Chapter 3

The Impact of a Growing HIV/AIDS Epidemic on the Kenyan Children*

Boniface O. K'Oyugi and Jane Muita
(e-mail: Jmuita@unicef.org)

Summary: The results presented in this chapter are based on secondary data from relevant institutions, three mini surveys and simulation models. HIV prevalence in Kenya increased from 5.3 percent in 1990 to 13.5 percent in 2002 with the number of children under 5 years living with HIV growing from 32,000 in 1990 to 106,000 in 2000. The projections based on the trend data suggest that HIV prevalence will reach a peak to about 14 percent by 2005 and stabilize at that level.

The analysis shows that prevention programs implemented so far have not been very effective in changing risky behaviours. The pilot program on reduction of mother to child transmission needs to be evaluated with a view to scaling it up. Only about 5 percent of seropositive people have access to antiretroviral drugs due to very high cost. Child welfare indicators are adversely affected by the epidemic, with an increase of child mortality and orphanhood. The HIV/AIDS affected households were found to adopt unsustainable coping strategies including sale of assets. There are limited funds and programs targeting the orphans and the vulnerable children.

Data from the ministries suggest a slight decline in quantity of education services at the primary level and a substantial decline of quality at the secondary level and that health services are being crowded out by HIV/AIDS patients.

JEL: D13, H52, I18, I38, J11

*** This study presents the views of its authors and not the official UNICEF position in this field.**

UNICEF-IRC (www.unicef-icdc.org) Florence, June 2002

This is chapter 3 of the overall study "AIDS, Public Policy and Child Well-Being" edited by Giovanni Andrea Cornia.

AIDS, PUBLIC POLICY AND CHILD WELL-BEING *

edited by Giovanni Andrea Cornia

Table of contents

***** This project was started in 2000 at the UNICEF's Innocenti Research Centre under the leadership of the Director of the Centre and of the Regional Director of the Eastern and Southern Africa Region Office (ESARO) of UNICEF. Giovanni Andrea Cornia of the University of Florence took care of the framing, implementation and finalisation of the study, with the assistance of Leonardo Menchini. The project could not have been implemented without the support of many colleagues in many UNICEF offices around the world. The financial support of the Italian Government and UNICEF ESARO is gratefully acknowledged. **The papers included in this study present the views of their authors and not those of UNICEF.**

1. Introduction

1.1 Overview of the socio-economic and HIV/AIDS situation in Kenya

Kenya's economic performance decelerated over the last four decades. The GDP and per capita output that grew at about 7 and 3 per annum respectively in the 1960s declined continuously over the decades. GDP growth rate declined to 1.98 percent in the 1996-2000 period. All the sectors also recorded similar experiences over the decades with agriculture, the backbone of Kenya's economy, recording a decline from an average growth rate of 4.6 percent in 1964-1973 period to 1.4 percent in the 1996-2000 period. The continued slowdown in economic growth was as a result of a combination of factors mainly: poor state of infrastructure especially roads, energy and telecommunications; depressed investments; declining tourism activities; and, poor performance in manufacturing. The El Nino rains of 1998 devastated many infrastructures. The failure to secure enhanced structures adjustment fund from IMF and the non-availability of donor funding contributed to more uncertainty in the economy. Other factors include: large outstanding domestic debt; low domestic savings; security, law and order; and, financial crisis in the banking industry following the collapse of certain banks. In the year 2000 the economy registered the lowest growth rate of negative 0.3 percent.

Kenya is one of the countries worst affected by the HIV/AIDS pandemic. Data from the National AIDS Control Council indicate that by December 2000, about 2.2 million people in Kenya were living with HIV/AIDS and 13.5 percent of all adults were infected with HIV (NACC, 2001). The data also indicate that by June 2000, about 1.5 million people in Kenya had died of AIDS since the pandemic started in 1980s. In the adult age bracket of 15-49 years, one in every 8 and one in every 5 are infected with HIV in the urban and rural areas, respectively. In the year 2000, the number of new HIV cases was estimated at 300,000 and about 180,000 people died of AIDS. Each year, about 200,000 people develop AIDS. Most of the people with AIDS do not have access to combination drugs hence live for only a few months to 2 years. Kenya has achieved some success in making information and services available to the people with the awareness reaching over 90 percent but the HIV prevalence remains high due to lack of behaviour change. While mortality due to AIDS is expected to continue increasing due to the number already infected with HIV, prevalence rates are expected to stabilize.

1.2 Methodology and data

A number of methodologies and data sets were utilized. Desk review of the published information existing in print and electronic form, extraction of the existing raw data located in relevant institutions, and re-analysis of the existing data were undertaken to examine trends of HIV prevalence and AIDS mortality in Kenya for the 1990-2000 period. The data sets used were from the sentinel surveillance system for HIV and reported AIDS mortality. Review of existing documents was used to determine the

level of interventions in terms of HIV prevention and treatment of HIV/AIDS related morbidity.

The determination of the micro and macro level impacts of HIV/AIDS on well being of children were undertaken though: analysis of the household data from a mini-survey conducted in Ugunja Division in Siaya District; analysis of the national household data on the 2000 Multiple Indicator Cluster Survey conducted by the Central Bureau of Statistics with financial support from UNICEF; analysis of the stakeholders survey conducted in Ugunja Division in Siaya District; analysis of the survey of the Ministry of Education, Ministry of Health and Ministry of Social Services conducted in Nairobi; and modeling using relevant simulation models to determine the level of impact and make projections for the 2000-2015 period.

This study involved a large number of personnel (the lead consultant, other two consultants and a number of research assistants) to implement. In addition, it also demanded a high degree of collaboration with relevant institutions and other stakeholders. The UNICEF Kenya Country Office provided the logistical support.

2. Trends in HIV prevalence rate and AIDS mortality

2.1 Surveillance systems

The surveillance systems consist mainly of data collected from the ANC attendees, the patients with STDs, and from blood donors. Beginning in the third quarter of each year, 300-400 women who are making their first visit to the antenatal clinic for the current pregnancy are tested for HIV. However, the testing is unlinked and anonymous. The results are reported to NASCOP where the data are compiled and analyzed. An assessment of HIV among blood donors had demonstrated a steady rise from 1.5% in 1987 to 6.1% in 1992. However, in recent years blood donors have been prescreened through interviews prior to donating blood. The rejection of blood donations from donors suspected of high-risk behaviours is assumed to have slightly reduced the prevalence rate of HIV in donated blood from 6.1% in 1992 to 5.4% in 1994. The current surveillance sites need continued support in terms of increasing the number of urban and rural sites, assuring the quality of the data from existing sites, and assuring that sites have adequate supplies of HIV testing kits and other commodities, which have been irregular and inadequate in the past.

2.2 Trends and variations in HIV prevalence

The first AIDS case in Kenya was reported in 1984 and since then, the rate of HIV prevalence has been on the increase. The national HIV prevalence rate increased from 5.3 percent in 1990 to 13.5 percent in 2000. By the year 2000, about 2.2 million people including 106,000 children below age five years were living with HIV virus (NACC, 2001).

2.2.1 HIV prevalence trends in children and adults

Table 2.1 show HIV prevalence trend from 1990 to 1999, categorized by age defined as children and adult. The data indicate that HIV prevalence rates have continued to increase during the 1990-1999 period.

