MALI
	MALAWI	RWANDA
	SENEGAL	TANZANIA-WEST
	UGANDA	ZAMBIA
	ZIMBABWE	ZAIRE
Medium (> 5% & < 20%)	BENIN	CAMEROON
	ETHIOPIA	GHANA
	NIGER	NIGERIA
	TANZANIA (EXCEPT WEST)	SUDAN-SOUTH
Low (< 5%)	DJIBOUTI	
	LIBERIA	
	MADAGASCAR	
	SOMALIA	
Unknown	ANGOLA	BOTSWANA
	BURUNDI	CAPE VERDE
	CHAD	COMOROS
	EQUATORIAL GUINEA	GABON
	GUINEA	LESOTHO
	MAURITANIA	MAURITIUS
	MOZAMBIQUE	NAMIBIA
	SAO TOME	SEYCHELLES
	SIERRA LEONE	SUDAN-NORTH
	SWAZILAND	TOGO

Table 5: AIDS PREVENTION AND CONTROL: CORE STRATEGIES

Strategy	Condition	Objective/Goal	Target Group	Intervention	Infrastructure
A	High STD prevalence with low or high HIV	Reduce STDs as vehicle to reduce sexual transmission of HIV	Prostitutes and clients	IEC and Counseling Increase condom use Detect and treat STDs	Community-based condom promotion and distribution Small village pharmacies Basic health services
B	High HIV prevalence	Reduce blood transmission	Patients needing transfusion	Reduce contaminated blood	Hospital laboratories
C	High AIDS prevalence	Mitigate impact of AIDS on patients and families	Patients with AIDS Orphans without family support	Manage opportunistic disease and symptoms at home	Outreach from basic health services Social support services

Note: The above strategies are not mutually exclusive.

Table 6: GLOBAL PROGRAM ON AIDS: STATUS OF WHO-SPONSORED MEDIUM-TERM PLANS (MTP) FOR AIDS PREVENTION AND CONTROL IN AFRICA

Country or Area	Medium-Term Plan (MTP) Formulation	Mobilization of Interested Parties-Phase 1	Initial Review of Implementation	Program Formulation Phase 2	Mobilization of Interested Parties, Phase 2
Angola	Mar-89				
Benin	Aug-88	29-Jun-89	Nov-90	Nov-90	
Botswana	Jul-87	27-Jul-89	Oct-90	Feb-91	(May-91)
Burkina Faso	Mar-89	11-Oct-89	(1991)		
Burundi	Mar-88	14-Jul-88	Mar-90	Apr-90	26-Sept-90
Cameroon	Feb-88	05-Jul-88	Nov-89	Feb-90	22-May-90
Cape Verde	Apr-89	12-Jul-90			
Cent. African Rep.	Jul-88	19-Jul-88	Apr-90	May-90	
Chad	May-89	06-Nov-89	Nov-90		
Comoros	Nov-88	26-Jun-90	Mar-91	Mar-91	(May-91)
Congo	Feb-88	28-Jun-88	Nov-90	Dec-89	13-Apr-90
Cote d'Ivoire	Oct-88	20-Jun-89	Nov-90	Nov-90	
Equatorial Guinea	Jul-89	27-Feb-90	Feb-91	Feb-91	
Ethiopia	May-87	04-Aug-87	May-89	Jul-89	06-Oct-89
Gabon	Mar-89	27-Nov-89	Nov-90	Nov-90	
Gambia	Oct-88	28-Aug-89	Mar-91		
Ghana	Jul-88	04-Sep-89	Mar-91		
Guinea	Aug-89	15-Nov-90			
Guinea-Bissau	Jul-88	13-Jun-89	Feb-91	Apr-89	
Kenya	Apr-87	31-Jul-87	Jul-89	Mar-91	09-Nov-89
Lesotho	Jan-88	18-Apr-88	Feb-91	Mar-91	(May-91)
Liberia	Sep-88	31-Aug-89	(1991)		
Madagascar	Dec-89	Nov-90	(Oct-91)		
Malawi	Feb-88	29-Jun-89	Mar-90	Apr-90	02-Oct-90
Mali	Dec-88	23-Nov-89	(May-91)		
Mauritania	Feb-90	(Jan-91)			
Mauritius	Feb-89	08-Aug-89	Oct-90	Nov-90	(Apr-91)
Mozambique	Aug-87	19-Apr-88	Dec-89	Mar-90	4-Jul-90
Namibia	(Feb-91)				
Niger	Nov-88	17-Jan-90	Apr-89		
Nigeria	Feb-89	21-Mar-90	(1991)		
Rwanda	May-87	28-Jul-87	Mar-89	Jun-89	05-Mar-90
Soa Tome & Principe	Mar-90	(Mar-91)	(Dec-91)		
Senegal	Jul-87	15-Feb-88	Oct-89	Nov-89	13-Jun-90
Seychelles	Dec-88	11-Aug-88	(Jun-91)	(Jun-91)	(Aug-91)
Sierra Leone	Sep-88	(Mar-91)			
Swaziland	Oct-88	17-Apr-89	Feb-91	Mar-91	(May-91)
Tanzania	Jun-87	24-Jul-87	May-89	Jul-89	15-Nov-89
Togo	Apr-89	30-Jan-90	(Apr-91)		
Uganda	Feb-87	22-May-87	Dec-88	Jan-89	17-Jul-89
Zaire	Sep-87	11-Feb-88	Feb-90		
Zambia	Aug-87	16-Mar-88	Oct-89	Apr-90	26-Jul-90
Zimbabwe	Aug-88	25-Jul-88	Mar-90	Apr-90	15-Aug-90

* Dates given in parentheses are planned dates.

