

Monitoring and Evaluation of National HIV/AIDS/STD program in Tanzania:

A case study

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Summary

The Tanzanian HIV/AIDS epidemic has spread to all the 20 regions of mainland Tanzania, and to a lesser extent to the 5 regions of the islands of Zanzibar. The epidemic has now become generalized but there are large differences in its spread between regions. The main mode of transmission is heterosexual contributing about 80% of all transmissions. Monitoring and evaluation of the epidemic has made use of results of population based prevalence and incidence surveys, sentinel surveillance, and cumulative number of AIDS cases. According to NACP reports the cumulative total number of AIDS cases is around 520,000 cases and the number of HIV infected individuals is about 1.5 million countrywide. Only Kagera region has shown some signs of HIV decline, the others it is still escalating.

The initial institutional response was to establish a national AIDS Task Force in 1985, followed by establishment of the National AIDS Control Program (NACP) in 1988. The main intervention strategy was promotion of safer sex behaviors to general population, youth and mobile populations along high transmission areas. Massive information, communication and education (IEC) campaigns were carried out, together with condom promotion and distribution throughout the country. In recent years more innovative approaches including peer health education, school based female guardian program and curriculum based family life education have been introduced in selected regions. In between blood safety measures, STD control and health worker training have been instituted.

Technical guidance was provided by the United Nations through GPA (effective from 1986 to 1995) and UNAIDS special programs from 1996 to date. Under UNAIDS six UN agencies namely, UNICEF, UNDP, UNESCO, UNFPA, WHO and the World Bank have come to provide their collective experience to member countries as a response to the HIV/AIDS epidemic. In Tanzania, a UN Theme Group consisting of these agencies was formed in late 1995 and it co-opted the Government of Tanzania as a member.

Political commitment was shown in phases; during the years of a single ruling party, AIDS was a key issue on their agenda. But as multiparty democracy was introduced the degree of commitment was lessened. Although Tanzania is proud of being politically stable, it is also confronted with poverty; indeed it is the third poorest countries in the world. The World Bank estimates its per capita Gross Domestic Product (GDP) to be around US \$120 per year and inflation rate is 25.7%. Life expectancy is around 50 years, infant mortality rate is 88 per 1000 live births, under-five mortality 137 per 1000 children and maternal mortality rate is estimated to be 529 per 100,000 live births. Per capita health expenditure is less than 4 US Dollars.

The major events since the AIDS epidemic started was establishment of a short-term plan (STP) in 1985-86 followed by three Medium Term Plans, each lasting for a period of five years. Multisectoral approach initiated under MTP-II has been introduced but to minimal success because AIDS is still being viewed a health issue. Because efforts by NACP were less successful to prevent further spread of HIV by reducing high risk sexual behavior and promote condom use, during the last five years, efforts have been made to promote safer sexual practices and expand condom use by involving non-government organizations and the private sector. With support of USAID, a five year Tanzania AIDS Project (TAP) was initiated in June 1993 to build the capacity

of indigenous NGOs so as to promote HIV/AIDS preventive activities and support families with HIV infected members and AIDS patients. Through this project, a bilateral grant of 20 million US dollars was availed to strengthen the capacity of NACP in coordinating AIDS control activities in the country and improve condom distribution system. Applying condom social marketing strategy, approximately 20 million condoms were sold in Tanzania during the first three years of initiation of TAP.

A total of 23 facilities in 11 regions providing STD treatment received drugs and other supplies from NACP following financial support from the European Union. Some health staff were also trained on STD activities by NGOs including the Tanzania AIDS Project (TAP), African Medical and Research Foundation (AMREF) and GTZ.

Although there are 10 priority prevention indicators (PPIs) that were identified and developed by GPA, it has been difficult to conduct baseline surveys for these indicators. Only two surveys were conducted to assess PPI 1, 2 and 6. The others were not carried out. Even where results were available e.g. for PPI 6, no follow-up was made because this would have required resources to train all clinical personnel at all levels. The capacity to address this problem was beyond the financial resources available to the NACP in Tanzania. One of the strengths of NACP is the ability to continuously manage to produce NACP Epidemiological reports. The second one is the ability to make use of research findings in developing policy guidelines e.g. HIV tests for screening, syndromic management of STDs, blood transfusion, and also to use the results in developing medium term plan. Their weakest point on the program are on failure to track their financial resources program and a high turn over of staff that has made the program fail to keep track and maintain continuity in M& E of its activities more markedly during the last 5 years.

Introduction

The Tanzanian HIV/AIDS epidemic started in 1983 with 3 clinically diagnosed cases in Bukoba district hospital in Kagera Region, along the western shores of Lake Victoria. Since then the epidemic has expanded to all the 20 regions of mainland Tanzania, and to a lesser extent to the 5 regions of the islands of Zanzibar. Although there are large differences in its spread between regions, the Tanzanian HIV/AIDS epidemic has now become generalized. The main mode of transmission is heterosexual, contributing to about 80% of all transmissions. However, at the early stages of the epidemic, before blood safety measures were introduced, transmission through blood transfusion might have had a significant contribution. Given the high fertility rate, high seroprevalence in the general population, and the high prevalence of breast feeding, mother to child transmission is also considered to be a significant contributor to the spread of the epidemic. The main intervention strategy was promotion of safer sex behaviors to the general population, youth and mobile populations along high transmission areas.