Table 2.1: National Sero-prevalence trends in Kenya 1990-1999 in '000'

Year	Children	Adult	Total	Prevalence (%)
1990	32	510	542	5.3
1991	40	660	700	6.6
1992	48	820	868	7.4
1993	56	970	1,026	7.8
1994	64	1,140	1,204	9.0
1995	70	1,290	1,360	11.0
1996	76	1,450	1,526	11.9
1997	81	1,580	1,661	12.8
1998	84	1,710	1,794	13.0
1999	89	1,840	1,929	13.1

Source: NACC, 2000

2.2.2 Regional trends in HIV prevalence

HIV prevalence has been increasing and vary quite markedly between the rural and urban areas as shown on Table 2.2. The urban HIV prevalence rates have continued to be higher than the rural rates in the 1990-1999 period. Data on HIV prevalence rates obtained from 15 urban and 8 rural sentinel surveillance sites provide an indicator of sub-regional rates but do not show clear trend patterns.

Table 2.2: National HIV prevalence by place of residence

YEAR	URBAN ADULTS		RURAL ADULTS	
	'000'	%	'000'	%
1990	140	9.0	370	4.6
1991	180	10.8	480	5.6
1992	220	12.8	600	6.9
1993	250	13.7	720	8.0
1994	290	14.8	850	9.1
1995	320	15.7	970	10.0
1996	350	16.3	1,100	10.8
1997	380	16.8	1,200	11.4
1998	410	17.2	1,300	11.8
1999	440	17.5	1,400	12.2

Source: NACC, 2000

2.2.3 Patterns of HIV infections by age and sex

Information on infection patterns by sex is not available. The only information available is the 1997 Kisumu case study that cannot be generalized to represent the pattern of infection by sex for the country. Table 2.3 provides the prevalence rates for Kisumu by age and sex.

Table 2.3: HIV prevalence in Kisumu by age and sex, 1997

Distribution	15-19	20-24	25-29	30-39	40-49	Total
Men	4.2	13.4	29.4	34.0	29.9	21.0
Women	22.3	39.0	38.6	31.7	19.4	30.9
Ratio	5.3	2.9	1.3	0.9	0.6	1.5

Source: NASCOP, 1999.

The 1995 to 2000 yearly HIV prevalence rates by age for only females are available from the sentinel surveillance data. Table 2.4 provides the prevalence of HIV among pregnant women by age based on the urban sentinel sites data. However, the 1995 and 1998 data had insufficient samples and hence yield unreliable estimates. Analysis of the trend data indicate that HIV prevalence in the urban sentinel sites on the

average increased in the 1996-1997 period but recorded a slight decrease in the 1998-2000 period for all ages except 25-29 years.

Table 2.4: Percentage of pregnant Women Testing HIV-positive by Age at Urban Sentinel Sites (1996-2000).

AGE (Yrs)	1996(3064)	1997(2812)	1998(4431)	2000(3046)
15-19	10.7	19.1	17.7	14.6
20-24	12.9	23.0	19.1	17.3
25-29	15.1	24.1	17.8	19.7
30-34	19.0	22.8	21.4	20.1
35-44	18.6	19.3	17.7	17.4
45-54	30.8*	37.5*	16.7*	17.4
All Ages	14.0	22.2	18.7	17.9

Source: Raw data from NASCOP, 2001

Notes: Figures in bracket are sample sizes.
Figures with star (*) are based on insufficient numbers

2.2.4 Patterns of HIV infections by marital status and education level

Those women in polygamous marriages have the highest HIV prevalence rates followed by those who are classified as single. The prevalence rates for the divorced and widowed are based on very small numbers and hence displaying very high rates. The trend data shown in Table 2.5 also reveal that there are slight decreases in the HIV prevalence rates in the 1998-2000 period except for those in polygamous unions.

Table 2.5: Percentage of Pregnant Women Testing HIV-Positive by Marital Status at Urban Sentinel Sites (1996-2000).

MARITAL STTATUS	1996(3085)	1997(2966)	1998(4477)	2000(3119)
Married - Monogamous	12.7	20.7	17.7	17.0
Married – Polygamous	18.4	28.0	19.9	25.4
Single	14.4	20.6	25.4	19.9
Divorced	18.4	62.5*	16.7*	16.7*
Widowed	62.5*	50.0*	50.0*	33.3*
All	14.0	21.9	18.8	17.8

Source: Raw data from NASCOP, 2001

Notes: Figures in bracket are sample sizes - Figures with star (*) are based on insufficient numbers

Table 2.6 show that the women with secondary level of education had relatively high HIV prevalence rates when compared with those having primary level of education. The estimates for the category college education are considered unreliable since they include both post primary and secondary levels. The patterns depicted in the urban sentinel sites are similar with those for the rural/peri-urban sites whose estimates have not been provided in this report.

Table 2.6: Percentage of Pregnant Women Testing HIV-Positive by Education Level at Urban Sentinel Sites (1996-2000).

EDUCATION LEVEL	1996(2920)	1997(2639)	1998(4287)	2000(2975)
Primary	13.5	21.5	18.6	17.1
Secondary	15.9	23.1	19.4	19.4
College	7.7	26.6	20.2	18.5
All	14.2	22.1	18.9	18.0

Source: Raw data from NASCOP, 2001

Note: Figures in bracket are sample sizes

2.3 Trends in AIDS Death

Cumulative data on reported AIDS cases since 1986 are available by age and sex. There have been over 98,000 cases of AIDS reported to the Ministry of Health (NASCOP and NACC, 2001). These represent only a small portion of all the Kenyans who have developed AIDS. Analysis of the data from the reported AIDS death indicate that about 75% of the AIDS cases occur among adults between the ages of 20-45.

There are roughly an equal number of male and female reported AIDS cases. The peak ages for AIDS cases are 20-29 for females and 30-39 for males. A significant number of AIDS cases have been reported among young children. Most of them received the infection from their mothers either during pregnancy, during birth or through breastfeeding.

2.4 HIV/AIDS projections

Since prevalence is still increasing in some areas of Kenya and is tending to stabilize in others, it is likely that prevalence will continue to increase, at least for the next few years. Although the national prevalence in 2000 was estimated at 13.5% and 17.5% in urban areas, there are areas in urban Kenya where prevalence is already 20 to 30%. The trend from 1990 to 2000 suggests that adult HIV prevalence in Kenya will increase to about 14% by the year 2005 and then stabilize at that level.

The projections show that should HIV prevalence increase to 14% by the year 2005, the number of infected people in the population will increase from about 2 million people in 2000 to 2.6 million by 2005 and to 2.9 million by 2010. The number of new AIDS cases each year resulting from these infections will increase by about 300,000 during 2005 to 2010. The cumulative number of AIDS deaths will increase from 1.3 million in the year 2000 to 2.6 million by 2005.

2.5 Some correlates of HIV prevalence and AIDS mortality

Berezin (1992) observe that persons who have histories of STIs are at higher risk of acquiring HIV. While infected persons are likely to have greater susceptibility to infection with other STIs, if co-infected, may experience them in unusually severe and protracted course. Tuju (1996) report that those with ulcerative STIs are upto 4 times more likely to contract HIV during sex than those without. This is because the little wounds or ulcerations on the soft surface of the genitals act as avenues through which HIV easily gains entry into the blood system. Similar evidence has been documented from a research carried out by Mutemi and Saoke (1995) published in Forsythe and Rau (1996) and based in Undugu Society where 22 female street children in their early teens were tested for HIV. The study found that 21 of the 22 girls had more than one STI, including gonorrhea and syphilis. When tested for HIV, however, more than one-quarter of those teenagers tested HIV positive.

In the mid 1980s, researchers in Nairobi found a higher incidence of HIV/AIDS among migrants to the city from western Kenya (mostly Luos) than they found among those born further east. At first they concluded that those from western Kenya were closer to the epicenter of an epidemic moving outward from Rwanda and Southwest

Uganda. Ultimately they began to suspect that they were contrasting men who were at a higher risk of disease because they came from regions that traditionally do not circumcise males, with men at lower risk because they were from circumcising regions (Plummer, Moses and Ndinya-Achola, 1991).

