International Labour Organization

THE IMPACT OF HIV/AIDS ON THE PRODUCTIVE LABOUR FORCE IN TANZANIA

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Eastern Africa Multidisciplinary Advisory Team (EAMAT)

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ACRONYMS

AIDS	Acquired Immunodefiency Syndrome
AMREF	African Medical Research Foundation
ATC	Air Tanzania Corporation
BOT	Bank of Tanzania
CUT	Cooperative Union of Tanzania
DYDOs	District Youth Development Officers
EE	Employment and Earnings
FAO	UN-Food and Agricultural Organisation
HIV	Human Immune Deficiency Virus
IFIs	International Financial Institutions
KHDS	Kagera Health and Development Survey
MLYD	Ministry of Labour and Youth Development
MOH	Ministry of Health
MTP	Medium Term Plan
NAC	National AIDS Council
NACP	National AIDS Control Programme
NBC	National Bank of Commerce
NGOs	Non-Governmental Organisations
NIC	National Insurance Corporation
OTTU	Organisation of Tanzania Trade Unions
PVOs	Private Voluntary Organizations
TAC	AIDS Technical Advisory committee
TAZARA	Tanzania Zambia Railway Authority
THC	Tanzania Harbours Corporation
TTC	Tanzania Tourist Corporation
TTPT	Tanzania Posts and Telecommunication
UMATI	Uzazi na Malezi Bora
UNDP	United National Development Programme
UNECA	United Nations Economic Commission for Africa
USAID	United States Aid Programme
USDM	University of Dar es Salaam
WHO	World Health Organization
YEGs	Youth Economic Groups

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PREFACE

This working paper is a part of a comparative study covering the impact of HIV/AIDS on productive labour force in four African Countries: Rwanda, Tanzania, Uganda and Zambia. Infection with the Human Immune Deficiency Virus (HIV) and the Acquired Immune Deficiency Syndrome (AIDS) presents major challenges ranging from Social, cultural, economic, political, to ethical and legal problems. The reality of HIV/AIDS pandemic in Africa is the rapidity with which it is currently engulfing individuals, households and commonties. The disease is considered to be one of the most deadly and destructive diseases the world has known. It is already one of the leading causes of death in some urban centres in Africa and it is fast spreading to rural areas.

The study was designed to examine the impacts of HIV/AIDS on the labour force, taking cognisance of the fact that the population between the ages of 20 to 49 years is hardest hit. It was carried in line with the conclusions of the WHO/ILO Consultation on "AIDS and the Workplace" and the Priorities of the UNDP Inter-Country Programme for Africa (1992-1996) as well as the UNDP country programme priorities in the countries in Central, Eastern and Southern Africa. More specifically, the study was aimed at examining the incidence of HIV/AIDS among various components of productive labour force in both formal and informal sectors. It examined the effects of the incidence on labour/employment, employment security and discrimination, labour productivity, labour mobility, labour wage and costs, impact on skill development/technology and on education and training. In addition, a review was carried on ongoing national policies and support programmes on HIV/AIDS prevention and control.

The case study on Tanzania was prepared by Mr. Dr. H.P.B. Moshi, EAMAT consultant, and senior Research Follow, Economic Research Bureau, University of Dar-es-Salaam.

This report has been produced with active collaboration of George Ruigu, EAMAT Senior Specialist on Employment Strategies and coordinator for the Study. The valuable contribution of all EAMAT Support Staff is also very much appreciated.

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1 INTRODUCTION

1.1 Background

Infection with the Human Immunodeficiency Virus (HIV) and the Acquired Immunodeficiency Syndrome (AIDS) pandemic in Africa has received considerable attention by epidemiologist and demographers, as well as health economists concerned with the sectoral impact of the disease. Given the alarming prevalence of this deadly disease in Africa "modelling" the Macroeconomic impact of Aids becomes imperative.

Sub-Saharan Africa has about 10 percent of the World population but 40 percent of the worlds' infected persons. If this trend were to continue, Africa would have a cumulative total of 11 million HIV infections among adults by the year 2000. More than 80 percent of the HIV infection cases in this area are found in 10 of the 34 countries (Mhloyi, 1991). This high concentration is in countries like Rwanda, Tanzania, Uganda, Zambia, Kenya, Zaire, Zimbabwe, Malawi and Cote d'Ivoire. The World Health Organisation (WHO) estimates that there are at least 6 million persons infected with HIV in Africa (WHO, 1991).