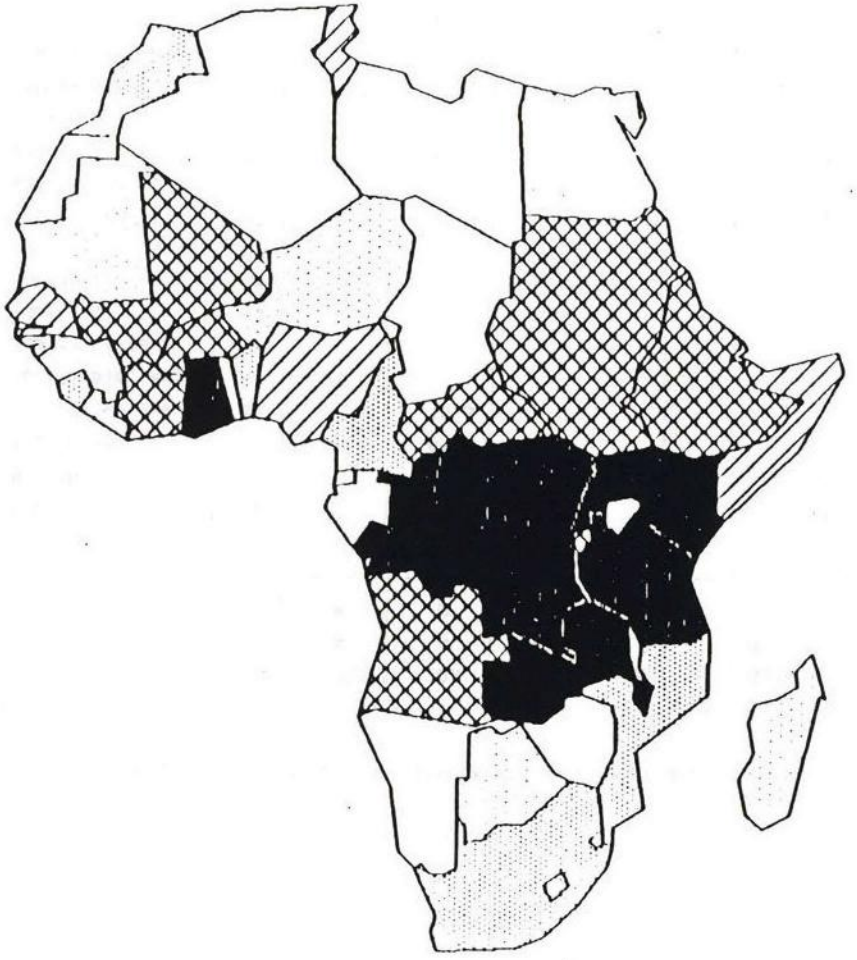
Source: World Health Organization, Global Program on AIDS, National Program Support, Status of Collaboration with Countries and Areas as of January 1991.

Table 7: CONTENT OF AIDS COMPONENTS IN PLANNED AND APPROVED BANK/IDA ASSISTED PROJECTS IN AFRICA, FY 82-93

Country	Title	FY	IBRD $ M	IDA $ M	Strengthening Mangement	IEC	Safe Blood	AIDS Surveillance	AIDS Control	Case Management	Training	Operations Research	Integration of AIDS & STD Control
Botswana	Family Health	84											
Burundi	Health/Pop I	88		14.0		X	X	X	X		X		
Burundi	Health/Pop II	93		65.3									
Benin	Hlth Svce. Dev.	89		18.6	X				X		X		
Cameroon	Social Dim. Adj.	90	20.0										X
CAR	Health Sector	92											
CAR	Educ. IV	93											
Guinea	Pop/Health	88		19.7		X	X						
Guinea-Bissau	PHN	87		4.2			X		X	X		X	
Kenya	Population II	82											
Lesotho	Health/Pop II	90		12.1				X	X	X		X	
Malawi	PHN Sector Cr.	91		30.0									
Niger	Health	86		27.0			X						
Nigeria	IMO Health/Pop	89	27.6			X	X	X					
Rwanda	PHN II	92		26.7									
Togo	Pop/Health Adj.	91		12.0	X	X			X				
Uganda	Health Reconstr.	88		52.5		X	X			X	X		
Zaire	AIDS	89		8.1	X	X		X				X	X
Zimbabwe	Family Health	87	10.0			X							X
Zimbabwe	Family Health II	91	25.0			X							X

Map 1

African HIV-1 Seroprevalence for High-Risk Urban Populations



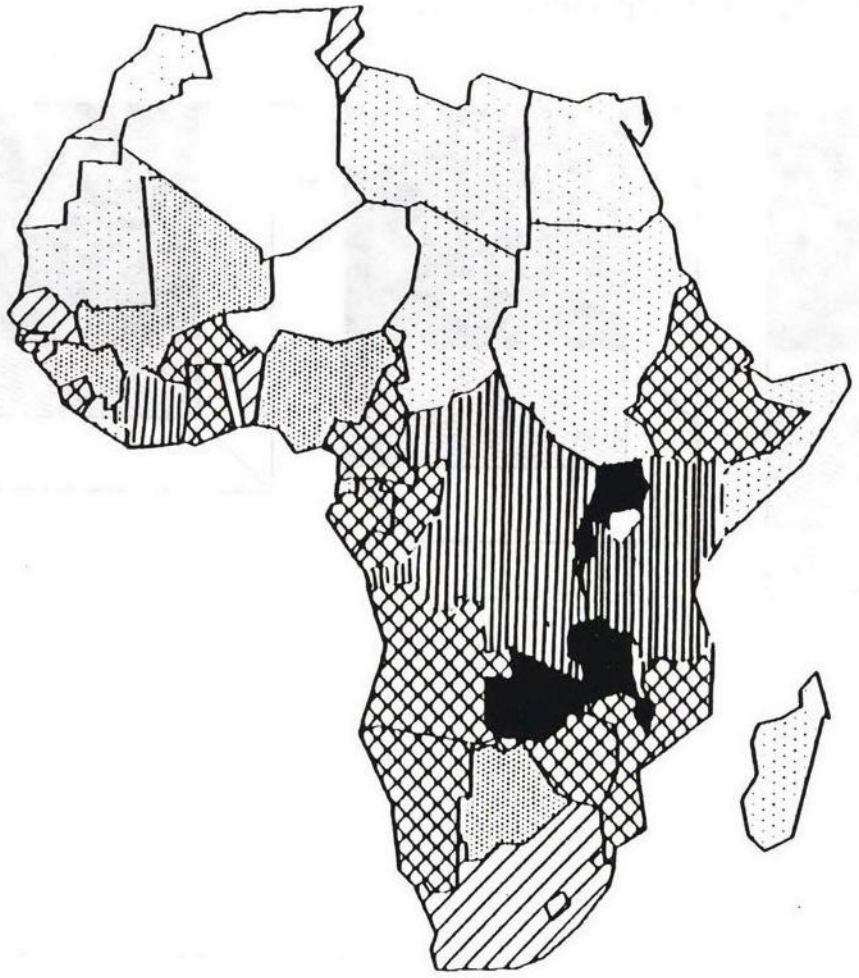
Pct. Seropositive

- 0.0 to 0.2
- 0.3 to 2.5
- 2.6 to 10.0
- 10.1 to 25.0
- 25.1 to 40.0
- Over 40.0
- No Data