Migration and rapid urbanization are often associated with the spread of STIs including HIV/AIDS. According to Ocholla-Ayayo (1997), within urban areas of Kenya, AIDS has been explained in terms of loosening of norms governing premarital sex, lack of relative negative action against promiscuity and the numerous opportunities of making contact with potential sexual partners within a setting of anonymity and freedom to misbehave. The 1998 KDHS data indicate that while about 14 percent of unmarried women in rural areas reported that they had received gifts, money or favours in return for sex for a man, approximately 26 percent of their urban counterparts reported the same. In Kenya, like in many developing countries in Africa, economic necessity demands that a high proportion of men in the rural areas go to look for jobs in the major urban centers. Often women are left behind in the countryside with the responsibility of caring for the homes and children. Ocholla-Ayayo observes that some of such women may, due to long separation with their husbands, develop new sexual relationships. Such multiple sex partnering is a major risk factor in HIV/AIDS infection.

According to the 1998 KDHS data, the mean age at sexual intercourse was found to be 17 for both male and female adolescents. The median age at first marriage was 19 years for women and 25 years for men. Thus, there is a significant period of sexual activity before marriage that exposes young people to the risk of HIV infection.

Vulnerability of women with respect to HIV/AIDS is most significant when due attention is paid to socio-cultural factors, legal and other factors. The empowerment of women thus might help to slow the spread of HIV/AIDS. Whenever women are culturally and economically subordinate to men, they cannot control or even readily negotiate safe sex, including condom use and life long mutual fidelity (Merson, 1993). This could partly help explain regional variations in levels of HIV prevalence in Kenya. For instance, Nyeri district having one of the highest levels of empowerment registered HIV prevalence rate of 17 percent while Kisumu district with a relatively poor record of women empowerment had HIV prevalence rate of 29 percent in 1998 (NACC, 2000).

3. Evolution of HIV/AIDS interventions

3.1 Interventions on prevention of HIV infections

The first case of HIV/AIDS was diagnosed in Kenya in 1984. As early as 1985 the Government of Kenya had begun responding to HIV epidemic. However, during the period 1984 through 1989, HIV/AIDS was not considered to be a serious problem. During this period the government developed and launched the first comprehensive five-year Medium Term Plan. The plan focused on the prevention of HIV infection by screening blood, promoting safer sexual practices and early diagnosis of STDs. In 1991 the Government of Kenya developed a Second Medium Term Plan, for the period 1992-1996. This second plan sought to mobilize other sectors including non-

governmental organizations and private sector. Although a remarkable level of education and awareness was achieved, these efforts were not co-ordinated. The funding for the Second Medium Term Plan was inadequate. In addition, some religious organizations opposed efforts to introduce sex education into schools while a variety of legal, ethical and cultural barriers remained. In 1994 the government borrowed $40 million from the World Bank specifically for the Sexually Transmitted Infections Project to facilitate implementation of prevention and control of STD programmes.

In September 1997, Parliament approved Sessional Paper No.4 of 1997 on AIDS in Kenya. This provided a framework for advocacy and policy development. It also prompted national debates about factors leading to the spread of the disease and the effective strategies for prevention and control. The momentum generated by these debates, increased awareness. The formulation and establishment of a National HIV/AIDS Control Council (NACC) followed immediately the declaration in November 1999 by the government that HIV/AIDS is a national disaster.

The fights against HIV/AIDS since the onset of the epidemic in Kenya was not left to the government alone, but Non-governmental and community-based organizations have been also actively involved. NGOs view HIV/AIDS seriously, prompting the creation of Kenya AIDS NGOs Consortium (KANCO). Upto June, 2000 approximately 90% (about US$90 million) of donor funds for Kenya HIV/AIDS control programme was disbursed through NGOs with the exception to the World Bank's support. Most religious institutions have been actively involved in HIV/AIDS prevention activities. However, the issue of condoms and the introduction of Family Life Education in schools proved to be controversial. A number of companies have prevention activities in their work places and there is potential for much greater involvement of the private sector in fighting the spread of HIV and minimizing its impact on families.

Given the high HIV prevalence among women of child bearing ages, the mother to child transmission is a major problem resulting into large numbers of children born with HIV infections. MTCT of HIV is now largely preventable through antiretroviral therapy in late pregnancy. Use of Zidovudine (AZT) and Nevirapine have proved to be effective in reducing infections. A pilot MTCT programme is under implementation by the government in collaboration with donor agencies such as UNICEF. Its degree of success is yet to be evaluated.

3.4 Interventions on treatment of HIV/AIDS and related cases

Information on interventions in the field of treatment of HIV/AIDS and related cases is fairly scanty. The only limited available information is contained in the report of the Antiretroviral Drugs Availability and Access Survey conducted between February and June 2000 with financial support from UNICEF. The study established that:

i. The availability of 13 out of 15 Federal Drug Administration (USA) approved antiretrovirals in the private sector.
ii. 6296 HIV-infected patients were on at least one antiretroviral in the survey period. This represented a very small proportion (about 5 percent) of those living with HIV/AIDS.

iii. Antiretrovirals are available but not accessible due to high cost (see chapters 13 and 14 of this compilation). Using a sub-sample of 76 of those who had used at least one antiretroviral, only 45 percent of them were found to be currently on therapy. 53 percent of those interviewed confirmed selling off family assets such as farms, houses and businesses to meet this financial demand.

iv. The local cost of one tablet or capsule of some selected antiretroviral is in the same range as the prices charged in the developed countries. The passing of the legislative bill on generic antiretrovirals by parliament in 2001 is likely to increase accessibility of these drugs.

v. Most clients currently on therapy self-financed the use of ARVs, while the rest relied on employers and family support.

vi. Among those currently on ARVs, 39 percent were on monotherapy due to financial constraints and/or ignorance by health care professionals.

vii. Lack of laboratory support is a major problem as it entails clinicians taking unwarranted risks of possible drug toxicity to their clients.

4. Impact of HIV/AIDS on the well being of children

4.1 Micro/household level impact

The results presented are based on the household survey conducted in Ugunja Division located in Siaya District. The survey was conducted in the months of April and May 2001. A complete listing of all the households in Ugunja Division was undertaken with the help of the provincial administration and later classified into the required three categories with the assistance of the TAPWAK team operating in the division using their contacts and verbal autopsy technique. To guarantee randomization and geographical spread of the pre-determined sample sizes of about 100 for each category of the households, the sub-locations were used as the primary sampling unit. A random start number was selected for each category of household in the sub-location and the computed sampling interval was used to select the households to be visited for the interviews. Replacement households under each category were also sampled to facilitate the operations in the field. The implemented sample consisted of 98 households with HIV/AIDS death, 102 households with non-HIV/AIDS death and 101 households with no death.

The data on household membership composition is consistent with the national scenario whereby children are about 50 percent of the population. The percentage of children members over the total members, were 54, 45 and 49 for the households with HIV/AIDS death, non-HIV/AIDS death and no deaths respectively. In all the three categories of households, the average income per capita were below 1 US$ a day. The annual average income per capita in US$ were 244, 176 and 136 in households with HIV/AIDS death, non-HIV/ADIS death and no deaths respectively. The surprising highest income in households affected by HIV/AIDS was attributed to recent sales of assets such as land and in particular to sale of a vehicle in one of the households. The main sources of income were self-employment and transfers. The percentages of transfers over total income were estimated at 30, 28 and 19 for households with HIV/AIDS death, non-HIV/AIDS death and no death respectively. The majority (over 70 percent) of adult and elderly members in all the three categories of

households were illiterate or with primary education level. Ownership of land and animals were nearly universal (over 98 percent) and the majority (over 80 percent) live in houses of non-durable materials. Help in the households mainly came from the community and to a very limited extent from the civil society and the government. The households only received negligible assistance in form of social welfare programmes from the government.