More recent studies estimate that there are 20 million adults and children infected with HIV Worldwide, resulting in 2 million AIDS cases. WHO thus estimates that by the year 2000, cumulative totals of 30-40 million men and women will have been infected, and 12-18 million will have developed AIDS (UNECA, 1992).

In Tanzania, following recognition of the first AIDS case in 1983, reported cases escalated rapidly. By the end of 1990, a cumulative total of 21,175 AIDS cases had been reported throughout the country (Chin and Sonnenberg, 1991). The number of officially reported cases is thought to understate considerably the true number, given: the rapid increase in reported cases as knowledge of the disease has improved; the current HIV seroprevalence and incidence rates which suggest an older epidemic than reported AIDS cases would indicate; and current knowledge of the disease's transmission and progressions rates. Such underreporting would, in fact, be expected due to: the inadequate access to health facilities by the population; the lack of resources for management of the case reporting system; and, despite of National AIDS Control Programme's (NACP) best efforts, the continued insufficiencies in laboratory facilities, supplies, and training of clinical staff.

The NACP estimates that the true number of AIDS cases from the start of the epidemic through 1990 is more than 100,000 (or about 5 times the number of reported cases. Chin and Sonnenberg's model, based on data through 1989, projects a total of about 64,700 cases through 1990, while Bulatao's (1990) projections through 1990 range between 43,000 and 224,200 cases, depending upon the scenario selected. Recent data from NACP projects 2.4 Million HIV infections by the year 2000, 850,000 AIDS cases and 1 Million orphans.

Despite the fact that there exists different estimates, depending on the scenarios selected and the simulation methods used, the above projections are a clear manifestation that AIDS is a serious problem in the country. Since the disease affects mainly the sexually active members of the population and infants, e.g. about 94 per cent of all reported AIDS cases have been between the ages of 15 and 55 years, and 4 per cent have been children under five (NACP 1991),

serious macroeconomic effects on the Tanzanian society are unavoidable.

1.2 Terms of Reference

The study was geared to address the following:

a. The incidence of HIV/AIDS among various components of the productive labour force;
b. The effects of the incidence on:
- Labour supply/employment,
- Labour productivity,
- Labour mobility,
- Labour/wage and costs,
- Resulting impact on Skill development/technology,
- Education and training;

c. To review all relevant issues which HIV/AIDS will impact on female labour force, e.g. patterns and employment opportunities, female unemployment and pressures to prostitution, change in age at marriage, migration, and changes in divisions of labour between men and women. This dimension of gender analysis is based on the fact that the incidence of AIDS on women has not received adequate emphasis, both in the existing literature as well as in research agenda;
d. Review of on-going policies and support programmes on HIV/AIDS prevention and control by various bodies and organisations such as Governments, Employers' and Workers' organisations and External Donor Agencies such as WHO Global Programme on AIDS (WHO/GPA), USAID - supported Country Programmes, UNDP, (Private Voluntary Organisations) PVO's NGO's especially as they relate to the labour market;
e. Policy components concerning HIV/AIDS, the labour market and the work place which can be recommended to government, Employers, workers, UN Agencies, NGOs and PVO's in the light of the results of the study.

1.3 Methodology

Two main methods were used during the data collection period. The first method was that of consulting secondary data sources with the main objective of literature review as a way of the current state of affairs as far as HIV/AIDS is concerned. Through such an exercise data gaps were identified, with subsequent attempts bridge, some of them, during primary data collection. Again, through literature review, the assumptions underlining such studies were reviewed and their validity assessed and new assumptions for this study were drawn. Most of the secondary data was collected at the Ministry of Health (MOH) focusing specifically at the National Aids Control Programme (NACP), Muhimbili Medical Centre, the Bureau of Statistics, Ministry of Education and Culture, African Medical Research Foundation (AMREF), USAID, World Bank, AIDSCAP, FAO, Organisation of Tanzania Trade Unions (OTTU), Association of Tanzania's Employers (ATE) and Ministry of Labour and Youth Development (MLYD).