HIV/AIDS Surveillance Data Base
CIR / U.S. Bureau of the Census

Map 2

African HIV-1 Seroprevalence for Low-Risk Urban Populations

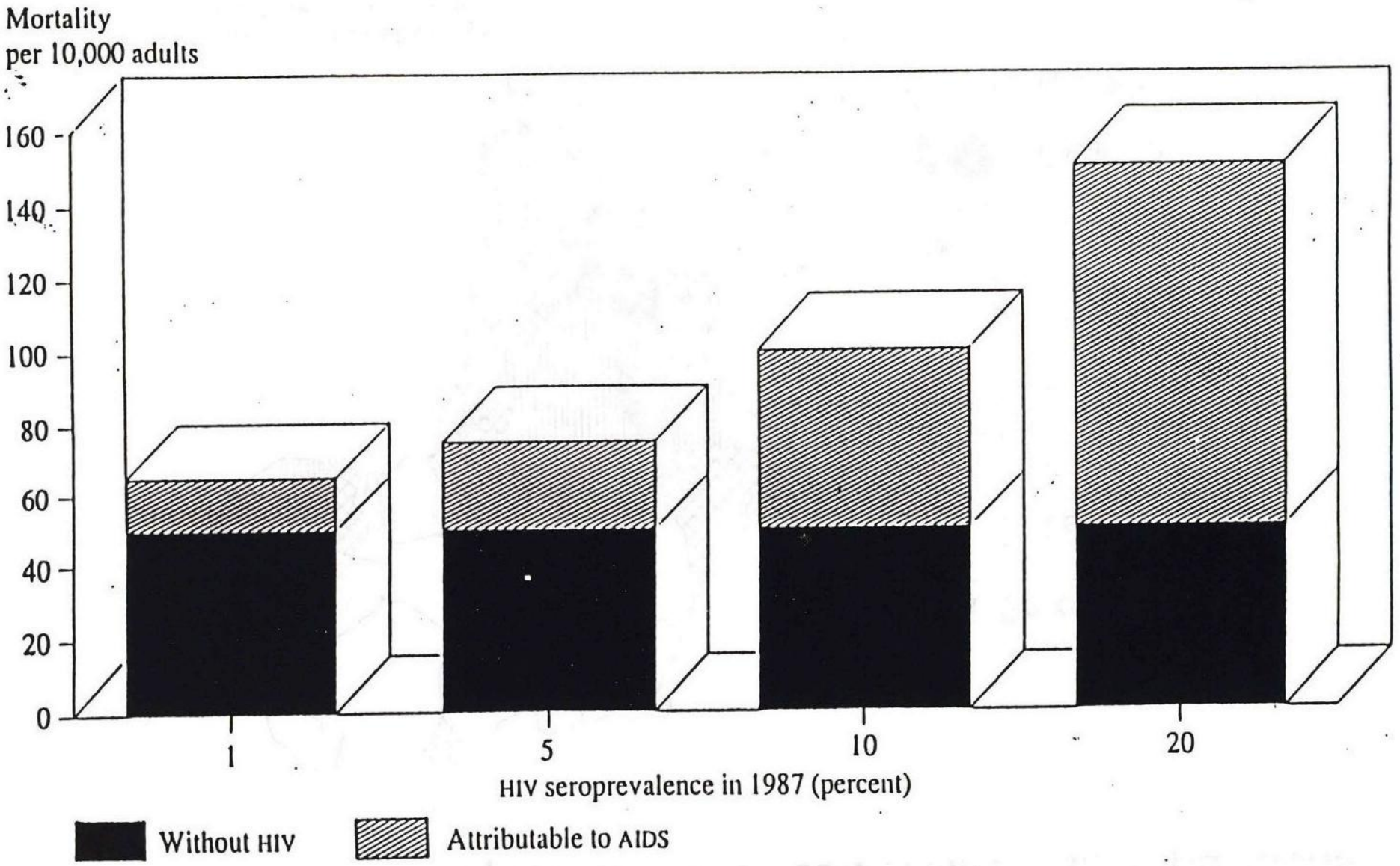


Pct. Seropositive

- Less than 0.1
- 0.1
- 0.2 to 1.0
- 1.1 to 5.0
- 5.1 to 10.0
- Over 10
- No Data

HIV/AIDS Surveillance Data Base
CIR / U.S. Bureau of the Census

Figure 1 *Projected Increase in Adult Mortality Attributable to AIDS, Sub-Saharan Africa, 1992*



Source: Chin, J. "Epidemiology and Projected Mortality of AIDS," in Feacham, Richard G., Jamison, Dean T., eds., Disease and Mortality in Sub-Saharan Africa (Oxford: Oxford University Press, 1991).

AIDS AND POPULATION AND FAMILY POLICIES AND PROGRAMS IN AFRICA

1. This annex reviews the impact of AIDS on population in Africa, and makes recommendations on how African population policies and family planning programs should respond to the emergence of AIDS. Its audience is World Bank staff concerned with AIDS and population and family planning policies and programs in Africa, whether those staff are in CODs, SODs, or Resident Missions. The paper draws on an August 1990 seminar organized by AFTPN on AIDS, population, and family planning in Africa. Participants in the seminar included Bank staff and outside experts on the issue from the U.S. Government, WHO, UNFPA, NGOs and the academic world. A report on the seminar is attached to this paper.

A. AIDS: Demographic Impact

2. AIDS will affect mortality and fertility, and therefore the rate of population growth. It may also have an impact on the age structure, and therefore the dependency ratios will also be effected. The scope and intensity of the demographic impact have not yet been fully understood. To project the consequences of the AIDS epidemic on demographic indicators with some degree of confidence, four kinds of data are needed. First, good demographic data are needed. Second, the epidemiology of the disease needs to be known. Third, an accurate assessment of the number of infected persons by age and sex is required to show short-term mortality effects from those already infected. Fourth, for longer-term projections, behavioral characteristics of the population are needed to forecast the spread among those not yet affected.

3. Short-and Medium-Term Effects. For all African countries, knowledge of the AIDS epidemic is incomplete. No nationally representative prevalence survey has been completed. There is, however, an expanding amount of information in some countries from partial surveys and special populations that allow generalizations to be made about the larger population within reasonable confidence bounds. Short-term (up to about 5 years) projections of the epidemic can be made on the basis of this information, assuming it is accurate, showing the number of people that are expected to develop AIDS and the number of people that are expected to die of AIDS. This information can be used to adjust mortality assumptions in short-term population projections and show the effects on other demographic parameters. A simple model to accomplish this has been developed at WHO. It requires three types of input: the total number of adults infected at a recent date, the starting date of the epidemic, and the density function for the probability of transition from HIV to AIDS.[1] While the density function of the incubation period is not exactly known, it is believed to have a mean of between 8 and 10 years, and can be modeled. The effect of HIV incidence after the start of the projection on short and medium term mortality is very small because of the long incubation period. Applying this model to large national populations shows that the short-term effects on population are generally minor, because AIDS deaths of those already infected are distributed over a number of years.

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[1] Chin, Lwanga, and Mann, 1990.

4. Longer-term Consequences. Longer-term projections must address the continued spread of HIV to individuals not yet infected, and the effect on fertility and age structure. Extensive knowledge of the epidemiology of the disease (transmission processes and probabilities, incubation period, variability of infectiousness, cofactors) and behavior of the population (pairing behavior, sexual practices, other behavior affecting exposure to the virus) is required. While knowledge of the epidemiology of AIDS gained in one setting can often be applied in other settings, behavioral aspects are highly variable and not well understood, even in the industrial countries. Moreover, behavior may change in the future, and even currently hazardous assumptions about behavior may therefore require change.