The general picture of the epidemic is based on information gathered from population based prevalence and incidence surveys, sentinel surveillance, and the cumulative number of AIDS cases. The increase in cumulative number of AIDS cases does not provide a full picture of the epidemic per se because of problems of under-reporting and lack of quality assurance. Table 1 shows a comparison of the cumulative number of AIDS cases per 100,000 between the period 1983-1990 and 1991-1997, indicating a five-fold increase. Although by the end of December 1997, the cumulative total number of AIDS Cases had reached 103,185 cases, the National AIDS Control Program (NACP) estimates that the cumulative total number of AIDS cases is around 520,000 cases and that the number of HIV infected individuals is about 1.5 million countrywide.

Table 1. Cumulative AIDS Cases per 100,000 Population, Tanzania 1983-1997

Year	Cases per 100,000
1983-90	72
1991	95
1992	171
1993	163
1994	199
1995	296
1996	314
1997	355

Source: NACP Epidemiological Reports No. 1-12; 1989-1997.

The initial institutional response was to establish a national AIDS Task Force in 1985, whose aim was to develop strategies to respond to the epidemic. This was then followed by launching of a full-fledged National AIDS Control Program (NACP) in 1988. The aim of the program was to institute measures to ensure blood safety, behavior change communication, and to identify coping strategies to reduce the socio-economic impact of the epidemic and care for AIDS patients.

The main intervention strategy was promotion of safer sex behaviors to general population, youth and mobile populations along high transmission areas. Implementation was done through massive information, communication and education (IEC) campaigns, and condom promotion and distribution throughout the country. In recent years more innovative approaches including peer health education, a school-based female guardian program, and curriculum-based family life education have been introduced in selected regions. For example, in Mwanza, the Guardian program was developed and tested by the TANESA project, and it was found to be very successful in bringing behavior change and reduction of teenage pregnancies among youth in and out of school. In Mbeya, GTZ conducted a school based program using teachers. This program was also successful in creating awareness and imparting negotiation skills on reproductive health issues. Along with the above IEC activities, other interventions including blood safety measures, early detection and treatment of STDS, condom distribution, and training of health care providers on issues of AIDS were also introduced.

Political commitment to curb HIV/ AIDS

Political commitment has varied with time. In the initial phase of the epidemic, the ruling party, "Chama cha Mapinduzi" (CCM), was heavily involved in community mobilization, using its party machinery at all levels. The AIDS epidemic was a permanent item on the agenda at all party meetings. The Social Services Secretariat took a leading role and sent party cadres all over the country to mobilize the masses on the AIDS issue. NACP organized several sensitization sessions with members of Parliament and the Party National Executive Committee.

With introduction of multipartyism, the political commitment on HIV/AIDS has lost prominence since early 1990s. This was mainly because the one-party ideology was more centered on people's well being instead of focusing on market forces as propounded by multiparty democracy. Furthermore, during this phase, the epidemic was still being viewed as a health sector issue instead of being a multisectoral development issue. As a result of this, most of the interventions were organized and implemented by the health sector. There were some efforts to raise the level of

NACP to a directorate within the Ministry. In addition, a decision had been made to elevate coordination of HIV/AIDS activities through the Prime Ministers Office, but its implementation did not materialize. Again the main reason for this failure was due to perception of the AIDS problem being a health issue.

Both recurrent and capital expenditure on health has varied from 4.5% to 8% over a period of 20 years or more, and the per capita health expenditure has remained less than 4 Dollars per annum. As a result of health not being given priority in allocation of the Government's budget AIDS could not receive a significant share of the recurrent expenditure from the Government. Who was there to make noise for the AIDS problem, when we all know doctors are not good at politics? This made it very difficult to implement AIDS prevention and control activities especially at the peripheral level. The few activities that were implemented, were supported almost exclusively with donors' funds. There was no equity in distribution of funds throughout the country. Some areas, for instance Kagera Region, were more inclined to receive the lion's share, and the Ministry had no control over it, despite being aware of this awkward situation. Additional funds were mainly brought in to the country by Non-Governmental Organization (NGOs) and a few bilateral and multilateral donor agencies who, on arrival, will have already decided where they wanted to go.

Although attempts have been made to involve the Prime Minister's Office in the coordination of AIDS prevention activities by having his office chair the National AIDS Committee (NAC), this committee has not been meeting regularly. Ideally, they are supposed to meet quarterly. In the last 4 years they met 4 times instead of 16 times. Efforts are under way to review the composition of the NAC in order to make it become more operational.

Context of the Program

Analysis of the main events since Tanzania's independence in 1961

Tanzania has been a strong advocate for peace and unity and has remained very politically stable. It has shouldered an influx of approximately one million refugees from Rwanda, Burundi and Zaire to the Kigoma, Kagera, Tabora and Mwanza regions around 1993/94. Undoubtedly, some of the refugees were infected with HIV given the previously reported high HIV seroprevalence figures from those countries.

Tanzania's population has been increasing exponentially, and the projected total population is estimated to be approximately 30 million persons in 1998. The country is surrounded by a wealth of natural resources and yet it is one of the poorest countries in the world. The World Bank estimates its per capita Gross Domestic Product (GDP) to be around US \$120 per year and inflation rate is 25.7%. According to the 1996 Tanzania Demographic and Health Survey (TDHS 1996), life expectancy is around 50 years, infant mortality rate is 88 per 1000 live births, under-five mortality 137 per 1000 children, and maternal mortality rate is estimated to be 529 per 100,000 live births. A modest decline in total fertility rate has been observed from 6.3 in the 1991/92 TDHS to 5.8 children per average Tanzanian woman of child bearing age 15-49 years. Population growth rate is estimated to be 2.8% per annum and economic growth rate during the period 1993-1995 was 3.8%, and in 1996 it was 5%.