The second method of data collection was field surveys aimed at collecting primary data. Through a questionnaire, field surveys were to be conducted in Kagera region. However, this exercise was abandoned half-way because of two main reasons. Firstly, the responses were not

forthcoming from the interviewees. This was the case of "research fatigue" which the area has been experiencing for some time now. In fact when we earlier contacted the NACP, the coordinator had discouraged us from conducting such field surveys. He claimed that the people in the area are tired of researchers who go there just to collect information without a concrete programme of assistance. It is no wonder therefore that most NGO's do offer such assistance. Secondly, even in the cases in where the responses were positive, what was to be considered "news" was insignificant.

In order to fill in this gap, reference will be made to the results of a survey conducted in Kagera in 1992 on "The economic impact of fatal adult illness in Sub-Saharan Africa". The survey was sponsored by the World Bank Research Committee, DANIDA and USAID. The results of the research were presented at a Workshop which was held in Bukoba (Kagera Region) in September 1992.

However, in order to focus more on the labour force issues, a number of institutions were surveyed and interviews undertaken. The content of the interviews centered on general issues of policy on Aids - related programmes and on specific issues like the Aids-related deaths and costs associated with such deaths in specific organisations. In this regard the following organisations were consulted: National Insurance Corporation (NIC), J.V. Group, Cooperative Union of Tanzania (CUT), Kibo Paper Limited, Tanzania Zambia Railway (TAZARA), National Bank of Commerce (NBC), Tanzania Harbours Corporation (THC) and the University of Dar es Salaam (UDSM).

In addition, interviews were also conducted in organisations representing workers (OTTU), women (OTTU Women Section), employers (ATE), NGO's (AIDSCAP) and Youth Directorate (Ministry of Labour and Youth Development). The focus of the interviews was on policy and programmes which have been put in place to educate those who they are representing on the dangers of HIV/AIDS, methods for control and the assistance rendered to the victims (sick, orphans, etc.).

2 CURRENT STATUS AND INCIDENCE OF HIV/AIDS

The data which appears in this chapter have been compiled by the NACP in its report No. 7 of December 1992 and covers Tanzania Mainland. In fact this report is quite recent and the report covering the year 1993 is expected to be out by February 1994.

The available data on AIDS in Tanzania cover the following areas:

- Reported AIDS cases
- HIV seroprevalence among blood donors
- HIV and syphilis seroprevalence among pregnant women attending antenatal clinics
- HIV seroprevalence in youth (survey results for Mwanza and blood donor data for youth)
- Survey results among family planning attenders in Dar es Salaam.
- Population-based surveys in Kagera and Mwanza
- Survey results from High Transmission Areas (Truck and stops)
- Estimations of HIV seroprevalence in general population
- Projections of adult HIV infections and AIDS cases.
- Projections of paediatric HIV infections and AIDS deaths.
- Projections of orphans.

Since 1983 AIDS, reported cases have increased from three to 34,140 in 1991, and to 38,416 in 1992. At present (July 1994) the number of the reported cases stands at 43,000. It is assumed that this number will double within 19 months. Further, the actual number of AIDS patients in the country is more than 150,000. Furthermore, it is estimated that the number of HIV/AIDS carriers would swell to 2.4 million by the year 2,000. At the moment the number of AIDS carriers is estimated to range from 800,000 to 1 Million.

The results presented in Table 1 should be interpreted with caution because they are very much underestimates. The experience in Tanzania shows that only one out of 4-6 cases are reported.

The distribution of AIDS cases by sex and age depicts that the overall cumulative rate of 89.9 per 100,000 for men and 82.4 for females. Highest case rates of over 3.0 per 1,000 are observable in 30-39 year old men and in 25-29 year old women. This implies that AIDS epidemic affects women at an earlier age than males. However, case rates clear off in females at an earlier age than in males. The distribution by sex indicates that the male/female ratio is 1.05. If one takes into account that the general population has an excess of females, then the M/F ratio is 1.09 (In cases up to mid 1991 these ratios were 1.16 and 1.21 respectively). However, according to the available data the M/F ratio of AIDS cases is expected to decrease further. This is because the ratio for HIV infection among blood donors is 0.89 for 1992. In fact blood donor data for 1992 show that whereas 5.4% of male adults were HIV infected, 7.0% of females adults were already infected. This is a clear indication that overall female seroprevalence is higher than male seroprevalence for all ages.