5. Annex Table 1 summarizes the results generated by a selection of the more well-known models applied on African countries or patterns. Other models exist, but not all have produced forecasts of the demographic consequences of AIDS in Africa. None of the models listed in the Table projects population decline in the near future. Only the Anderson and May model shows negative population growth in the long run, and then only with high rates for sexual transmission and very high transmission rates from infected pregnant women to their babies. The main reasons for the relatively small effect on population growth are the long incubation period of the disease and the typical African fertility pattern of early and elevated fertility. By the time a women develops AIDS, she is likely to have replaced herself with more than one child. All of the models reviewed are capable of producing greater effects on demographic indicators. As the parameters used by the modelers are often based on very poorly documented assumptions, it cannot be excluded that the epidemic will have greater effects on population. Preliminary results of work now being done in the Bank on modeling the demographic effects of AIDS in Uganda suggest that, even in that country, the population growth rate is likely to remain positive, at least until 2015.

6. Fertility Impact. Current population projection models assume no impact of AIDS on fertility, that is, fertility is expected to continue to decline gradually, as would be the case without AIDS. The potential impact of AIDS on fertility has not been studied and merits investigation. Crude birth rates are influenced by: (a) the proportion of women of childbearing age and (b) the total fertility rate. The proportion of women of childbearing age is not likely to vary significantly because their high mortality rates will be offset by increased infant and childhood mortality. What AIDS will do to individual fertility decisions is unclear. Couples fostering many children from deceased family members might want to limit their own family size. Yet, there are already anecdotal reports from severely affected countries that couples experiencing numerous child deaths from AIDS want to have more children. Young adults might get married earlier to avoid high-risk sex behavior, thereby increasing their fertility. Because of the long incubation period of AIDS, women infected with HIV and unaware of their status are likely to conceive several children before they develop AIDS and die. Once made aware that they are infected by HIV, some women might decide to stop conceiving to avoid transmitting the infection to newborns. Other women, especially the childless, might be more inclined to conceive than their non-infected counterparts. For these women, it might be worth taking the risk of giving birth to an HIV-infected child. In Africa, the 30-50% probability that the child of a seropositive mother would be born HIV seropositive and die of

AIDS has to be compared with the current 20% probability that any child will die before age five. The effect of AIDS mortality on dependency ratios also deserves attention.

7. Projections of HIV-infected infants have been based on a perinatal transmission rate of about 30%. This rate may increase with time, but it nevertheless suggests that up to 70% of infants born to HIV-infected mothers will not be infected. These uninfected infants will constitute an increasing group of orphans since most of their HIV-infected mothers will die of AIDS within 5 to 10 years after their birth. More than 10 million children less than 10 years of age are expected to be AIDS-related orphans in Africa during the 1990s.

8. Mortality Consequences. Adult mortality is significantly affected by AIDS. At present, mortality in the 15-45 year age group is about 5 per thousand per year. Assuming a seroprevalence rate of 1% in 1987, there would be a projected adult mortality increase of 25% by 1992 (in Luanda, Ouagadougou and some rural areas of Cote d'Ivoire for instance). There would be a 50% adult mortality increase at a 5% seroprevalence rate (in some rural areas of Tanzania, and Kinshasa), a 100% adult mortality increase at a 10% seroprevalence rate (in Lusaka), and a 200% adult mortality increase at a 20% seroprevalence rate (16.4 in Blantyre, 16.3 in Bujumbura, 24.3 in Kampala) (see Figure 1). [2] Currently projected increases in under 5 mortality due to HIV/AIDS are shown in Figure 2. AIDS is expected to contribute 10 to 50 per thousand to the under five mortality. In communities with an under 5 mortality of 100 per thousand (this represents better off communities in Africa) AIDS will increase mortality by 10 to 50%.

9. Summary of Demographic Consequences. The impact of AIDS on population growth rates cannot be reliably predicted. Many scenarios have been modelled, but most demographic modelers agree that because of continued high fertility, Africa's population will continue to grow, despite increased mortality rates. Also, elevated mortality from AIDS may further stall fertility decline. Population and family planning policies and programs continue to be justified in Africa on demographic grounds. In severely affected countries, the AIDS epidemic is likely to have a profound impact on the quality of life of Africans and on their future development aspects. AIDS mortality, which is concentrated in the economically active age group from age 15 to 50, will leave many survivors -- widows, widowers, orphans, and grandparents -- without means of economic support, creating new groups in poverty. In coping with the lost income of AIDS patients and the high costs of medical treatment, families will be forced to sell their assets, reduce consumption of basic needs (including food, shelter, health care), and take their children out of school to care for sick household members and to compensate for the loss of productive adults. This lowering of living standards and the loss of parents will further raise the risk of malnutrition, morbidity and mortality among surviving, otherwise healthy children; the rise in tuberculosis is but one example. Even families without AIDS patients will be affected. By taking in the orphaned children of relatives, they will reduce the resources available for their own children's consumption and

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[2] Figures obtained from J. Chin, WHO/GPA.

schooling. They will be called upon to help pay for relatives' medical care and funerals. They will compete with AIDS patients for scarce medical resources. In sum, the AIDS epidemic means human tragedy on a wide scale in severely affected areas and a major setback for population and development policies aimed at improving the quality of life of Africans.

Annex Table 1: Summary of Findings of AIDS Projection Models for African Countries

Author(s)	Key Findings on Population Growth	Comments
1. R.M. Anderson, R.M. May, & A.R. McLean (1988)	Population growth may become negative in 50 to 70 years under assumptions of high transmission rates and no behavioral change.	Simple mathematical model assuming no change in behavior over time and very high transmission rates from mothers to babies.
2. J. Bongaarts (1987) and J. Bongaarts and P. Way (1989)	"Worst-case" scenario shows population growth rate by 2000 would be 1.9 percent versus 3.0 percent in projection without AIDS.	Complex model of epidemiological and demographic processes; applied to hypothetical, representative African country. HIV prevalence shown to rise from 9 to 18 percent by 2000; HIV prevalence levels at 21 percent.
3. R.A. Bulatao (1988)	"High-threat" scenario for Zaire shows population growth rate in 2005 at 2.2 percent versus 2.5 percent without AIDS.	Complex model of epidemiological and demographic processes. HIV prevalence shown to rise to 6 percent in 2005; life expectancy projected to be 8 years below no-AIDS scenario.
4. R.A. Bulatao (1989)	Projections for hypothetical country show population growth rate reduced from 3.0 to 2.4 percent in "high" variant.	Model similar to (3). Prepared for UN/WHO workshop on modeling demographic impact of AIDS.
5. R.A. Bulatao (1990)	Projections for Tanzania show that in "high" variant population growth rate in 2015 would be 2.55 instead of 2.9 percent without AIDS.	Model similar to (3). HIV prevalence shown to rise to 30 percent by 2015; life expectancy projected to be 10 years lower and IMR 40 percent higher than in projection without AIDS.
6. R.A. Bulatao (1990)	Projections for Malawi show that in "high" variant, population growth rate in 2015 would be 2.2 instead of 3.2 percent without AIDS. In "extreme scenario" population growth would be reduced to 0.8 percent, but would remain positive throughout the projection period.	Model similar to (3). "Extreme scenario" assumes adult seroprevalence of 60 percent by 2015.
7. P.O. Way & K. Stanecki (1991)	Population growth in hypothetical, representative African country in 2015 reduced from 2.2 percent without AIDS to 1.8 percent.	Used IWG AIDS model. Shows prevalence increasing from 1 percent in 1990 to 8 percent in 2015 overall, and from 4 to 16 percent in urban areas.
8. E. Bos and J. Armstrong (1991)	Projections for Uganda show population growth rate by 2010 reduced from 3.5 in no-AIDS scenario to 3.0 percent in "high" AIDS scenario.	Model similar to (3).