The country's economy is dependent on agriculture, contributing 50% of its GDP and bringing in about 70% of its foreign earnings as well as engaging 80% of the labor force. Although, the Government's policy advocates for improvement in coverage and equity of access to basic human needs through its policy primary health care, quality assurance in delivery of services has been a major factor because of meager resources. Its per capita health expenditure is less than 4 US dollars, while in other countries of sub-Saharan Africa it is 11 US Dollars. Over 60% of the

development expenditure is from donor support. About 73% of the Tanzanian population lives within 5 km distance from a health facility, and nearly 90% live within 10 km from a health facility. The Tanzanian health policy is incongruent with the renewed policy of Health for All by the 21st century, using primary health care strategy. About 5% of patients admitted in various district, regional, and consultant hospitals are suffering from HIV/AIDS related illnesses.

The major events since the AIDS epidemic started was the establishment of a short-term plan (STP) in 1985-86, followed by three medium-term Plans, each lasting for a period of five years. The aim of the STP was to mobilize the health sector through training of health workers and establishment of blood safety measures. The MTP-I was started in 1987, MTP-II in 1992, and MTP-III in 1998. MTP-I strengthened the activities that were started under the STP as well as IEC campaigns to create awareness about HIV/AIDS epidemic. In order to reach rural communities as soon as possible MTP-I tried to decentralize its activities to the districts. Financial support for MTP-I was made available from the WHO Global Program on AIDS (GPA).

Having realized that HIV/AIDS was not a problem affecting the health sector alone, the response was that MTP-II 1992-1995 adopted a multisectoral approach aiming at mobilizing non-health sectors to get involved in AIDS prevention and control. Involvement of the non-health sectors was supposed to be on the basis of the comparative of each sector. MTP-II also tried to strengthen decentralization that was already started in MTP-I. Regional and District AIDS Control Coordinators (RACC & DACC) were created, and other resources were also decentralized. For example, funds for implementing World AIDS activities were decentralized.

The multisectoral response initiated under MTP-II was not very effective in arresting the spread of HIV/AIDS in Tanzania. NACP efforts of reducing high risk sexual behavior and promoting condom use were less successful in preventing further spread of HIV. The response was that during the last five years, efforts were made to promote safer sexual practices and expand condom use by involving non-government organizations and the private sector. In June 1993, with support of USAID, a five year Tanzania AIDS Project (TAP) was initiated to build the capacity of indigenous NGOs so as to promote HIV/AIDS preventive activities and support families with HIV infected members and AIDS patients. Through this project, a bilateral grant was availed to strengthen the capacity of NACP in coordinating AIDS control activities in the country and improve condom distribution system. Applying a condom social marketing strategy, approximately 20 million condoms were sold in Tanzania during the first three years of initiation of TAP.

In the same context, the main aim of the Tanzanian MTP-III was to create an expanded response that would involve not only the public sectors but also the private sector, NGOs, and people living with HIV/AIDS (PLWAs). All the way through, from STP to the three consecutive MTPs, technical guidance was provided by the United Nations through GPA (effective from 1986 to 1995) and UNAIDS special programs from 1996 to date. Under UNAIDS, six agencies, namely UNICEF, UNDP, UNESCO, UNFPA, WHO and the World Bank have come together to provide their collective experience to member countries as a response to the HIV/AIDS epidemic. In Tanzania, a UN Theme Group consisting of these agencies was formed in late 1995, and it co-opted the Government of Tanzania as a member.

All the three MTPs were reviewed in order to guide the development of future strategic plans in each phase. The first review was conducted in 1989. In response to this review, the NACP introduced the decentralization process. The final review of MTP-I in 1991 led to the multi-sectoral approach. This was operationalized in MTP-II (1992-1996). During MTP-II, two reviews were

conducted in 1995 and 1997. The two main findings of these reviews were problems of coordination and lack of high level political commitment in confronting the AIDS epidemic. The response is that MTP-III will devise strategies to overcome these two constraints. Already the UNAIDS Theme Group has held a meeting with the Prime Minister to discuss modalities to address these two issues. This meeting took place on October 30, 1998 and a follow-up meeting is scheduled to take place in four weeks' time.

In response to the multi-sectoral approach that was articulated in MTP-II, a number of multilateral and bilateral donor agencies pledged funds to support program activities. Although the total budget for implementing MTP-II was approximately 63 million US dollars, a total amount of 41 million US dollars was pledged. As MTP-II was being launched lack of human capacity was recognized as a major constraint for implementation and absorption of the resources that were being requested. In response, most of the 41 million US dollars that were pledged for MTP-II were managed directly by various donors without going through the NACP Secretariat.

In June 1990, a protocol for sentinel surveillance of HIV and screening for syphilis was also developed by NACP. The aims were first, to give a regular estimate of the level of HIV positive serology so as to detect changes in HIV prevalence among antenatal women in seven regions in Tanzania, and second, to provide a service for detecting and treating anaemia and early syphilis. Sentinel surveillance sites were established in Bukoba, Dar es Salaam, Dodoma, Kilimanjaro, Mbeya, Mwanza, and Mtwara. The sites in Kilimanjaro and Mtwara were in rural areas while the remainder were in urban areas. All pregnant women attending ANC for the first time were eligible for screening of HIV and syphilis. A minimum of 300 women per site were to be screened; 24 sites in 11 regions were expected to be involved but by 1996, only 8 sites were reporting information. Another response was that a total of 23 facilities in 11 regions providing STD treatment received drugs and other supplies from NACP following financial support from the European Union. Some health staff were also trained on STD activities by NGOs including the Tanzania AIDS Project (TAP), African Medical and Research Foundation (AMREF), and GTZ. Partner notification showed some success in most clinics. Also, syndromic treatment guidelines were in place, but MOH, GTZ and AMREF had their own individual guidelines. Health-seeking behavior to STD clinics was inadequate because of perceived stigma; as a result there was reluctance in some partners to bring their partners for treatment.