The regional distribution of AIDS/HIV in Tanzania is very uneven. Although trends by regions before 1989 are difficult to assess, at present six regions could be classified as "high prevalence" (i.e. 7% and above). These regions are Kagera, Mbeya, Rukwa, Iringa, Tanga and Dar es Salaam. Table 2 summarizes the regional distribution for both men and women for the 1987-1992 period.

Table 1: AIDS Reported Cases in Tanzania, 1983 - 1994

Year	Number (Cumulative)
1983	3
1984	109
1985	404
1986	1,525
1987	4,456
1988	9,280
1989	14,107
1990	22,081
1991	34,140
1992	38,416
1993	42,422
1994 (April)	43,000

Source: NACP, 1994

In the interpretation of the table one should bear in mind that the positions occupied by a region at any point in time changes with time. Therefore, they should be analysed from a dynamic point of view rather than from a static one; For example, at present Dar es Salaam Region ranks first followed by Mbeya and Kagera with 9,186; 6,081 and 4,387 patients respectively. This represents 657.3 cases per 100,000 people for Dar es Salaam, 351 cases for Mbeya and 289.5 cases for Kagera. This dynamism is also true across ages. For example, if one was to analyse the HIV infection in adolescents, a picture emerges which shows a rapid increase in prevalence among teenagers (15-19 years) and 20-24 year olds. Among male 15-19 year olds, prevalence was 0.0% in 1987, and reached 4.0% by 1992. Among female 15-19 year olds, prevalence rose from 0.0% in 1988 to 7.9% in 1989 and 7.5% in 1990, and subsequently steadily declined to 3.6% in 1992. The same trends are observable in other age categories as summarized in Table 3.

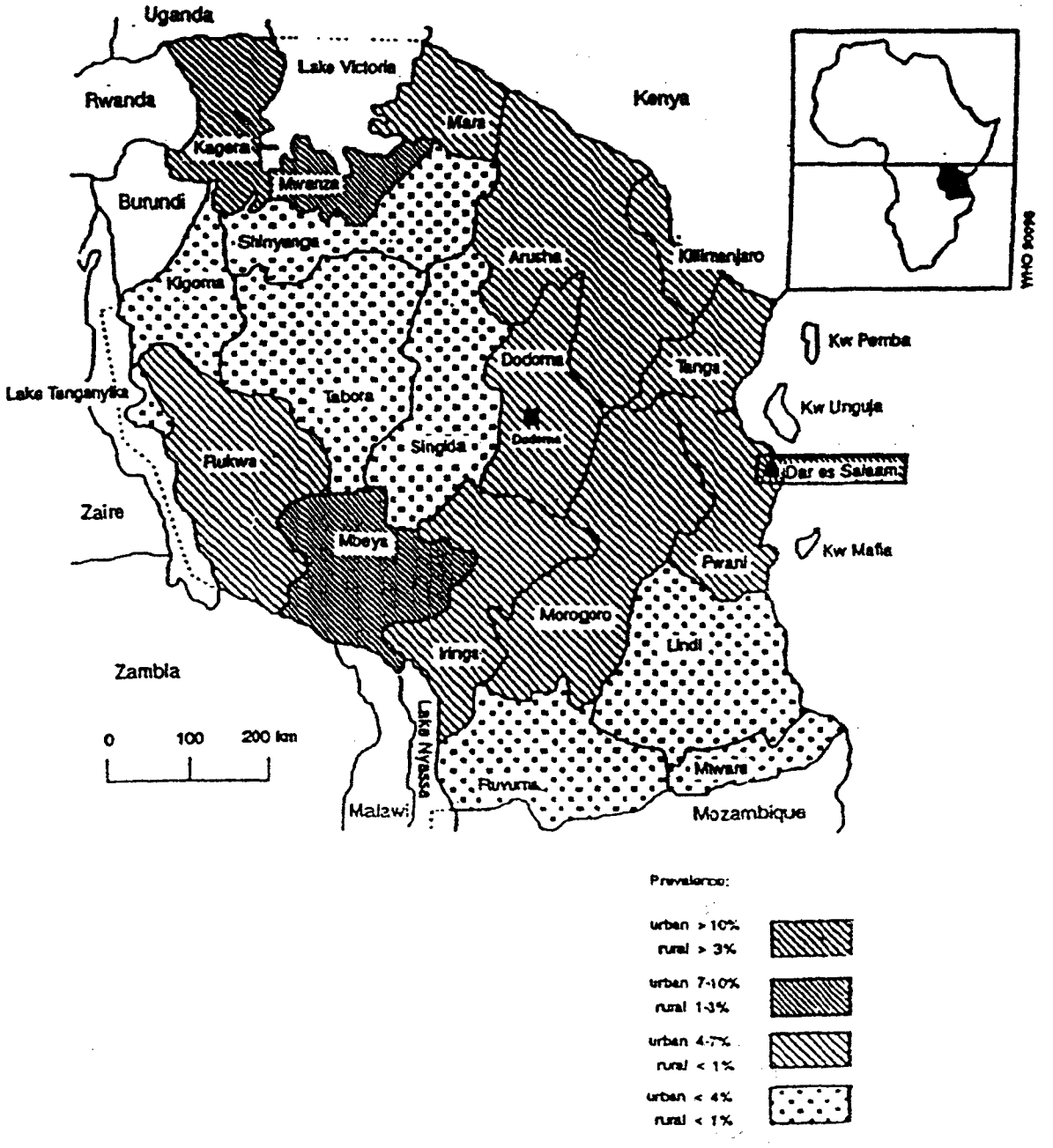
Table 2: HIV Seroprevalence in Blood Donors by Region for Males/Females, 1987-1992