10. The main objective of government population policies in Africa of concern to the Bank is to slow rapid population growth rates in order to improve the quality of life of individual human beings. This goal remains valid, and government interventions to achieve it will continue to be needed despite AIDS. The AIDS epidemic will directly lower the quality of life for those infected as well as for survivors. This will make the goal of lower mortality and lower fertility even more remote. This means that renewed efforts must be launched to lower infant and child mortality and to provide couples with the means to control their fertility if they choose to do so.

11. Because of the interactions between AIDS and basic demographic variables, population policies will need to address AIDS and other sexually transmitted diseases. Bank staff will need to modulate their approach and suggestions on AIDS and population issues according to the prevalence of HIV and STDs. In countries with high HIV seroprevalence, population policies should draw attention to the potential for future spread of HIV and promote the development of STD prevention and control programs. In countries with low levels of HIV and unknown levels of STDs, population policies should encourage the early determination of STD prevalence and the establishment as appropriate, of STD prevention and control programs. As HIV levels rise, policies to mitigate the impact of AIDS on survivors may be needed as part of population policies.

C. AIDS and Family Planning Programs: Recommendations

12. Countries with a well-developed network of family planning services have an important asset in the fight against AIDS, to launch effective measures to educate clients about AIDS and safe sex, prevent AIDS transmission through the distribution of condoms and information, treat sexually transmitted diseases and give pre- and post-natal AIDS counselling. To the extent feasible, the scope of family planning services should be expanded in all countries, regardless of the level of HIV infection, to include AIDS prevention and counselling, and the treatment of STDs.

13. Adaptations of family planning programs to the increased priority assigned to STD control and prevention could include the following:

- First, service providers should check their clients for STDs and treat them. In many settings, clients have asymptomatic STDs. STDs increase many times the risk of HIV transmission. Very few family planning clinics routinely screen clients and treat STDs. This intervention might represent the single most cost-effective intervention for preventing HIV transmission in family planning clients.

- Second, service providers should talk about sex. Clients, including married individuals, should be routinely asked about number of partners (and frequency of intercourse). Clients with multiple, changing partners should be counselled about AIDS, and provided with condoms in sufficient quantities along with whatever family planning contraceptive is supplied. Clients should be trained on how to use condoms. Specifically, women should be taught how to apply condoms to partners, thereby achieving more control over their own protection.

- Fourth, family planning clinics should be equipped to counsel infected women about further contraception. Service providers should stick to the facts, i.e., the probability for an HIV-infected mother to pass the infection to her newborn is 30-50%. It increases as the immune system weakens and the women develop AIDS. The probability for an HIV-infected newborn to die before the age of one is 50%. It is 100% before the age of five. Family planning providers should respect counsellors' values. An HIV-

infected woman might decide to conceive in the hope of giving life to a healthy child before her own death.

- Fifth, family planning programs will need additional financial and other resources to deal with AIDS epidemic without putting their original objective into jeopardy. National family planning programs will need to train service providers to deal with STDs. They will need to increase condom supplies substantially. Financial and human resource requirements are thus likely to rise substantially.

AIDSPAPER\annex1
April 11, 1991
AEElmendorf

OFFICE MEMORANDUM

DATE: November 30, 1990

TO: Participants in World Bank Seminar on AIDS and Population Policy in Africa

FROM: Ishrat Z. Husain, Chief, AFTPN

EXTENSION: 34091

SUBJECT: Summary Observations at AIDS and Population Policy Seminar

1. The August 1990 Seminar on AIDS and Population Policy was organized by the Africa Technical Department, Population, Health and Nutrition Division, in collaboration with the Population and Human Resources Department of the World Bank. Attending were 20 Bank staff plus experts from the U.S. Bureau of the Census, the World Health Organization's Global Programme on AIDS, the U.N. Population Fund, the International Planned Parenthood Federation, Family Health International, and the University of Pennsylvania. (See Annex 1 for a list of participants.)

2. I wish to share this report with summary observations from the seminar. It does not recap seminar proceedings, but rather highlights major conclusions, comments, and insights offered. It ends with a section listing items for action.

SEMINAR OBJECTIVES AND CONCLUSIONS

3. Objective. The seminar was expected to review the status and impact of and outlook for the AIDS epidemic in Africa, discuss its implications for population and family planning, and formulate alternative recommendations for responsive national and Bank policies in population and family planning.

4. This was an ambitious objective for a one-day meeting, but thanks to each of you, it was addressed thoughtfully and, given the obvious time constraint, I believe successfully. Demographic, health and economic considerations were covered. Implications for information, education, and communication (IEC) activities, however, were not dealt with as thoroughly due to time limitations.

5. Conclusions. Randy Bulatao's summary at the concluding plenary session stressed that the principal issues were two: (a) whether, in the face of the HIV/AIDS epidemic, demographic goals in population and family planning programs continued to be relevant; and (b) whether there was a continuing need for family planning as a service.

6. The following conclusions, representing a consensus of participants' views, were presented:

(a) Previously established demographic goals for slowing rates of population growth remain valid; the importance of reducing high fertility for both health and development reasons remains unchanged.

Consider the following a worst case scenario based on the work of John Bongaarts of the Population Council[1]: In a region or country where as many as 20-22 percent of all adults were infected with HIV, the crude death rate would increase by 10, from a present average of about 17/1000 to 27/1000. With a crude birth rate on the order of 47/1000, such an increase would cause a reduction in the annual population growth rate of about one percent. Continent-wide, in Sub-Saharan Africa, the estimated HIV seroprevalence of HIV is 1 in 40 adults infected, not the 1 in 5 of this worst-case scenario, and no country has reached a 20 percent HIV prevalence.[2] Thus it is virtually inconceivable that AIDS could "take care of" rapid population growth, and commentators and analysts must be extremely careful to distinguish among the impact of AIDS on a continent-wide, country-wide, and local basis.

(b) No change was indicated in the rationale for family planning services. It was pointed out that the majority of reproductive age men and women in Africa were uninfected by HIV and, moreover, were thought likely to remain uninfected. This majority still needs access to safe, effective, and affordable contraception and related reproductive health services.

(c) What changes in family planning programs, then, were needed? The following were mentioned:

(i) Population and family planning policies and programs need to take the HIV/AIDS epidemic into account. A key reason for this is that often the same staff are responsible for both providing family planning and AIDS prevention and counseling services.

(ii) Family planning programs are well-positioned to contribute to AIDS risk assessment, referral, and counseling.

(iii) Clinic and health center staff required greater protection against accidental infection. Instruction on infection control and a continuous supply of gloves were keys.

(iv) Counseling needed strengthening -- for HIV positive individuals, couples, and for those not infected. Education and counseling aimed at adolescents were deemed highly important.