Condom use continued to be attacked by some religious leaders, arguing that "use of condoms is not the answer to the AIDS problem. One Roman Catholic religious leader from the Mbeya region (name withheld) told me during a 15 minute interview at his office that "People must learn to live in a clean manner. They must clean their environment and their soul. You see these days the environment in urban areas is very dirty because of people's pathetic behavior. That is why AIDS will kill many people", he continued.

Monitoring and Evaluation of Program Inputs and Outputs

Monitoring and Evaluation of Input to the Program

Surveillance of HIV infection among antenatal women began in 11 regions. The reporting was sustained for 5 years but after 1993, because of staff turnover and shortage in the Epidemiologic unit of NACP, reporting was less frequent (see Table 2). The net result is that only three regions (Mbeya, Mwanza, and Kagera) have had regular and continuous monitoring trend in HIV from 1988 to 1998. HIV seroprevalence in urban areas increased 7% to 28% in urban areas while in

rural areas it increased from nearly 2% to 33%. Caution has to be taken in interpreting these results because of small sample sizes in some areas and the problem of selection bias.

Table 2. HIV Sentinel surveillance among pregnant women attending in Antenatal clinics, Tanzania 1988-1996

Year	Urban		Rural	
	Number of sites reporting	HIV prevalence (%)	Number of sites reporting	HIV prevalence (%)
1988	5	7.0-11.0	4	1.7-4.2
1989	5	7.3-16.9	6	2.0-21.2
1990	3	12.2-22.2	5	2.4-14.6
1991	4	10.3-20.0	10	3.7-21.0
1992	6	10.3-27.7	16	3.5-30.4
1993	6	11.7-23.2	13	5.4-27.2
1994	6	11.7-19.6	6	5.1-27.5
1995	3	7.3-20.3	8	5.4-32.5
1996	1	18.7	7	5.5-23.1

Source: NACP Epidemiological reports No. 1-11; 1989-1996.

Donor resources

Information about the total financial and technical support for research or for monitoring and evaluation of the program is incomplete. Sometimes, even the funds that are committed for external evaluation of the program are not reflected in local budget items.

Donor support continued to be scrutinized ongoing and the activities that are carried out shows that only a few donors have been active in providing both technical and financial support to monitoring and evaluation.

Donor supported activities include:

The Royal Netherlands Government, supporting the development of innovative intervention strategies for TANESA project in Mwanza Region

The GTZ, which provides support for a comprehensive HIV/AIDS/STD program in the Mbeya Region

The Royal Norwegian Government, which provides support to MUTAN (Mradi wa Ukimwi Tanzania) in the areas of competency building, research, and intervention development in the Arusha and Kilimanjaro regions in Northern Tanzania

The European Union, which provides support to STD control in phases until the whole country is covered.

In terms of capacity building and research, SAREC has provided support for AIDS research in the Kagera region and Dar es Salaam since 1987. There is very large institutional support to Muhimbili University College of Health Sciences (MUCHS). A general observation is that some donors do not spell out the total sum of funds the program is supposed to get. Others do not release the funds to NACP Secretariat instead they manage them using their own expatriate staff. This makes it very difficult to make comprehensive reports of all funds allocated and disbursed by donors for program activities. Some of the donor support in research was heavily dependent on expatriate despite having local experts with comparative skills.

Availability of condoms

Prior to the launching of NACP in 1988, there were very few condoms that were imported to Tanzania for family planning and STD-control. For example in 1987, records show that approximately half a million condoms were imported. Thereafter, the number has increased exponentially. USAID, UNFPA, and the Royal Netherlands Government have been the primary donors of condoms in Tanzania. About 232 million condoms were received in Tanzania from 1989 to 1997, of which 192 million were handled by NACP, and another 40 million by the Tanzania AIDS Project's condom social marketing, a project that was introduced in 1994. On the whole, it appears the number of condoms received increased from approximately 13 million in 1989 to about 45 million in 1993. Thereafter it appears to have declined. The apparent decline is seen from 1994 to 1997 because a total of 40 million condoms that were distributed through condom social marketing (CSM) channel in the same period would off-set the decline.

Condom distribution

Nearly 90 million condoms were distributed to the 20 regions of mainland Tanzania between 1990 and 1995. Of the total number of condoms distributed, 18.6% were supplied in Dar es Salaam region, followed by 9.1% in Mbeya region, 7.7% in Mwanza region, 6.4% in Kagera region, and 5.2% in Shinyanga and Kilimanjaro regions. These figures do not necessarily portray the consumption patterns for those regions in which condoms were distributed. A push system of condom distribution was in place and the distribution might just reflect where the program perceived the highest demand on the basis of the prevailing epidemic. Kagera region has shown persistently low consumption rates for condoms because of strong religious influence in the region. Most of the health facilities are owned by the Roman Catholic church and they were facilitating distribution of condoms. At one time, two containers full of condoms remained at the Bukoba Regional hospital because there was no interest in distributing them to the periphery.

It is important to note that the final user of the distributed condoms is not known. However, our records show that a large proportion of condoms distributed were issued to the armed forces, training institutions, public houses, and the general population. Condoms were distributed to the regions by the District AIDS Control Coordinator (DACC). In many parts of the country, free condoms are available in guest houses and bars, and in many drug stores and pharmacies condoms for sale are available.

Table 3. Number of Condoms Received in Tanzania from 1989 - 1997 (Thousands)

Year	Number of Condoms (Thousands)
1989	12,624
1990	28,800
1991	29,976
1992	13,656
1993	44,784
1994 ¹	16,446
1995	12,261
1996	14,471
1997	19,327
Total	192,345

1. An additional cumulative total of 40 million condoms were distributed through the Condom social marketing (CSM) channel, a project that was introduced in 1994

Source: Ministry of Health, Dar es Salaam, Tanzania 1997.