Region	Males (%)	Rank	Females (%)	Rank
Arusha	2.35	18	3.69	16
Coast	4.49	14	5.59	13
Dodoma	3.18	15	2.26	20
DSM	7.15	5	12.81	3
Iringa	10.48	1	9.60	6
Kagera	10.47	2	12.29	4
Kigoma	1.95	20	5.91	10
Kilimanjaro	2.70	17	3.03	17
Lindi	4.50	13	4.04	15
Mara	4.72	11	7.83	9
Mbeya	8.39	3	11.41	5
Morogoro	5.69	10	5.25	14
Mtwara	4.57	12	5.73	12
Mwanza	5.90	7	5.84	11
Rukwa	7.69	4	19.44	1
Ruvuma	5.81	9	18.52	7
Shinyanga	5.89	8	14.76	2
Singida	2.21	19	2.55	19
Tabora	2.83	16	2.75	18
Tanga	7.09	6	8.39	8
Tanzania	5.56		7.32	

Source: NACP, 1992 with some modifications from the author.

Other data sources do suggest considerable rate of transmission, even before the age of 14 years of age in the case of females. This confirms the contention that women stand the higher risk of early age HIV infection than men. As a consequent education in schools becomes a necessary even if behavioural changes are to be expected during adulthood. It is also important to note that HIV infection in adolescents shows different growth rates in urban, roadside villages and in rural areas. The highest rates (1.57%) are found in urban areas, 0.68% are observed in roadside villages and 0.45% are village dwellers. As we already cautioned earlier, these rates are dynamic and change with time mainly due to migration effects.

Figure 1: Estimated HIV Prevalence among Sexually Active Adults, Tanzania, 1989



Source: Chin and Sonnenberg, 1991.