4.1.1 Indicators of child well being in the households

Table 4.1 provides 8 indicators of child well being by the three categories of households. The data indicate that in all the three categories of the households, the sex composition of the children were nearly equal. An orphaned child is defined in this survey to mean a child (under 18 years) whose biological mother or father was reported to have died. The results suggest that orphan rate in the households with HIV/AIDS related death was two and a half times as that for households with no death. The households with non-HIV/AIDS deaths had orphan rate twice as high for those in households with no deaths. The percentage of orphaned children is alarmingly very high (82 percent) in the households with HIV/AIDS related deaths. Child death rate measured by the percentage of children who died due to any cause during the period of observation was about three and a half time the rate for those households with no death.

Table 4.1: Indicators of child well being by HH with a HIV/AIDS-related death, HH with a non-HIV/AIDS disease-related death and HH with no deaths.

	HIV/AIDS Death	Non-HIV/AIDS death	No deaths
N. children (CM) in the HH	251	168	217
N. male children (CM) in the HH	126	85	110
% orphan CM (over total CM in the HH) (orphan rate)	81.7	60.1	31.8
% CM (over total CM in the HH) who died due to any cause during the period of observation (death rate)	16.7	4.8	5.5
% CM (over total CM in the HH) being sick due to any disease during the period of observation (diseases prevalence rate)	70.1	66.1	70.1
% CM (over total CM in the HH) having worked during the period of observation	14.3	11.3	12.4
% CM (over total CM in the HH) being unable to visit an health care centre when in need of essential health care services	43.0	42.3	36.9
% CM (over total CM in the HH) withdrawn from school	23.9	19.1	14.8
Average Daily Time spent by children in personal activities (playing, studying) in hours	1.8	2.2	1.9
% CM (over total CM in the HH) being discriminated against for any reason	6.8	1.8	1.8

Child diseases prevalence rate measured by the percentage of children being sick due to any disease during the period of observation in the three households do not show wide differences. On the average about 70 percent of the children reported to have been sick due to any disease with children in household with HIV/AIDS death having slightly higher rates. The percentage of children that worked during the period of observation suggest that the problem of working children is slightly higher in households with HIV/AIDS death. The percentages of 14, 11 and 12 for working

children in households with HIV/AIDS death, non-HIV/AIDS death and no deaths respectively are fairly close to the proportion of 13.5 among children 5-17 years for Nyanza Province reported to be working in 1998/99 Child Labour Report.

The results also show no wide variations by the three categories of households on percentage of children being unable to visit a health care when in need of essential health care services. However, children in households with HIV/AIDS death had slightly higher rate (43 percent) when compared with (37 percent) for those in households with no deaths. The percentage of children withdrawn from school is highest in households with HIV/AIDS death. About 24 percent of children in households with HIV/AIDS were found to have been withdrawn from school when compared with 19 and 14 percent for households with non-HIV/AIDS death and no deaths respectively.

The survey reveals that the average daily time spent by children in personal activities (playing and studying) is about two hours. However, children in households with HIV/AIDS death had the least average daily time (1.80 hrs) when compared with 2.23 and 1.85 hours for those in households with non-HIV/AIDS death and no deaths respectively. The survey data show that the percentage of children being discriminated against for any reason is greatest in households with HIV/AIDS death. The level of discrimination estimated at 7% in households with HIV/AIDS deaths was about three times higher when compared with those for the other two categories of households.

Analysis of the impact of education of the household head on child well being indicate that it has a positive effect in families affected by HIV/AIDS. The data show improvement in all the indicators of child well being except for discrimination and working child in HIV/AIDS death households with secondary education level heads when compared with the illiterate headed. Similarly, higher income levels show improvements in indicators of child well being even in HIV/AIDS affected families. The data also show that apart from two indicators (for average daily time spent by children in personal activities and discriminated against any reason), all the other indicators suggest improvements in the child well being in HIV/AIDS affected families with higher income levels when compared with their counterparts having lower income level.

4.1.2 Type of coping strategies adopted by the households

The survey results are provided on Table 4.2. On the six sustainable coping strategies the results show that on the average, households with an HIV/AIDS related death adopted relatively higher rates for each of them except for increased average daily time for productive activities when compared with households with no deaths. The most adopted in this category of strategies are mainly having reduced savings (65%), increased the average daily time for productive activities (52%) and reduced needed investments (37%).

Analysis of the data on the three partially sustainable coping strategies reveal that households with an HIV/AIDS related data adopted relatively higher rates for all of them when compared with households with no deaths. About 21 percent of the households with an HIV/AIDS death placed children with distance families while 13

and 6 percent of these households had their members out-migrate for distant work and left their jobs to care for the sick members respectively.

Data gathered on the six unsustainable coping strategies indicate that there were no wide variations on these strategies by the three categories of households although those in households with an HIV/AIDS related death had adopted slightly higher percentages when compared with those in households with no deaths. The most adopted unsustainable coping strategies in households with an HIV/AIDS related death are foregoing essential health care services (69%), received substantial aids from any source (59%) and reduced expenditures on essential food (31%). The least adopted unsustainable coping strategy is borrowed money at unfavourable condition (under 3%).

Table 4.2: Type of coping strategies adopted by HH with an HIV/AIDS-related death, HH with a non-HIV/AIDS disease-related death and HH with no deaths.

	HIV/ AIDS death	Non-HIV/AIDS death	No deaths
Sustainable coping strategies			
% HH having reduced savings	65.3	70.6	60.4
% HH having reduced needed investments	36.7	23.5	31.7
% HH having reduced expenditures on consumer durables	9.2	5.9	8.9
% HH having sold non-productive assets (jewellery, other non-essential items)	4.1	2.9	5.9
% HH having increased the Average Daily Time for productive activities	52.0	44.1	45.5
% HH having reduced the Average Daily Time for family and other activities	33.7	33.3	22.8
Partially sustainable coping strategies			
% HH with members having out-migrated in search of distant work opportunities	13.3	10.8	10.9
% HH having placed children with distant families	21.4	19.6	17.8
% HH with a member having left his/her job to care for sick HH members	6.1	0.0	3.0
Unsustainable coping strategies			
% HH having received substantial aids (cash or kind) from any source	59.2	69.6	59.4
% HH having borrowed money at unfavourable conditions	2.0	1.0	3.0
% HH having increased incomes from sale of assets	22.4	14.7	18.8
% HH having reduced expenditures on essential food	30.6	29.4	26.7
% HH with children withdrawn from school	26.5	19.6	16.8
% HH with members having foregone visits to health care centres when in need of essential health care services	69.4	70.6	69.3

Further analysis of differentials was also restricted to education and income variables. The results show that in households with an HIV/AIDS related death: secondary and above education level household headship reduces the negative impact in all the sustainable coping strategies except reduced expenditures on consumer durables and reduced needed investments; primary education level headship significantly reduces negative impact in all of the partially sustainable coping strategies; and, increase in education level of household head appear to be associated with reduction of the negative impact of unsustainable coping strategies except two (increased income from sale of assets and received substantial aids from any source).

Comparing high income level with low income level of the household with an HIV/AIDS related death suggest that high incomes have significant reduction effect on the negative impact of unsustainable coping strategies except for reduced expenditures on consumer durables, sale of non-productive assets and increased time on productive activities. High income level of the household appear to be also associated with about three times increased out-migration of members in search of distant work when compared with those with low income level.