A number of activities were carried also out with respect to STDS in 1993. The STD Unit within the NACP translated the WHO/GPA guidelines into country-specific and relevant STD treatment guidelines. Then an assessment of training needs of health workers in STD-control and AIDS was carried out in order to start planning for revision of curricula where required, and for continuing education programs. A review of curricula on STD/HIV/AIDS for allied health training institutions was also carried out by the STD Unit of NACP in collaboration with the Training Department (Curriculum Development section of the MOH). Two 5-day workshops were organized to review and develop course outlines for pre-service and in-service training schools for Public Health Nurses, State Registered Nurses, Clinical Officers, and Assistant Clinical Officers. Although a plan of action had been prepared since October 1986, it was in 1995 that a national STD control program was established countrywide. The STD program, aiming at reducing the sexually transmitted HIV by controlling STDS, benefitted from support of the European Union. In 1995, voluntary counseling and testing center were also introduced, and now there are 59 such centers.

Monitoring and Evaluation of Program Outputs

Guidelines for blood transfusion developed by TANESA in Mwanza were adopted by NACP for use country-wide. The aim was to avoid unnecessary blood transfusion because between 23% and 39% of blood transfusions in eight hospitals of Mwanza region were avoidable—three quarters of these being to children with anaemia due to malaria.

Table 4. Time trend in the number of reported Blood donations by year, Tanzania 1987-1996

Year	Number of trans-fusions	Percent of total	No. Reported blood donations with age and sex of donor known	Age/Sex of donor known as a percent of all blood donations	Number of hospitals reporting/ number of hospitals	Percent of all hospitals reporting
1987	4,285	3	555	13	6/182	3
1988	13,807	10	3,680	27	14/182	8
1989	35,049	24	12,251	35	103/182	57
1990	28,399	20	24,885	88	123/182	68
1991	81,325	56	78,549	97	158/182	87
1992	64,294	45	62,489	97	140/182	77
1993	59,743	41	58,594	98	100/182	55
1994	37,156	26	35,638	96	42/182	23
1995	22,570	16	22,029	98	61/182	34
1996	88,696	64	88,696	100	135/182*	74

Monitoring and Evaluation of Proximate Determinants (sexual behavior and other determinants)

Four population based national surveys have been conducted to assess trends in sexual behavior. These include a KABP/PR survey carried out among 4,021 respondents in Tanzania in September 1991, TDHS 1991/92, TAPS 1994 and TDHS 1996. The 1991 KABP/PR survey showed that approximately 71% of the respondents reported that they had changed their behavior; 73% said they knew about condoms; 11% reported they had used condoms; and 45% reported that their friends had changed sexual behavior (Muhondwa, Leshabari, Bwatwa 1991).

Subsequent surveys have shown significant change in sexual behavior in both men and women, 63% and 52% respectively. On condom use, according to the 1996 TDHS for example, the report showed that the proportion of men who used condoms in their last sexual contact was significantly higher than that reported in 1992. On the contrary, reported condom use among women in 1996 TDHS was not significantly different from that of 1991/92. Over all 4.1% of women (1996 TDHS) and 15.2% of men reported to have used a condom during their last sexual encounter with their spouse or other sexual partner. Men aged 20-24 years and women aged 15-19 years reported the highest rates of condom use. Condom use increased with increasing level of education among both women and men. Compared to residents of rural areas, those living in capital or large towns are more likely to use condoms among both women and men. Married women and men are significantly less likely to use condoms than those who are unmarried. Knowing somebody who had AIDS or had died of AIDS was associated with increased condom use among both men and women. Similarly, condom use was significantly higher among women and men who had been tested for AIDS.

In comparing TAPS 1994 and TDHS 1996 to examine changes in sexual behavior among the youth, it is observed that among married women in age group 20-24 years, the proportion who reported that they had only one sexual partner increased from 86% in 1994 to 91% in 1996. Similarly, the proportion of married women having 2 or more sexual partners declined from 7.6% in 1994 to 4.9% in 1996. The percentage of married men in the same age group who had had only

one sexual partner declined from 61% in 1994 to 52% in 1996, while the proportion of men who reported having 2 or more sexual partners remained the same (39% in 1994 versus 37% in 1996).

Among unmarried men in the 20-24 age group, abstinence increased from 36% in 1994 to 46% in 1996. There was also a decline in the proportion reported to have 2 or more sexual partners from 34% in 1994 to nearly 27% in 1996. Even among the 15-19 age group there was a significant increase in the proportion who reported abstinence—from 58% to 74% between 1994 and 1996 respectively. In unmarried women aged 20-24 years, the proportion reporting to have had 2 or more sexual partners increased from 5.4% in 1994 to 6.9% in 1996. The proportion with single sexual partner also increased from 32% in 1994 to 39% in 1996. In the older age group of 25-29 years, it was also noted that the proportion of women who reported to have had 2 or more sexual partners declined from 13.9% in 1994 compared to 5.6% in 1996.