Table 3: HIV Prevalence for Male and Female Blood Donors by Age, 1987-1992

Age	1987		1988		1989		1990		1991		1992		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
15-19	0.00	0.00	1.56	0.00	1.82	7.93	3.33	7.49	3.24	4.88	3.95	3.55	8.22
20-24	3.36	0.00	6.77	4.55	4.53	13.53	4.68	9.45	4.98	7.69	5.11	7.11	13.05
25-29	1.80	14.29	8.30	11.76	6.04	8.24	4.98	9.03	6.68	8.75	6.21	6.70	14.48
30-34	2.13	16.67	9.25	14.29	5.34	8.93	5.48	6.19	6.38	6.56	6.25	6.05	12.70
35-39	7.81	0.00	8.71	21.05	5.46	7.95	4.29	6.16	6.08	4.80	5.54	6.40	11.44
40-44	7.14	0.00	10.05	16.67	3.79	9.64	3.79	2.88	4.83	6.33	4.16	3.73	9.88
45-49	10.00	0.00	5.56	0.00	2.15	7.69	5.07	1.23	4.48	3.41	4.46	5.07	8.32
50-54	0.00	0.00	4.17	0.00	3.05	0.00	3.81	0.00	4.41	5.56	3.00	6.78	8.50
55+	0.00	0.00	15.38	0.00	3.60	0.00	5.00	10.00	4.00	6.78	2.50	5.00	10.00
Total	3.32	7.14	7.71	7.51	4.87	9.60	4.72	7.61	5.68	6.97	5.43	0.89	12.41
Male/Female Ratio	0.46		1.03		0.51		0.62		0.82		0.89		

Source: NACP, 1992

Some projections have been made from the above given data. NACP projects that HIV infection in Tanzania will increase from 760,000 cases in 1990 to 1.6 Million cases by the year 1995. It is further estimated that such cases will reach 2.4 Million by the year 2000, while 800,000 will have full-brown AIDS. In terms of orphans, three scenarios are projected from the present estimate of 110,000 orphans. With the assumption that on average one orphan accounts for one AIDS case, then by the year 2000 the number of orphans will range from 450,000 (low) to 750,000 (medium) to 1 million (high).

The above data, both actual and projected, suggest that AIDS will have profound effects on the Tanzania labour force in terms of education, in the size and change of age structure of the labour force. In fact, it has been estimated that by the year 2010 the size of the work force will be only 80 per cent of what it would be without AIDS, while the mean age of the working population (15-64) will fall, in the with-AIDS scenario, from 32 years to 29 years by 2010, and to 28 years by 2020, versus about 31 years without-AIDS scenario. The next section attempts to analyse this impact in some detail by utilizing the results from the field surveys.

Perhaps it will be interesting to summarize the situation of AIDS pandemic in Kagera region. The Adult mortality rates of 4.6, 4.7 and 4.6 per thousand for Biharamulo, Ngara and Karagwe districts respectively are close to the Africa-wide baseline mortality rate for adults aged 15-50 years in the absence of AIDS. However, substantially higher rates of 13.2 and 14.8 per thousand are observable in Muleba and Bukoba districts. Figure 2 presents the seroprevalence and Adult mortality in Kagera with its five districts.