(v) IEC programs in family planning required some modification to take account of concerns about HIV/AIDS. Obviously, in high HIV prevalence areas messages need to be specially tailored to the target audience. (Note: this issue was not elaborated upon, mostly due to time constraints.)

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[1] It was noted that these projections are generally consistent with those of the US Interagency Working Group (IWG) model presented at the seminar by Peter Way.

[2] Certain urban areas including Kigali, Rwanda and Kampala, Uganda, however, do report HIV prevalence levels above 20 percent among adults. This is also the case in selected rural areas of northwest Tanzania and Uganda.

(vi) Family planning program resources in many African countries were already overextended, particularly if they simultaneously were being asked to deal with HIV/AIDS. More resources are needed if they are to do both tasks well.

DATA HIGHLIGHTS FROM THE SEMINAR[3]

7. Seminar participants were provided a rich overview of the status and quality of data on HIV/AIDS by Barbara Torrey and Peter Way (U.S. Census Bureau), James Chin (WHO/GPA), Mead Over (World Bank), and Etienne van de Walle (University of Pennsylvania).

8. Comments about the data situation included:

(a) HIV prevalence estimates have been revised by WHO/GPA as follows:

	1986-87	1989-90
World	5-10 mil	8-10 mil
Africa	2.5 mil	5.0 mil
U.S.	1-1.5 mil	1-1.5 mil

(b) In Africa, among adults, 1 of 40 is HIV+ (Chin); in Kigali, 30% of adult females are HIV+. (Torrey)

(c) Although the epidemic is relatively new, the virus is not. Serum saved in the 1970's in rural Zaire was found to be positive for HIV-1, and serum collected in 1966 in the Ivory Coast was HIV-2 positive. (In St. Louis in the U.S., serum saved from a young male prostitute in 1969 was subsequently found to be HIV-1 positive.)

(d) An estimated 1/4 million in India are HIV positive. (Chin) This demonstrates how the epidemic can break out in areas that earlier were considered relatively untouched, and illustrates the difficulty of accurately predicting the epidemic's future course.

(e) Of the estimated 5.0 mil infected with HIV in Africa, approximately 2-3 million also have tuberculosis, adding additional strain on already weak health systems. (Chin)

(f) By 1992, 1.2 million adult AIDS cases are projected in Africa and 0.6 mil pediatric AIDS cases are projected. (Chin)

(g) According to Chin, child mortality due to AIDS in a few years will exceed mortality due to diarrhea, measles, and malaria. (Today, AIDS

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[3] These data highlights are but a small extract from a large literature on AIDS.

was reported to be the fourth leading cause of infant and child mortality in Africa.)

(h) Evidence of some "plateauing" prevalence of HIV has been discovered. In some urban areas, the population at highest risk may already be mostly infected, e.g. among the 30-35 year age group in Kigali, 45 percent are HIV+. (Chin).

(i) Higher socioeconomic status correlates with higher HIV prevalence rates according to three studies conducted in Zaire, Zambia, and Rwanda. (Mead Over). To the extent that this finding is repeated elsewhere and better trained, more entrepreneurial, more highly productive, groups are infected and eventually die, this will negatively affect development prospects even further.

USEFUL INSIGHTS

9. A number of comments in the plenary and other sessions are noted below as "useful insights".

10. Barbara Torrey and Peter Way of the Center for International Research of the US Bureau of the Census summarized findings in their May 1990 analysis of HIV seroprevalence in Africa:

(a) "High-risk" or "core transmitter" groups in Africa consist of bar girls, truck drivers, and men who frequent prostitutes and prostitutes. Infection is not only spreading along truck routes and rivers as originally suspected, but among linguistic groups as well. Obviously, the disease does not respect national boundaries.

(b) Small samples tend to overestimate HIV prevalence. This reminds us of the need to be cautious in interpreting results from small-scale surveys.

(c) Females may be more at risk of contracting HIV because they tend to have higher levels and less visible and consequently untreated STD infections than men. They may be thus less aware of their STD status than males. In brief, a woman may have an STD which could act as a co-factor in becoming infected with HIV and not know it.

(d) In community studies (total of 2,371 respondents) in Gabon, Central African Republic, and Equatorial Guinea, female seroprevalence was twice male seroprevalence.

(e) The high-risk groups in both urban and rural areas are, at best, a small fraction of the total national population. If the HIV virus could be confined to them, the epidemic could be quite quickly contained. But if sexual contact between high and low risk groups is common, the low risk groups are vulnerable, and the national epidemic will take on much larger dimensions. Thus, addition to prevalence of other STDs, HIV seroprevalence in low risk populations is the important indicator of the future magnitude of the AIDS epidemic.

(f) The number and quality of HIV surveys are increasing. However, more detailed information by specific subgroups is still needed.

11. Male to female transmission of HIV may be more efficient (than female to male) because the virus is in blood cells and in cells of male semen. (Chin)

12. Studies following gay men in San Francisco show that 50% progress to AIDS within 10 years of infection. The progression rate with younger people may be slower, however, which suggests that the progression rate in Africa may be slower than for gay men in San Francisco. (Chin)

13. WHO/GPA over the next year intends to introduce a model that will enable countries to project costs of HIV/AIDS including counseling, treatment, and hospitalization. (Chin)

14. Etienne van de Walle, in a paper commissioned for the seminar, observed that:

(a) Although the AIDS epidemic was a cause of "catastrophic mortality," he did not believe that population growth in Africa could be reduced to zero or negative levels because fertility rates were so high. At the same time, it was conceivable that some cities or regions might experience some depopulation, but migration would compensate for these effects.

(b) The AIDS epidemic might lead to younger marriages as couples seek out "safe" partners.

(c) Parents might exert a stronger role in selecting mates for their marriageable children. In attempting to protect their daughters, they may also prevent young women from seeking additional education and entering the work force.

(d) At the microeconomic level, arguments in favor of birth spacing and limiting by parents are unlikely to be affected by the existence of AIDS.

(e) Should family planning programs be involved with AIDS IEC, condom distribution, etc.? Arguments can be advanced in either direction, e.g. it is cost effective to deliver the family planning message at the same time as the HIV prevention message in sex education classes and particularly to adolescents. At the same time, there is a concern that associating family planning activities with AIDS, which may be perceived negatively by the public, could jeopardize acceptance of family planning.

(f) It is important that family planning services do not become overwhelmed or crowded out by the all-consuming AIDS emergency.

(g) The 'solution' to AIDS is likely to be social and cultural, not mechanistic in nature (e.g. the massive adoption of condoms). Outsiders trying to help Africa have to accept the view that social adaptations will take place.

(h) Regarding national policies to control AIDS, more information and open discussion of the risks are needed; this may open up the information channels on birth control as well. The promotion of a national dialogue involving the media, the churches, women's organizations, and political and other leaders from all walks of life is an urgent task--it should eventually lead to national policies on the age of marriage, the protection of women, and sexual education.

(i) Family planning is compatible with social change in the right direction, but not necessarily an essential component of the adaptation to HIV.