Monitoring and Evaluation of HIV and STD Epidemics

Incidence of HIV-1 Infection

There are only 4 reports showing results on incidence of HIV infection in Tanzania (Table 10). Two of these are population based surveys carried out in Kagera from 1987 to 1989, and the another one from Mwanza carried out in urban, roadside, and rural areas. Two cohort studies have also been done among family planning clients and police officers, both from Dar es Salaam. The results show that HIV incidence is high in both urban (1.8-5.2 HIV cases per 100 person- years) and road side areas (3.2 per 100 person-years), while in rural areas it is relatively low (0.8 per 100 person-years) (Table 5). Among women attending family planning clinics, incidence of HIV was highest in women aged 15-19 years. Compared to women aged 30 years or older, the age-adjusted relative risk of HIV infection for the younger group was twice as high (RR=2.3, 95% CI: 1.1-4.9). In other age groups the associated risk was not statistically significant. A population based study carried out in urban Bukoba has reported a decline in incidence of HIV from 47.5 per 1000 person-years during the period 1987-1989 to 5.6 per 1000 person years during the period 1993-1996 (Kwesigabo et al, 1998 unpublished).

Table 5. Incidence of HIV infection on prospective studies, Tanzania 1987-1997

Period	Type of study	Location	Area	Incidence per 100 p-yr
1987-1989	Population based	Kagera	Urban	5.2
1994	Population based	Mwanza	Rural	0.8
		Mwanza	Roadside	3.2
1994	Factory workers	Mwanza	Urban	1.8
1992-95	Family Planning	Dar es Salaam	Urban	3.4
1994-1997	Police officers	Dar es Salaam	Urban	2.1
			males	2.0
			females	2.9

Sources:

Killewo JZJ et al. Int. J. Epidemiol 1993; 22:528-536; Grosskurth H. et al. Lancet 1995; 346:530-536; Ng'weshemi JZL et al. AIDS 1996;10:1415-1420.

Kapiga SH et al. AIDS 1998; 12:75-84. Pallangyo K et al. Proceedings of the 12th World AIDS International Conference, Geneva June 28- July 3, 1998. Abstract No. 13108.

Table 6. HIV incidence by age among women attending family planning clinics in Dar es Salaam Tanzania, 1992-1995

Age (years)	Incidence rate per 100 person-yrs	Age-adjusted RR (95% CI)
15-19	6.5	2.3 (1.1-4.9)
20-24	3.8	1.3 (0.7-2.3)
25-29	2.5	0.9 (0.5-1.7)
30+	2.9	1.0
All	3.4	(2.6-4.1)

Source: Kapiga SH et al. The incidence of HIV infection among women using family planning methods in Dares Salaam, Tanzania. AIDS 1998; 12:75-84.

HIV prevalence

An increasing trend of HIV infection among antenatal women in all regions has been reported (see table 9) except among women in the age group 15-24 years in Kagera region where recent reports have shown a decline. The decline in HIV prevalence in Bukoba district, Kagera region has been reported from 24% to 13% in 1987 and 1996 respectively (Table 8).

The decline in prevalence is due to the ability of the Government and NGOs to distribute health learning materials; improve IEC activities, promote use of condom, and to establish by-laws

which limit participation in night activities. Bilateral donor agencies, NGOs, and the Government gave enormous support towards the success of these activities. Other activities which contributed to decline in HIV in the region include improvement of blood safety measures, establishment of voluntary counseling and testing (VCT) centers, increase in home-based care and spiritual counseling.

Table 7. Decline in the incidence of HIV-1 infection in population based studies in Bukoba Urban, Kagera, Tanzania

Year	No. of person-years	Incidence per 1000 person-years
1987-1989	337	47.5
1993-1996	1243	5.6

Source: Kwesigabo G, et al. Proceedings of the AIDS International Conference, Geneva June 28-July 3, 1998. Abstract No. 13114.

Table 8. Decline in the prevalence of HIV-1 infection in population based studies in Bukoba Urban, Kagera, Tanzania

Year	No. of subjects	Age-adjusted prevalence (%)
1987	553	24.2
1993	649	18.2
1996	1276	12.8

Source: Kwesigabo G, et al. Proceedings of the AIDS International Conference, Geneva June 28-July 3, 1998. Abstract No. 13114.

Sentinel surveillance has been done very well in a few regions, including Mbeya, Kagera, Mwanza and Dar es Salaam. In other regions the reports are few. Monitoring of trend in the AIDS epidemic in Mbeya region shows significant differences between urban areas compared with rural or border areas (Table 3). In addition, prevalence of syphilis has significantly declined while simultaneously we observe a rapid increase in HIV in all areas of Mbeya region. The decline in syphilis is due to GTZ support towards improvement of access to STD drugs, availability of treatment guidelines and improvement in STD case management at peripheral health facilities and at district level. Specific STD treatment guidelines have been developed for the region.

In other regions which were not as hard hit, such as Dar es Salaam, Mwanza and Mbeya regions, the immediate responses from various communities was stigma and discrimination, denial, and maintenance of unscrupulous sexual behavior. For example, in one street of Magomeni, Dar es Salaam, 10 years ago I heard some youngsters rebut the four letters of AIDS by saying in Swahili "Acha Iniue Dogodogo Siachi". The literal meaning was "Let it (meaning AIDS) kill me running with young partners I n't leaving". Even among communities which had friends and relatives dying of AIDS they neither changed their sexual behavior nor stopped practicing unprotected

sexual behavior. Many people, according to studies done in Magu, in Mwanza region would not even admit that their sick relative could be suffering from HIV/AIDS. Instead they believed in witchcraft. The same picture applies to residents of in Mbeya region.

Table 9. Prevalence of HIV-1 (percentage) using sentinel surveillance data from antenatal clinics in urban areas, Tanzania 1988-1996

Urban Prevalence %			
Year	Kagera	Mbeya	Mwanza DSM
1988	9.4	8.0	
1989	13.0	12.0	
1990	22.2	12.2	12.3
1991	20.0	15.3	11.2 10.3
1992	27.7	17.7	10.3
1993	19.6	11.7	15.3
1994	17.3	18.4	11.7
1995	20.3	8.9	13.4
1996	18.7	12.3	
1997		14.6	

Source: NACP Epidemiological reports No. 1-11; 1989-1996.