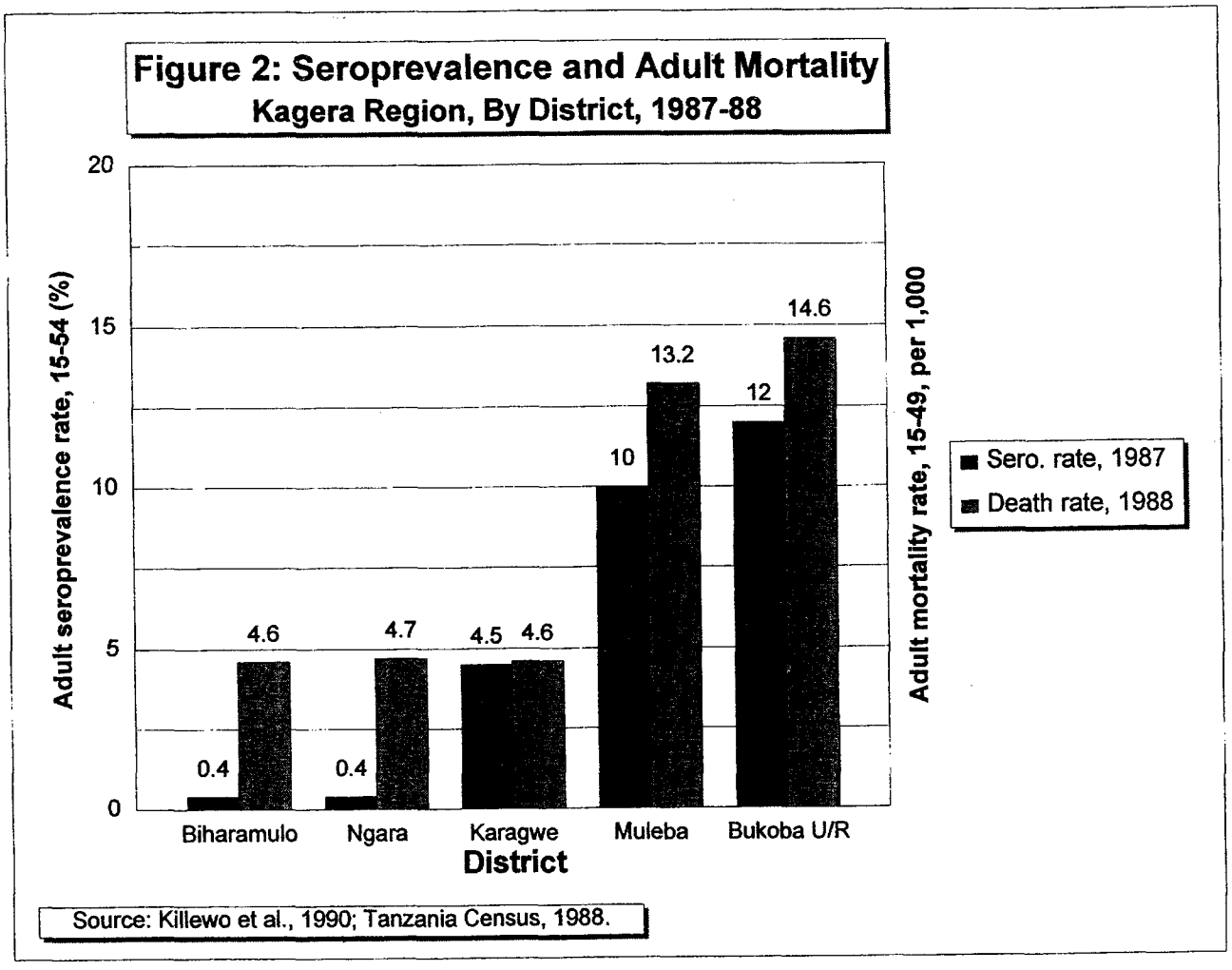


Figure 2: Seroprevalence and Adult Mortality
Kagera Region, By District, 1987-88
Adult seroprevalence rate, 15-54 (%)
20
15
10
5
0
0.4
4.6
0.4
4.7
4.5
4.6
10
13.2
12
14.6
Biharamulo
Ngara
Karagwe
Muleba
Bukoba U/R
District
Adult mortality rate, 15-49, per 1,000
Sero. rate, 1987
Death rate, 1988
Source: Killewo et al., 1990; Tanzania Census, 1988.

3 MACRO-ECONOMIC IMPACT OF HIV/AIDS

3.1 Introduction

The extent and severity of the AIDS epidemic in Tanzania have drawn attention of researchers to assess the macro-economic effects of the disease by posing two important questions: (i) will AIDS have important macroeconomic effects on the economy as the epidemic runs its course? (ii) to what extent can various policy interventions alter these macroeconomic consequences ?

In an attempt to answer these questions constructed the world Bank (1991) a macroeconomic model which compared a "No AIDS" scenario to "with AIDS" scenario. The study, however, drew a lot from Buletao's (1990) and Cuddington (1991) studies. The world Bank study addressed the macro-economic impact by tackling the following problem areas:

- How will the time path of potential output in AIDS-stricken economy differ from what would have happened in the absence of the AIDS epidemic?
- Will per capita income be lower or higher in the "with AIDS" steady state and during the transition to this steady state?
- How will AIDS affect domestic (public and private) saving behavior?
- How will capital investment and the economy's capital/worker ratio be affected over time? Will the composition of natural output shift in favour or against capital intensive sectors of the economy?
- Should we expect higher or lower real wages?