Results of the analysis of The 2000 MICS data presented in Table 4.3 shows that improved knowledge of HIV/AIDS prevention is significantly associated with: secondary level and above for both men and women; utilization of trained health personnel for antenatal and delivery; and, improved child nutrition. The data do re-affirm that improvements in knowledge of mother to child transmission, knowledge of where to test and proportions tested are also significantly associated with the same three variables as in the case with HIV/AIDS prevention. The proportions of the total female and male population tested are only 10 and 8 percent respectively.

Table 4.3: Knowledge of ways of prevention, MTCT and test for HIV/AIDS (%)

	Know 3 ways		Test for HIV		Proportion in total Population
	Prevention	MCTC	Know where to test	Those tested	
Woman's Education: None	34.9	48.5	47.4	6.3	15.3
Woman's Education: Primary	43.9	48.5	60.8	8.1	57.2
Woman's Education: Secondary+	57.3	53.6	78.5	17.6	27.4
Skilled Attendant -antenatal	50.2	54.9	70.2	11.9	76.2
" -at birth	50.9	56.9	75.5	18.3	42.6
Man's Education: None	51.7	47.1	64.5	8.7	9.9
Man's Education: Primary	58.5	46.9	72.5	5.2	55.5
Man's Education: Secondary+	64.3	49.9	85.6	12.9	34.6
Weight-for-age 2SD-Underweight	37.2	47.2	57.9	9.8	21.2
" 3SD-	38.8	45.4	52.0	10.0	5.7
Height-for-age 2SD- Stunting	41.5	48.0	59.1	8.6	35.3
" 3SD	39.3	48.7	57.2	7.9	14.7
Weight-for-height 2SD-Underweight	38.1	42.0	52.4	9.9	6.0
" 3SD	21.8	34.7	52.8	6.4	1.4
DPT Immunization	44.7	49.9	63.8	10.1	76.2
BCG Immunization	44.3	49.1	64.4	10.4	90.9
Polio Immunization	44.0	49.9	64.6	10.5	72.8
Measles Immunization	45.6	50.3	64.6	10.4	76.1
Proportion in total female population	46.2	50.0	63.6	10.4	52.2
Proportion in total male population	59.1	48.0	76.3	8.2	47.8

4.2 Macro level impact

4.2.1 Impact on provision of social services

Analysis of the data from the Department of Social Services survey on the HIV/AIDS impact on the structure of the ministry as well as quantity and quality of services

provision show that there is serious shortage of personnel and funds in the face of increasing demand for social services especially in rural areas. Data on exits from service due to HIV/AIDS related deaths are shaky and are therefore based on the assumption that 30 percent of the total deaths could be attributed to HIV/AIDS. The estimated percentages of exit from service due to HIV/AIDS related deaths as of the total exits were 2, 5 and 10 for the periods 1990-1995, 1996-1998 and 1999 respectively. The number of days of absence from work, estimated assuming 45 days per individual who died, increased from 3,600 in 1990 to 4,420 and 9,675 in 1995 and 2000 respectively. This implies an increase of 23 and 119 percent in the 1990-1995 and 1995-2000 periods respectively. The number of unfilled vacancies also increased from 1,318 in 1996 to about 4,000 in the year 2000 mainly due to early retirement and retrenchment programmes. These results suggest negative impact on the quality of social services. The survey also revealed that the department has also very limited funds for only the relief of distressed and the aged persons. The allocated funds were US$ 1,350 and US$ 14,000 in 1997 and 1999 respectively. There are no funds allocated to cater for the rapidly growing number of orphaned children estimated at 300,000 in 1994 and 1 million in the year 2001.

4.2.2 Impact on provision of education

The precise contribution of the HIV/AIDS on the quality and quantity of educational services could not be determined from the ministry survey data. However, data established that in the 1995-2000 period the number of primary and secondary schools increased by about 15.5 and 12.8 percent respectively. The number of primary and secondary level classes also increased by 10.3 and 24.8 percent during the same period. The personnel in the Teachers Service Commission increased from 203.0 thousand in 1990 to 231.7 and 236.8 thousand in 1995 and 2000 respectively. This implies an increase of 14.4 and 2.2 percent in the 1990-1995 and 1995-2000 periods. Since data on exits and entry into service was not available, the 1995-2000 decline in rate of increase could be attributed to attrition due to deaths, retirements and freeze in new employment.

The trend data on both gross and net enrolment ratios suggest only slight decline in quantity of educational services in the recent past. This could be attributed to a number of factors including impact of HIV/AIDS. Gross enrolment ratios in both primary and secondary levels declined during the 1990-2000 period. The primary level gross enrolment ratios for males and females estimated at 104.0 and 99.6 respectively in 1990 declined to 88.1 and 87.1 respectively in 2000. Similarly, secondary gross enrolment ratios for males and females estimated at 33.6 and 25.2 respectively in 1990 also declined to 23.5 and 20.9 respectively in 2000. Data on net enrolment ratio available only for 1999 and 2000 show a decline as well. The primary level net enrolment for males and females declined from 70.5 and 70.9 respectively in 1999 to 68.8 and 68.0 respectively in 2000. At secondary level, net enrolment for males showed no significant change as reflected by the estimates of 13.3 in 1999 and 13.5 in 2000. However, secondary level net enrolment for females showed a decline from 14.5 in 1999 to 13.6 in 2000. This is also reflected in the increase of drop-out ratios at secondary level in the 1993-2000 period. While the primary level drop-out ratios remained close to 5 percent for both males and females in the 1993-2000 period, the secondary level ratios for males and females increased from 3.3 and 3.5 respectively in 1993 to 4.6 and 5.1 respectively in 1999.

Available data on quality of educational services also suggest a slight decline in the 1990-2000 period. Pupil-class ratios for primary level show insignificant changes between 1995 and 2000 while for secondary level show only a slight decline in the 1995-2000 period. The estimates for primary and secondary levels declined from 31.3 and 41.4 respectively in 1995 to 30.1 and 34.6 respectively in 2000. Similarly the pupil-teacher ratios for primary level show insignificant improvement in the 1995-2000 period and a slight decline for the secondary level. The estimates for primary level improved slightly from 31.1 in 1990 to 32.9 in 2000 while for secondary level declined from 20.2 in 1990 to 16.5 in 2000.

4.2.3 Impact on provision of health

The assessment of the HIV/AIDS impact on provision of health services was based on information from the Ministry of Health survey and results of the macro simulation models. Trend data was not readily available to determine the HIV/AIDS impact on the structure of the Ministry of Health. However, data on the growth of the number of health establishments suggest that the ministry do not cater sufficiently for the relatively increased demand for health services. The number of primary care institutions increased from 3,456 in 1995 to 3,874 in 2000 while for secondary care institutions increased from 344 in 1995 to 479 in 2000. The tertiary care institutions increased from 1 in 1995 to 2 in 2000. This implies increases of 12, 39 and 100 percent for primary, secondary and tertiary care institutions respectively for the 1995-2000 period. The government owns 80, 50 and 100 percent of the primary, secondary health care institutions respectively. Data on the number of beds in wards dealing exclusively with AIDS was not available but available information suggest that their percentage increased from 35 in 1995 to 50 in 2000 (NASCOP, 2000).

Data was not available to determine trends in attrition of health personnel due to HIV/AIDS. Data for the year 2000 indicate that there were a total of 758 doctors, 24,500 nurses and 15,103 administrators and other personnel in the health care institutions at all levels. Doctors exiting from public health care institutions dropped from 44 in 1999 to 34 in 2000. In each year, about 150 medical doctors, dentists and pharmacists enter into the service. Recruitment of nurses was stopped in 1997 while 503 exited from public health care institutions in 1997 for various reasons while entry into service each year averages 1,000 to 1,200. Shortage of nurses in public health care institutions is projected at 2000 by the year 2008 due to resignation, deaths and retrenchment.