Msamanga, G.I. et al 1998 11th International AIDS Conference, Vancouver 1996.

Table 10. Prevalence of HIV-1 (percentage) using sentinel surveillance data from antenatal clinics in rural, Tanzania 1991-1993

Year	Iringa	Mtwara	Rukwa	Ruvuma
1991	21.0	4.4		
1992	25.0	0.0	11.7	6.6
1993			23.2	11.9

Source: NACP Epidemiological reports No. 1-11; 1989-1996.

Table 11. Prevalence of HIV-1 (percentage) using sentinel surveillance data from antenatal clinics in rural, Tanzania 1988-1996

Year	Mbeya	Mwanza	Kilimanjaro	Mara
1988	2.9			
1989	11.6			
1990	8.1			
1991	10.1	3.7	2.3	5.9
1992	14.1	4.6	6.4	6.5
1993	13.9	5.4		7.7
1994	14.1			
1995	16.6	5.4		
1996	16.1		9.1	

Source: NACP Epidemiological reports No. 1-11; 1989-1996.

Table 12. Prevalence of HIV-1 (percentage) using sentinel surveillance data from antenatal clinics of urban and rural areas in Mbeya Region, Tanzania 1988-1996

Year	Prevalence of HIV-1 (percent)	
	Urban	Rural
1988	9.4	2.9
1989	13.0	11.6
1990	12.2	8.1
1991	15.3	10.1
1992	17.7	14.1
1993	19.6	13.9
1994	18.4	14.1
1995	20.3	16.6
1996	18.7	16.1

Source: NACP Epidemiological reports No. 1-11; 1989-1996.

In many urban areas, promiscuous sexual behavior is still being manifested. We still have one time guest houses and school going youths have become prey because people think they are not HIV-infected. The majority of parents are very ignorant about STDS. Even among the educated, parents do not know how to communicate with their children about issues related to sexual behavior, and STDS. Often they are afraid to talk about the condom or encourage those who are promiscuous to use them. Teachers also are afraid to discuss issues of family life education in classes if for one reason or another she/he has her child in that class. They lack confidence. On the mass media and the radio, use of the word condom was unheard of until 1994, after condom social marketing activities were launched. The thing which made the mass media start changing was privatization of mass media where advertising became a big commercial business.

Various television and radio stations in Tanzania, began to advertise about dangers of unprotected sex, promoted use of condom in casual sex encounters to avoid contracting HIV/STDS. They emphasized abstinence, zero grazing (sticking to one partner), and where all these are not possible, a condom should be used.

Table 13. Age specific prevalence of HIV-1 infection among females and males of the general population and antenatal women in Bukoba urban, Kagera 1987-96.

	1987	1993	1996
Age group	Percent, (CI)	Percent, (CI)	Percent, (CI)
Females			
15-24	27.6 (20.2,36.3)	11.3 (7.0,17.1)	7.3 (4.9,10.7)
25-34	35.8 (27.9,44.6)	33.1 (25.1,42.1)	21.4 (16.7,26.9)
35+	18.8 (10.5,30.9)	13.3 (7.5,22.0)	17.7 (12.6,24.2)
Total	29.2 (24.4,34.6)	18.7 (15.1,23.0)	14.4 (12.0,17.1)
Males			
15-24	11.1 (5.7,19.9)	6.8 (2.8,14.8)	1.6 (0.4,5.1)
25-34	22.4 (13.9,33.7)	18.9 (11.7,28.8)	16.4 (11.0,23.7)
35+	19.4 (10.8,31.8)	27.6 (18.3,39.3)	15.2 (10.2,22.0)
Total	17.1 (12.6,22.8)	17.3 (13.0,22.7)	10.4 (7.9, 13.6)
ANC attendees			
15-24	21.8 (18.8,25.2)	16.1 (14.3,18.0)	9.5 (8.1,10.9)
25-34	25.1 (21.5,29.1)	20.6 (18.2,23.3)	19.2 (16.8,21.8)
35+	18.4 (11.8,27.2)	10.7 (7.2,15.5)	12.9 (8.8, 18.6)
Total	22.8 (20.6,25.2)	17.3 (15.9,18.8)	13.0 (11.8,14.3)

Source: Gideon Kwesigabo, 1998 (unpublished).

Table 14. Percentage of women reporting ever use of condom during baseline and follow-up at Family planning clinics in Dar es Salaam, Tanzania.

Period	Ever used a condom (%)
Baseline (1992)	11.1
Follow-up (1992-1995)	23.0

Source: Kapiga SH et al. The incidence of HIV infection among women using family planning methods in Dar es Salaam, Tanzania. AIDS 1998; 12:75-84.

Table 15. Number and type of sexual partners during month preceding interview by follow-up visit of a cohort of 752 men at Mwanza Factory, 1991-1994.

No. of sexual partners	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5
1	57.6	68.4	67.3	70.2	72.9
2 or more	22.3	18.1	15.3	12.9	12.2
No sex	20.2	13.6	17.4	16.9	14.9
Total	100.0	100.0	100.0	100.0	100.0
Casual partner	8.8	6.8	5.2	4.4	4.6

Source: Ng'weshemi JZL et al AIDS 1996;10:1415-1420.