15. Within IPPF's Western Hemisphere region programs, combining HIV/AIDS prevention activities, including condom distribution, with more traditional family planning work created no conflicts--and in fact, worked very well. (Laura Smit)

16. The HIV/AIDS epidemic had a "mostly negative" impact on family planning, according to Nancy Williamson:

(a) Pills and IUDs were discredited among potential target populations.

(b) Breast feeding was somewhat discredited.

(c) There was a negative impact upon family planning staff, who were concerned about becoming infected.[4]

17. The need to meet the demand for AIDS-related counselling was putting additional, unusual stress on family planning programs, and was a reason to increase the allocation of financial and human resources to family planning programs. (Nancy Williamson)

18. Nicholas Dodd of the U.N. Population Fund has been seconded to WHO/GPA for the past year to examine how family planning and HIV/AIDS prevention can work together. A manual with guidelines is forthcoming. (J. Chui, UNFPA)

19. While the main focus of concern about AIDS has tended to be on the health and medical consequences, its economic and longer term social consequences merit increasing attention from the international community. Countries need to address the inevitable drain on resources coming from the management of AIDS cases and to consider how they are going to cope with rising aggregate adult mortality and its related social problems, such as orphans. (Mead Over)

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[4] The reported concerns about pills, IUDs, and breast feeding are real, but also anecdotal and difficult to quantify. It will be important for IEC programs to convey accurate information about this and to combat unfounded rumors which otherwise would discourage use of these methods.

20. The need to help African countries establish clear priorities for health care resource allocation is evident. The political attention on AIDS should not lead supporters of African health development to lose sight of curable diseases and the longer term development of the health system. (Ismail Serageldin)

ACTION ITEMS/ISSUES

21. A number of items or issues mentioned during the discussions lend themselves to donor and possible Bank action.

(a) We must explain to policy makers in developing countries that "doomsday models" are based on unrealistic assumptions, and that there is virtually no risk of zero or negative population growth.

(b) We also need to explain that both demographic and health rationales for family planning continue to be valid despite the HIV/AIDS epidemic.

(c) Sex education efforts should be expanded and should freely and simultaneously refer to AIDS, reproduction, and contraception.

(d) Policy and communication messages should be tailored differently for our two prime audiences, i.e. the policy level of politicians plus planning, finance, and health ministers on the one hand, and clients or consumers plus providers of family planning services on the other.

(e) The "bulge" of young, uninfected people should be a major target for education. This focus on adolescents will produce the largest payoff in terms of prevention.

(f) To permit informed choice to work, we will need more and better testing facilities and counseling.

(g) Programmatically, there is an urgent need to support STD prevention and treatment. This remains an internationally neglected area that merits Bank and other donor support.

(h) It would be useful to have a model comparable to the "IWG" model but incorporating data from specific central African countries whose HIV prevalence rates are on the high side.[5]

Distribution: Seminar participants; GT6; AFTPN staff

IBRD8REV

[5] The Futures Group, in cooperation with Bank staff, are preparing an application of the IWG model for use in Uganda.

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GUIDELINES FOR AIDS/STD OVERVIEW PAPERS 1/

1. Data on situation and potential: What basic epidemiological data are available on AIDS and/or STDs? Are there significant geographical differences in the country in STD/AIDS prevalence? Is the AIDS/STD program backed by, and does it have suitable links to, a program of epidemiological, social/anthropological/behavioral, economic, and operations research, whether domestic or international, whether formally part of the AIDS program or located elsewhere in the health infrastructure of the country?

2. Resource allocation: What are the levels of, and procedures for allocation of resources to AIDS/STD prevention and control? Consider both public and private resources, with time series if possible, including financial and human resources, and pricing/cost recovery, to extent applicable, feasible. Consider domestic and external resources, and the roles of foreign governmental, inter-governmental and non-governmental organizations. Discussions with other donors, especially WHO, on current and pending support for AIDS/STD activities may be appropriate.

3. Resources planning and management: Provide overview of health services organization, especially for AIDS/STD control. Consider issues, if any, in and facilities management, balance between AIDS/STD and other health distortions attributable to reliance on external funding, STP/MTP status, managerial capacity, and process, including implementation/disbursement on schedule, likely long-term sustainability and period of assured/likely/needed donor support, to extent relevant.

4. Monitoring and evaluation: What monitoring and evaluation methods and data, including indicators by which those concerned expect to measure progress, are available/planned to support the AIDS/STD program?

5. Involvement of people and institutions: Given that AIDS affects or will affect the cultural, social, political and economic fabric of societies, are many different people, organizations, and perspectives, from the public and private sectors, including NGOs, representatives of high risk groups, and universities/research institutes, involved in planning and implementing AIDS/STD programs?

6. Priority determination: Are priorities for AIDS prevention and control, in relation to other health sector programs, based on current HIV seroprevalence, current AIDS cases, STD data, or other explicit or implicit criteria? Are STD control activities given attention as a device to reduce HIV transmission?

7. Health behavior: What behavior(s) are characteristic of individuals with sexually transmitted diseases? What patterns, if any, can be found in their health-seeking behavior? What examples, if any, can be found of change

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1/ Prepared by AFTPN and the EEC AIDS Task Force as a tool to assist operating staff to prepare brief AIDS overview papers as part of regular PHN sector and project work.

in sexual behavior under the threat of STDs/AIDS and/or as a consequence of AIDS IEC programs?

8. Curing, caring and coping: What guidelines, practices and attitudes exist among health care personnel and organizations, and patterns and their families, for managing patients with AIDS, clinically or otherwise, and for counselling of HIV-seropositive individuals, with patients with AIDS, and their families?

9. Blood screening and transfusions: Are criteria and systems established/being established for use of transfusions and screening of blood, at various levels of the health care system? Has the level of seropositivity, and cost of screening relative to other interventions, been taken into account in determining blood screening and transfusion policies?

10. Openness: Is the problem of STDs/AIDS being addressed openly, with innovative approaches, in the society and among social institutions, with full awareness of the challenges it presents to social values and institutions? Is there a national consensus on policies and programs?

TECHNICAL ANNEX

AIDS and Other Sexually Transmitted Diseases

1. It is difficult to assess the precise extent of the AIDS epidemic in a country. However, on the basis of projections from seroprevalence data or in other ways, governments are consciously or unconsciously determining priorities for AIDS prevention and control programs. Information on the number of people infected with human immunodeficiency virus (HIV) incorrectly estimates, usually significantly, the number and impact of future AIDS patients unless more in known about the potential spread and rate of transmission of HIV. Information on sexually transmitted diseases (STDs) can be used as a general estimator for future HIV seropositivity; if HIV seroprevalence is the same in two areas but the prevalence of STDs is significantly higher in one, that area should be the focus of AIDS prevention and control programs. Knowledge of HIV transmission can be obtained from prospective and cohort studies. They are likely to take much time and financial/human resources, and studies of existing "convenience samples" should proceed in parallel with more rigorous prospective studies of scientifically designed samples of key population groups.