Projections of health expenditure based on simulation models indicate that the total annual health care treatment costs for persons with HIV and AIDS of all age groups was projected to grow eight-fold from Ksh.1.4 billion in 1990 to Ksh.11.2 billion in 2010 under the high HIV prevalence scenario and to Ksh.3.7 billion in 2010 under the low estimate. More than 90 percent of the health care costs are attributed to inpatient care with the remaining costs covering outpatient and home-based care.

Assuming that the health budget kept pace with inflation and that the population growth rates of 1995 were maintained under the high HIV projection scenario, the demand for HIV/AIDS treatment in public sector would rise from 17 percent of the health budget in 1990 to 79 percent in 2010. In the private sector, the share absorbed

by HIV/AIDS would rise from 35 to 161 percent in 2010 under high HIV projection scenario and to 53 percent assuming low HIV projections. The burden on private sector capacity would be about twice as great as on public sector capacity assuming that the distribution of public-private sector remained the same. However, all the costs are expected to reduce drastically given the introduction of low cost antiretroviral drugs in the year 2001. The projections further indicate that total hospital costs for AIDS, expressed in 1992 prices, will increase to about 3,800 million by 2000 and to 5,400 million by 2005. This implies that about half of the total public health care budget will be required to provide adequate care for AIDS patients and the remaining half to meet all the other health needs of the population.

Scanty information was gathered in the Ministry of Health survey on the quantity of health care services. However, some indicators suggest increased pressure caused by HIV/AIDS and general deterioration of health care services in the recent past. In 1996, about 50 percent of beds in public hospitals were occupied by HIV/AIDS patients (HIS, 1996). There is also a general decline in immunization coverage rate from 77 percent in 1990 to 65 percent in 2000. Children covered in baby well clinics also declined from 72 percent in 1997 to 64 percent in 2000.

4.2.4 Impact on child survival and life expectancy

According to the projections based on macro simulation models, the annual number of child deaths due to measles and malaria was expected to reach 10,000 by 2005. Infant mortality rate that was projected to decline from 72 per 1,000 live births in 1995 to 47 per 1,000 in 2005 without HIV/AIDS, is expected to reach between 55 and 60 per 1,000 live births in 2005 with HIV/AIDS. Similarly child mortality rate that was expected to decline from 115 in 1995 to about 70 by the year 2005 in the absence of HIV/AIDS is expected to increase to between 120 and 125 per thousand live births by 2005. In overall, infant mortality rate is projected to be 20 percent higher and child mortality rate 75 percent higher in 2005 as a result of HIV/AIDS pandemic.

Kenya's life expectancy at birth, which had risen from 48 years in 1970 to about 54 years in 1990, was expected to decline to about 50 years by the end of the year 2000 (UNAIDS, 1998). However, the projections indicate that life expectancy at birth is expected drop to as low as 47 years by 2005 and then rise slightly to 50 and 52 years for men and women by the year 2020.

Table 4.4: Trends in some welfare indicators

	1985	1990	1995	2000	2005
1. Life expectancy at birth	60	59	54	51	47
2. Infant mortality rate	63	62	63	71	60
3. Under 5 mortality rate	102	90	93	105	125
4. % children under 5 suffering from moderate-severe wasting			1.6	1.3	
5. DPT3 immunisation coverage (proportion of one-year-old children			86.9	79.2	
6. Measles immunisation coverage		78.0	84.0	79.2	
7. ORT use (percentage of all cases of diarrhoea in children under 5			38.5	68.7	
8. Proportion of births attended by doctor, nurse, or midwife			45.4	44.3	

Sources: UNICEF, UNDP, WB, DHS

Note: The inserted DHS data on ORT refer to children under 3: the recommended home solution is not included in the 2000 data.

4.2.5 Impact on other macro economic indicators

HIV/AIDS affects productivity sectors of the economy. The effects on productivity are mainly from the loss of skilled and unskilled labourers and absenteeism. HIV/AIDS is expected to impact negatively on employment by creating more than necessary absenteeism, deaths of trained labour and loss of people between ages 15–49 years that comprise the core of labour force. According to Africa Competitiveness Report 2000/2001, the impact of AIDS in the workplace will rise over time as deaths increase and about 7.5 percent of Kenya's 1999 workforce was HIV positive.

The economic impact of HIV/AIDS could substantially be higher owing to the fact that most infections occur among the economically active age group, 15-49 years. According to results of the simulation models, the total direct and indirect cost of AIDS could increase from 2 – 4 percent of the GDP in 1991 to 15.5 percent in the year 2005 while per capita income would drop by 10 percent as a result of high mortality and morbidity of the most productive labour force. It is projected that the impact of HIV/AIDS will reduce Kenya's Gross Domestic Product by 14.5 percent by 2010. HIV/ADS will therefore reduce both the workforce and available resources.

5. Responses for the mitigation of HIV/AIDS impact

5.1 National Policy on HIV/AIDS

The policy of the government on control and prevention of HIV/AIDS is contained in the Sessional Paper No.4 of 1997 that also recommended the establishment of the National Aids Control Council (NACC). The Sessional Paper recognizes that effective responses to the HIV/AIDS crisis requires a strong political commitment at the highest level, implementation of a multi-sectoral prevention and control strategy, mobilization of resources and establishment of national AIDS council to provide leadership at the highest level possible. NACC that was established in 1999 is mandated to provide policy and strategic framework for mobilizing and coordinating resources for prevention of HIV transmission and provision of care and support to infected and affected people of Kenya. The three specific targets for NACC are to: reduce HIV prevalence by 20-30 percent by the year 2005; increase access to care and support to the people infected and affected by HIV/AIDS; and, strengthen institutional capacity and coordination at all levels.

The National Aids Control Council set up a number of structures to facilitate the implementation. These include the AIDS Control Unit (ACUs) in each Ministry, Provincial HIV/AIDS Control Committees (PACCs), District HIV/AIDS Control Committees (DACCs) and Constituency AIDS Control Committees (CACCs).

5.2 Political commitment

HIV/AIDS was declared a national disaster during the HIV/AIDS symposium for members of Parliament in Mombasa held in November 1999. The president and other political leaders are fully committed to the fight against HIV/AIDS as reflected by their public pronouncements in parliament and public gatherings. The government

also confirmed its commitment to fight against HIV/AIDS through establishment of NACC and providing funds to it for the year 2000.

5.3 Policy and programme measures for mitigation of HIV/AIDS impact

Analysis of the policy and programme measures for mitigation of HIV/AIDS impact in Kenya was based on the survey data for the ministries of education, health and social services. The ministries survey was conducted in the months of July and August 2001. The planning and statistical units of these ministries provided the information to the research assistants used in implementing these surveys.

Data gathered in the stakeholders survey was used to undertake the assessment of the preliminary impact of the policy response measures as perceived by the stakeholders. The stakeholders survey was also conducted in Ugunja Division of Siaya District in Kenya. A total of 27 stakeholders were interviewed consisting of 7 families infected and affected by HIV/AIDS, 5 NGOs operating in Ugunja Division with strong HIV/AIDS programmes and 15 community based organizations including individuals actively involved in HIV/AIDS activities.