Blood donor screening

Since the HIV/AIDS epidemic started, NACP has made several initiatives to ensure blood safety against HIV in all facilities where blood is transfused, including provision of test kits and development of blood transfusion guidelines. During MTP-1 (1987-1991), all 4 consultant hospitals (including Muhimbili Medical Center, Bugando Hospital, Kilimanjaro Christian Medical Center and Mbeya Hospital) and all the 16 regional hospitals were equipped with ELISA readers. In a second phase, during the same period, all district and other hospitals were supplied with rapid HIV testing facilities. The greatest concern is how to sustain the availability of HIV-test kits. Although all 182 hospitals in mainland Tanzania now have facilities to screen blood before donation, the Ministry of Health issued a memorandum in 1995 to instruct all regional medical offices to budget for test kits for all hospitals which offer blood transfusion. Progress made date is that regional offices have not been able to budget for test kits yet, instead they are still being budgeted centrally by the Ministry of Health, according to the Manager of the NACP.

Guidelines for blood transfusion developed by TANESA in Mwanza have also been adopted by NACP for use country-wide. The aim was to avoid unnecessary blood transfusion because between 23% and 39% of blood transfusions in eight hospitals of Mwanza region were avoidable; and three quarters of these being to children with anaemia due to malaria. Some physicians did not comply in using the guidelines because they claimed they knew better about their local situation.

In Tanzania, it is estimated that for every 1000 people, 6 blood transfusions take place annually. Thus in a population of 30 million persons, approximately 180,000 transfusions are given in one year. To sustain availability of HIV test kits for blood screening, NACP has asked all regions from September 1995 to make sure that they have set aside an adequate budget for procuring HIV test kits. A total of 180,000 tests are required for blood screening per year at an estimated cost of US \$ 415,890 (TSh. 249,539,000). The above amount is nearly 60% higher than the US \$ 256,890 which was used to purchase 160,240 kits through WHO in 1994 but if open market price was used the figure would have been \$390,680.

Table 16. Time Trend in Prevalence of HIV-1 infection (in %) among blood donors by sex category, Tanzania 1987-1996.

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Male	3.0	0.0	5.0	5.0	5.8	5.3	5.9	6.9	7.8	6.8
Female	7.1	8.0	11.2	7.9	7.2	5.9	6.2	4.8	9.4	8.2

Monitoring and Evaluation of AIDS Care and Support and Treatment

The issue of human rights and legal issues has been introduced only recently in 1997. Networks have been established in Zanzibar, Moshi and Dar es Salaam to develop these activities further. recently the Ministry has developed a policy guideline that is to presented to the Parliament so that it can be passed as Government law. In connection with research, the NACP has an established mechanism for reviewing research proposals dealing with AIDS issues. There is an Ethical committee that scrutinizes proposals to make sure that they comply with ethical standards at national and international level, also they ensure safety in procedures that are carried out during implementation of such research projects.

Review of Use and Usefulness of PPI Indicators

Although there are 10 priority prevention indicators (PPIs) that were identified and developed by GPA, it has been difficult to conduct baseline surveys for these indicators. In most cases they require financial and human resources that are not readily available in the program. These items were budget for in MTP-II, but only two surveys were conducted to assess PPI 1, 2 and 6. The others were not carried out. Even where results were available e.g. for PPI 6, no follow-up was made because this would have required resources to train all clinical personnel at all levels. The capacity to address this problem was beyond the financial resources available to the NACP in Tanzania.

Monitoring and Evaluation of the Interaction Between the National Program and Donor Assistance

All the program reviews mentioned under section 3 above were jointly carried out using experts selected by the program and donors. These Evaluations were already built-in to the plans. The size and composition of the review team was done in a way so as to accommodate the participation of all donors supporting the program. The total number of external donors had to be matched by an equivalent number of nationals. For internal reviewers, the budget was spelled out in the plan but the participation of external reviewers was catered by the donors supporting the program. Donors pressed for these reviews to be carried because they were the only opportunities for them to influence the direction or emphasis of certain approaches in the program. They also made sure that the subsequent plans took into account the recommendations made by the review mission. In review of bilateral projects, e.g. the TANESA, MUTAN, the donor supporting project decided on the timing of the review, size, and composition the team, as well as the terms of reference for the work to be undertaken.

The review reports are always circulated to all participating partners. Often, given the fact that the findings contained in the reports may not always be in line with the thinking of the Government, or

the donors, either of them have had to respond to contentious issues raised in the report so as to clarify their positions.

Conclusion

There are four strengths that may be attributed to the success in monitoring and evaluation of the HIV/AIDS epidemic:

1. Sustainability in production of NACP reports

To facilitate monitoring and evaluation of HIV/AIDS activities, NACP has continuously managed to produce NACP Epidemiological reports. Initially there was a WHO/GPA technical officer seconded to the Epidemiological Unit of NACP, but even after his departure, and even when staff turnover took place in the program, these reports continued to be produced.

2. Availability of good surveillance data

Surveillance system in four regions has continued to be maintained. These data have been collected from 1988 till 1998 and their disaggregation shows that in some age groups there are indications that decline in HIV may be taking place.

3. The NACP Secretariat has maintained a close linkage with researchers and has fully utilized

research results to influence policy and prepare guidelines for wider use in the country. Specific examples include the development of guidelines for syndromic management after the AMREF/LSHTM results on STD case management. Training guidelines have also been developed for health workers at district level. Blood transfusion guidelines have been developed after studies on unnecessary blood transfusions had been published. Guidelines for laboratory tests to be used for screening were revised after research results had shown sensitivity and specificity of various HIV tests.

4. Availability of a mechanism for ensuring that research proposals are reviewed to make sure that they meet the necessary ethical standards.

Weaknesses:

1. Tracking of financial resources has been the weakest point in the program.

2. High turnover of staff has made the program fail to keep track and maintain continuity in monitoring and evaluation of program activities. The epidemiologic unit, STD unit and IEC were equally hit because most of their experienced staff took-over posts in UN agencies or went to areas where they were better remunerated.