2. In the absence of other studies, more easily available current information on STDs should be exploited. STDs are correlated with having large numbers of changing, casual sexual partners. They are also, in their own right, a risk factor for HIV infection, facilitating transmission of the virus. Hence countries with a high prevalence (proportion of a population ill at a given time) or incidence (number of new cases per number of people per unit of time) of STDs are, relative to others, more likely also to develop high rates of HIV infection and AIDS.

3. In some countries special STD clinics exist; in others STD control may be part of primary health care programs. Generally, around 10% of the daily

workload of PHC workers is related to STDs and their complications. It is usually appropriate to integrate STD/AIDS control activities within the PHC framework; however, PHC personnel cannot be expected to add new programs without corresponding increases in resources -- an idea that may seem so obvious to the outsider that it is hardly worth mentioning but which seems to be a frequent occurrence with PHC programs. Creation of a center of technical excellence, within the Ministry of Health or in a special institute associated with a medical school may frequently be appropriate, for technical aspects of STD/AIDS control, including appropriate training and medical evaluation of control programs.

4. Useful specific indicators on which information may be available include: (a) number/proportion of women with positive syphilis serology; (b) number/proportion of pregnant women with syphilis -- information that is often available as a result of prenatal screening as part of MCH programs; (c) data along the lines of (a) or (b), or similar indicators for men, coming from STD clinics or university researchers; (d) data on numbers/proportions of pregnancies with complications deriving from STDs, ectopic pregnancies (pregnancies outside the womb), visitors to gynecology clinics of other facilities for suspended infertility, especially secondary infertility (women who have had one or more children and wish to but are unable to conceive); and (e) incidence of congenital syphilis or percent of children developing neonatal conjunctivitis in their first month of life.

Behavioral Change

5. Various groups are recognized as having a relatively larger number of sexual partners than others, and therefore being at greater risk of STDs/AIDS. These include prostitutes -- both regular and casual ones -- as well as truck drivers, migrant laborers, young adults, and selected subcultures. Interventions to achieve risk-reducing behavior among these groups include direct promotion of fewer sexual partners, early treatment of genital ulcers and other STDs, and promoting consistent use of condoms in all sexual encounters. Prostitution frequently is stimulated by economic decline. The first policy question facing the government is likely to be whether it is willing to take cognizance of what are often a series of under-classes, the very existence of which is frequently denied.

6. Indicators that might be examined include: (a) attitudes towards and legal status of prostitution; (b) availability, use, cost and acceptability of condoms, by population group, including especially high risk populations; (c) early treatment of STDs, especially among prostitutes and their customers; (d) data, preferably time series, on the number of prostitutes; (e) data on teenage pregnancies and efforts to reduce them; (f) status/availability of family life/sex education programs in schools and other environments; (g) availability/use of contraception, especially for and among sexually active adolescents and young adults; and (h) programs to promote, and trend data on, condom use, availability, and prices.

Curing, Caring, and Coping: Issue in Patient Management

7. The rising demands being placed by AIDS on already overburdened human and financial resources and health care facilities in African countries risk

leading to a breakdown of what remains of the existing health care services. There is serious danger that the demands of rising numbers of AIDS patients will divert resources from their cost-effective application to the prevention and treatment of other diseases. Health care systems are likely to experience further stress as additional AIDS patients seek treatment for opportunistic infections -- those diseases that afflict the HIV carrier as his/her immune system gradually deteriorates under the stress of HIV. Such infections, for instance tuberculosis, are more resistant to treatment in AIDS patients than among others, and thus require higher levels of drug use.

8. AIDS prevention and control strategies which ignore treatment of opportunistic infections, and the problems of caring and of coping by the AIDS patient himself and those with whom he is close are very likely to fail. This will occur because of the underlying dynamics of the prevention strategies: they are based on behavioral change in an atmosphere of trust in the change agent, and failure to provide AIDS control programs for the treatment of opportunistic infections and for counselling support to those affected risks only generate mistrust in those endeavoring to effect behavior change.

9. Issues that merit consideration include the following: (a) are strategies and guidelines complete or in preparation for determining by health care facilities, by level, and whether and, if so, what type of medical treatment, and personal care and counselling should be provided, and for whom; (b) are there guidelines for the allocation of resource "packages" for types of AIDS treatment facilities at various health facility levels; (c) do treatment protocols exist setting forth simple decision trees for use by various types of health care personnel and facility levels in treating AIDS patients, and are the personnel concerned trained in their use; (these are extraordinarily difficult questions, and have hardly received full answers in the industrial countries; complete answers will not be possible for the foreseeable future in African countries, but at least the issues merit being placed on the agenda of policy makers; (d) are counselling and care activities home-based, hospital-based or community-based; is there any conscious planning for them, including stress on non-hospital settings and involvement of NGOs and others in a position to provide support; and (e) are there arrangements to provide psychosocial support to the care-givers, whose emotional and coping resources are likely to be stretched to the limit by AIDS?

Monitoring and Evaluation of AIDS programs

10. Even before any AIDS prevention and control program becomes operational it is appropriate to take decisions on monitoring and evaluation: what indicators will be monitored by whom, at what level(s) of the health care system, at what frequency, reported to whom and for what decisions? In the early stages of program execution, monitoring should focus on program inputs; subsequently, attention should be given to outputs, such as IEC programs and condom distribution; as the program matures attention should be devoted to behavior change, STD status, HIV seroprevalence and health impact on specific target groups. Baseline data to serve as the point of comparison will be required on all chosen indicators before or at the time of program inception, if monitoring and evaluation are to be meaningful. Some potential indicators are suggested in previous material in this paper. Behavior change can best be monitored through carefully constructed and supervised interviews, through

focus groups, and through sample surveys of knowledge, attitude and practice (KAP); KAP surveys are likely to be quite expensive and time-consuming. Indicators that are specified in or implicit in the country's medium term AIDS prevention and control program merit close attention.

Blood Screening and Transfusions

11. Even before the arrival of the AIDS pandemic, countries differed considerably in their ability to establish and sustain blood transfusion services. With AIDS, minimum quality control and screening requirements have been set internationally for screening and use of blood in treatment of infectious diseases. In view of the urgency of the issue, countries have occasionally established HIV screening and blood transfusion centers without clear blood policies, definition and organizational and other responsibilities, and analysis of cost and sustainability. Support from WHO in these areas is available through the organization's Global Blood Safety Initiative (GBSI).

12. Questions that might be raised in connection with Bank overviews include: (a) Is there a national blood policy aimed at reducing the frequency and amount of unnecessary blood transfusions, with rules governing collection, storage, processing and use of blood? Are there any data available that show trends in volume and frequency of transfusions? (b) Are minimum requirements for blood transfusion services, including ability to determine blood type, met in practice at all levels of the service? (c) Is HIV testing capacity available, as well as testing for syphilis, hepatitis and other diseases? Is there an audit system that provides occasional spot checks of actual practice? (d) Have financial and other requirements of blood policies been analyzed, and has cost recovery been considered, bearing in mind that, among AIDS interventions, support for screening of transfusions has the character of a private good for which cost recovery is appropriate?