5.3.1 Responses on provision of social services and perceived preliminary impact

The department of social services has not undertaken the measures of new enrolment of semi-qualified personnel and recall of retired personnel into service due to freeze in employment in the face of the retrenchment programme being implemented. Data obtained on programmes being supported indicate that out of the 9 programmes in the standard questionnaires used in the survey, only one on social assistance for poor relief is being implemented with very little funding. In this regard, the ministry has not responded by increasing the number and funding level of support programmes to mitigate the impact of HIV/AIDS.

The survey results show that the ministry is pursuing only one of the six specific policy measures aimed at expanding the capacity and outreach social services. The measure being implemented is HIV/AIDS prevention among staff of the ministry through information, condom distribution and counseling. This measure was only intensified in the year 2000 when HIV/AIDS Control Units (ACU) were established in the ministry. The other policy measures such as accelerated training, overtime arrangements, expansion of front offices, subcontracting of social services tasks are not yet instituted. For specific policy measures for strengthening the institutional response to the HIV/AIDS impact in social services sector, efforts started in 2000 to mobilize funds to respond to the impact and to set up effective information network.

The results of the stakeholders survey regarding the perceived impact of the Department of Social Services responses show that some of the problems perceived to be most tackled feature also as most neglected. This could be interpreted to imply that the impacts of these problems are very serious that much more need to be done. The results also show that priority problems for future interventions by the department should include addressing the issues of lack of funds, lack of personnel, worsening of old needs. Apart from the NGOs, the stakeholder perceived the policy measure adopted to solve the problem of lack of funds for infrastructures successful. However,

the overall degree of success for measures adopted to tackle the second and the third problems were rated unsuccessful by HIV/AIDS affected households and NGOs. The stakeholders also perceived lack of funds, lack of personnel and worsening of old needs as the three most neglected problems ranked from first to third respectively.

5.3.2 Responses on provision of education and perceived preliminary impact

Results of the survey show that out of the four specific policy measures for preventing and treating HIV/AIDS among the staff of the Ministry of Education, only one measure on prevention through information programmes, condom distribution and counseling was being implemented from the year 2000. Other policy measures such as introduction of health insurance for staff treatment of staff with anti retro viral (ARV) therapy and other anti-HIV/AIDS programmes targeting staff of the Ministry of Education have not been started.

The results further show that none of the six policy measures for sustaining the capacity of the institution to deliver educational services are being implemented. The specific measures sought included accelerated training of new teachers within the standard teacher training colleges, accelerated training of new teachers with a shorter/lighter curriculum, allocation on non-teaching staff to teaching tasks, reduction of teaching schedule, overtime arrangements for teachers and regrouping of classes.

The survey revealed that the ministry is implementing three out of these six policy measures for sustaining education demand but not in response to the HIV/AIDS pandemic. The policy measures being implemented are targeted bursary programmes for secondary school pupils and university students, provision of books to primary schools under the SPRED project, and the Girl Child Project launched in 1997 covering 13 pilot districts and targeting mainly primary schools.

The survey established that the policy measure on responses to teacher absenteeism and low morale for all reasons to sustain the quality of education was not in place. Only one out of the four policy measures aimed at strengthening the institutional response to HIV/AIDS impact on the educational sector was started in January 2001 by establishing the AIDS Control Unit. The ministry is yet to introduce policy measures for mobilization of funds to respond to the impact, allocation of full-time personnel dedicated to HIV/AIDS issue in the educational sector and development of effective information network.

The perceived impact of the responses by the Ministry of Education based on stakeholders survey suggest that future interventions by the Ministry of Education should focus on solving problems of lack of personnel, shortage of teaching materials in schools and the new problems caused by HIV/AIDS. The policy responses adopted to solve the problem of frequent absence of teachers was rated as successful. However, the ratings of the impact of the policy measures adopted by the Ministry of Education to address the problems of lack of personnel and shortage of teaching materials in schools were perceived as unsuccessful on the overall and on the specific aspects.

The HIV/AIDS affected households in particular, perceived lack of personnel, shortage of teaching materials in schools and the new problems caused by HIV/AIDS as the three most neglected problems ranked from first to third respectively. The aspects to be kept in greatest consideration in implementing policy measures to address these neglected are mainly timing with respect to needs, respect for rights and sympathy with sufferings of targeted people.

5.3.3 Responses on provision of health services and perceived preliminary impact

Out of four policy measures to offset the HIV/AIDS impact on the health care system only one was being implemented. The four measures are HIV/AIDS prevention among medical personnel, introduction of health insurance for medical personnel, treatment of medical personnel with antiretroviral (ARV) therapy and other anti HIV/AIDS programmes targeted to staff of the Ministry of Health. Apart from the awareness campaign for HIV/AIDS prevention that was in place, the other three policy measures were not being implemented.

On the four specific policy measures aimed at sustaining the delivery capacity of health care institutions, the survey data revealed that there was no policy response introduced to cater for this aspect. Apart from updating the training curriculum for medical personnel at all levels to include HIV/AIDS, no responses were noted in the policy measures for accelerated training using standard curriculum or shorter curriculum, overtime arrangements for medical personnel, response to medical personnel absenteeism and low morale.

The survey results revealed that out of the eight policy responses required for alternative health programmes to respond to HIV/AIDS challenge, about 7 were being implemented with varying degree of success. The policy measure being implemented are: promotion of greater reliance on home and community care programmes; training of trainers implemented on an ad-hoc basis with NGOs and private sector carrying much of the burden; ensuring that essential drugs are available to all health care institutions and whose implementation is rated unsatisfactory; the STI project funded by the World Bank Project started in 1996 and integrated into HIV/AIDS programme and whose implementation rated satisfactory; provision of treatment of opportunistic infections such as TB free of charge in government facilities and whose coverage was estimated at 65 percent in 1996; production of guidelines for Voluntary Counselling and Testing (VCT) and the training of personnel with about 180 personnel trained and 2000 VCT centers to be started; and, procurement of about 3 million condoms in the year 2001.

The four critical policy measures to facilitate strengthening the institutional capacity have been responded to satisfactorily according to the survey results. The ministry through the National Health Strategy Paper proposed six methods for mobilization of funds to respond the impact of HIV/AIDS. The implementation of this policy measure has resulted into increased allocation of government funds to National Aids and STD Control Programme (NASCOP) as well as increased donor support in the 1998-2000 period. The amount of funds allocated in 1999 was Ksh.1,485 million (approximately US$ 18.6 million). The second policy measure in this category was initiated in 1985 when the AIDS Programme Secretariat was established. The third policy measure

requiring allocation of full time personnel dedicated to HIV/AIDS issue is also in place since NASCOP has full time staff of about 30 members. There are also 69 District AIDS coordinators who were appointed in 1996 and 8 Provincial AIDS coordinators appointed in the year 2000. The fourth policy measure is also in place as NASCOP has an effective information network to inform policy and programme monitoring.

The stakeholders survey data revealed a slight mismatch between the areas perceived as most affected and most tackled. However, the NGOs and CBOs perceived the overall and specific aspects of the policy measure adopted by the Ministry of Health to tackle the problem of low morale/poor performance of staff to be unsuccessful. The stakeholders also perceived low recurrent expenditure funds, lack of personnel and new problems caused by HIV/AIDS as the three problems most neglected by the Ministry of Health. Frequent absence of personnel and new problems arising from HIV/AIDS are areas that lack interventions.

6. Lessons learnt, conclusions and recommendiations

6.1 Efficacy of HIV prevention

The prevention programmes implemented so far, from the first medium term plan of the 1985-1991 by Ministry of Health to the current multi-sectoral approach of the 2000-2005 plan by the NACC, have not very been effective as reflected by the increasing trends in HIV prevalence. While the HIV/AIDS awareness level is very high (estimated at 99 in the 1998KDHS), there have not been significant changes in sexual and other risky behaviour. The lack of success is partly attributed to a variety of factors including legal, ethical, cultural barriers and opposition by some religious organizations to introduction of sex education in schools and condom use. It is interesting to learn from the Ugandan experience that there was full support for sex education in schools and condom use from these religious organizations. The current programme should therefore strive to attain their full support by borrowing the strategies used in Uganda. There should also be special culturally sensitive programme measures targeting those accorded the status of the custodians of the community cultural values so as to speed up positive changes on cultural practices promoting the spread of HIV infections. Political commitment in the fight against HIV/AIDS that was intensified from the end of the year 1999 should continue since this was found to be a critical factor for success of prevention programmes in both Kenya and Uganda.

6.2 Reduction of mother to child transmission (MTCT)

Reduction of MTCT by use of drugs such as AZT and Nevirapine that is currently being implemented in Kenya on a pilot basis by the government in collaboration with other agencies including UNICEF should be evaluated with the view to scaling it up. The statistics from the pilot programme suggest that it could be meeting its set objectives. Experiences drawn from other countries implementing MTC programme such as in Thailand indicate that it is simple and low-cost. The scaling up of this programme in Kenya would substantially reduce the proportion of HIV infected newborns. However, the challenges that must be addressed include provision of

sufficient supplies of drugs, increasing the availability of other supportive programmes (such as counseling, testing, follow-ups, and treatment of the mothers and children in their local communities).

6.3 Access to antiretroviral (ARV)

The scanty information on access to ARV by those living with HIV in Kenya estimate the access at only 5 percent. The major obstacles to ARV access in Kenya include the very high cost, limited knowledge and training by health care professionals and lack of laboratory support. Although the legislative bill on generic ARV was passed by parliament in 2001 is likely to increase accessibility of these drugs, the government has stated clearly that it cannot afford to avail them in its health facilities due to financial constraints. In 2001 the government put in place programmes to train health care providers, develop treatment protocols and improve laboratory support. There is therefore urgent need to explore the financing mechanisms that could facilitate the extension of ARV treatment in Kenya. One of the mechanisms that could be considered is using the large discount from the generic manufactures as for the case of Senegal (see chapter 4 of the global study) that could be implemented within the context of the on-going cost sharing strategy.

6.4 Mitigation of HIV/AIDS impact on well being of children in affected families

The study results show that the welfare of the children has been adversely affected in households with HIV/AIDS. The orphan rate in affected families is very high (about 80 percent) and is twice as high as compared to families with no death. The affected households compared with other households have also relatively higher child mortality rates and child labour. The children in these affected families have the least average daily time spent on personal activities, are mostly discriminated against and have least access to essential health care services

The results further show that most of the HIV/AIDS affected families compared with other families adopted higher rates of both partially sustainable and unsustainable coping strategies. Some of these strategies include sale of assets, children being withdrawn from school and reduced expenditure on food. These coping strategies adopted have serious implications on the well being of children and is likely to deepen their level impoverishment. The limited help in these households was found to come from the community and civil society with the government playing a negligible role. The extended family system has been stretched to the limit and cannot cope any more without some help due to the large numbers of children involved. The number of orphaned and other vulnerable children was estimated at 1 million in the year 2001.

The situation calls for a quick anti-poverty mechanism targeting the affected households. The ministries survey results revealed that the Department of Social Services do not have funds and programmes targeting these orphaned and vulnerable children. The government must therefore initiate more programmes and mobilize funds specifically to cater for these rapidly increasing children in HIV affected households to empower them and their care givers including foster families provide for the much needed support and protection of their rights. The resources would also enhance provision of urgent needed programmes targeting the psychological needs and protection against discrimination for children in affected households.

6.5 Mitigation of HIV/AIDS impact on demand and supply of quality education

This study established that there is slight decline in the quantity of educational services at primary level and a substantial decline in the quality at secondary level. The decline in pupil-teacher and pupil-class ratios as well as the increase in drop-out rates could be attributed to a number of factors including HIV/AIDS. The ministries survey also established that there are no policy measures to respond to the problems of treatment of staff with HIV/AIDS ailments, absenteeism and low moral among the ailing teachers. There is therefore urgent need to introduce health insurance for staff treatment as well as other measures to sustain educational demand and the capacity of the ministry to deliver educational services. Accelerated training of new teachers and bursary targeting the orphaned and vulnerable children are required on an urgent basis.

6.6 Mitigation of HIV/AIDS impact on provision of health services

The projections indicate that the total annual health care treatment costs for persons with HIV and AIDS will grow eight times between 1990 and 2010. About half of the total public health care budget will also be required to provide adequate care for AIDS patients by 2005. There is also evidence of decline in immunization coverage and children covered in baby well clinics. About 50 percent of the hospital beds are occupied by patients with HIV/AIDS related illnesses. There is therefore a strong case that the care of other diseases and child survival programmes being crowded out by HIV/AIDS. This calls for re-strengthening the Primary Health Care programmes to accommodate HIV/AIDS with a view to rationalizing the allocation of resources available so as to attain optimum results.

6.7 Mitigation of HIV/AIDS impact on other macro-economic indicators

This study established that about 7.5 percent of Kenya's workforce in 1999 was HIV positive and that the impact of HIV/AIDS is projected to reduce GDP by 14.5 percent by 2010. These results have serious implications on the well being of children. There is therefore an urgent need for intensification of interventions for prevention of HIV infections and treatment of HIV/AIDS related diseases targeting the workforce so as to reduce the negative socio-economic impact on children.

References

Berezin, N. (1992) "HIV and Other Sexually Transmitted Diseases" in Mann, J. et al. (eds.) *AIDS in the World: A Global Report*, Harvard University Press, Cambridge, and London

Forsythe, S. and Rau, B. (1996), *AIDS in Kenya: Socio-economic Impact and Policy Implications*, FHI/AIDSCAP, USAID, Arlington

GOK/UNICEF (1998), *Situational Analysis of Children and Women in Kenya,* Ministry of Planning and National Development, Nairobi

Merson, M.H. (1993) "Slowing the Spread of HIV/AIDS: Agenda for the 1990s" in *Science* vol. 260, pp 1266-1268.

National AIDS Control Council (2000) *Kenya National HIV/AIDS Strategic Plan 2000-2005*, NACC, Nairobi

Baltazar, G.M., Stover, J., Okeyo, T. M., Hagembe, B.O.M., Mutemi, R. ,aand Olola, C.H.O. (1999) *AIDS in Kenya: Background, Projections, Impact, Interventions, Policy*, NASCOP (National AIDS and STDs Control Programme), Ministry of Health (MOH), Republic of Kenya, Nairobi

Baltazar, G.M., Chebet, K.L., Cheluget, B.K., Marum, L.H., Mwikya, L.and Stover, J. (2001) *AIDS in Kenya: Background, Projections, Impact, Interventions, Policy*, Ministry of Health (MOH) and National Aids Control Council, Republic of Kenya, Nairobi.

National Council for Population and Development, Central Bureau of Statistics and Macro-International (1999) *Kenya Demographic and Health Survey 1998,* Ministry of Planning and National Development, Nairobi.

Ocholla-Ayayo, A.B.C. (1997) "HIV-Risk Factors and Changing Sexual Practices" in Kenya" in *Africa Families and the Crisis of Social Change*, Westport

Plummer, F., Moses, S., and Ndinya-Achola, J. (1991) "Factors Affecting Female to Male Transmission of HIV-1: Implications of Transmission Dynamics for Prevention" in *AIDS and Women's Reproductive Health.* pp 35-45. Plenum, New York.

Tuju, R. (1996) *AIDS: Understanding the Challenge,* ACE Communications, Nairobi.