The main findings of the World Bank study were as follows:
a. The number infected will reach 5.8 to 17.4 percent of the population by the year 2010, up from 1.4 to 5.3 percent currently. (These HIV-infected individuals will suffer debilitating illness, usually within one to ten years of infection, followed by certain death a year or two later, often in the prime of life or before). In addition, a much larger number will be indirectly affected: as relatives, many of whom will incur significant costs on account of AIDS victims; as survivors, many of whom will be left in greater poverty; as earners, employers, or self-employers who will experience productivity losses; or as sufferers of other diseases in AIDS-induced resurgence (e.g., tuberculosis);
b. Demographic changes will alter the composition of the population and work force. Earners will have more dependents to provide for, as the ranks of working-age adults are thinned by rising mortality, while the young and the infirm become more numerous. The work force will become younger (average age 29 instead of 31 in 2010) and less experienced, and will have less education and training. Critical talents and rare skills -- such as entrepreneurs, managers, and various professionals -- will become even scarcer;
c. The economy will be adversely affected, mainly in the medium and long run. GDP will grow more slowly; by 2010, it could be 14 to 24 per cent lower than it would have been if there had been no AIDS epidemic. Per capita GDP also will be impacted, but more moderately, as the slower aggregate GDP growth is partially offset by slower population growth;
d. Some sectors, industries, regions, and subgroups will feel the effects much more than others. Kagera region, the worst hit area so far, will experience massive increases in

mortality rates and unattached dependents (orphans, widows, etc.). It is already feeling the labour pinch, with crop production reportedly being adversely affected. Other regions may be similarly affected. Health services and budgets will come under increasingly intense pressure, as AIDS victims and other patients compete for the limited resources available;

e. Population growth, though slowed considerably by higher mortality, will remain above 2.0 percent through 2010 or longer, and the dependency ratio will worsen slightly; population policies and programs, including family planning, will continue to be an urgent priority.

FAO carried out another study with the aim of looking into the socio-economic impact of the HIV on agriculture. Specifically the study attempted to answer the following questions. How will AIDS impact on:

- Agricultural labour pool;
- Labour supply and productivity;
- Crop production;
- Commercial farming;
- Competition between staple foods and export commodities;
- Food security and nutritional adequacy ?

The results of the FAO study will be addressed to in the later sections of this chapter. At this juncture we intend to identify channels of macro-economic influence.

3.2 AIDS Channels of Macro-Economic Impact

According to Cuddington (1991, op.cit) AIDS can affect the macroeconomy through a number of separate channels. At the most basic level, the effects of AIDS may be grouped into two categories, those associated with: (i) declining "healthiness" (Morbidity) of the population, and (ii) rising Mortality rate for particular age cohorts, especially seriously active adults and infants (infected at birth).

The rising morbidity, in turn, has four major effects:

i. reduction in labour productivity
ii. increase in health care expenditures
iii. reduction in human capital investment and
iv. reduction in saving.

The issue of labour productivity falling is clear given the fact that healthier workers are more productive than sick ones. In an AIDS stricken environment even healthy workers might produce less due to production time incurred during visits to hospitals to console sick colleagues, paying last respects to those who die and attendance of funeral ceremonies.

Higher health care expenditures are in relation to costs incurred by households and public and/or private health care systems to assist AIDS patients and their families in coping with their worsening health condition.

There are studies (Cuddington, ibid., World Bank, op.cit) which contend that the rising health care expenditures will undoubtedly reduce savings but this might not always be the case. In fact from households point of view this will depend very much on who is the bread-winner to the family. It is possible that women tend to be better savers than men. Again, given that AIDS is a "prolonged" rather than a "sudden" death, this phenomenon alone could creates a "no-saving" behaviour.

Nevertheless, higher health care expenditures will bring about expenditure switching behaviour by allocating more resources to this expenditure category both at the household and government budgetary level. However, if such expenditure switching arrangements are not accompanied by an increase in the overall budgetary allocations to health and health related activities, then cost sharing will have to be effected. This will definitely constrain the financial resources at the household level- even further and the adequacy of the health general care at the family level might fall tremendously.

Indeed AIDS will strain even further the Government budget in general and budgetary allocations to the health sector in particular. Reference to appendix Tables 14 and 15 shows a clear downward trend of amounts allocated to the health sector, especially in the first half of 1980s. A real reduction was experienced between 1981/82 and 1985/86, although the trend was reversed between 1985/86 and 1988/89. Generally, the level of spending achieved in some years i.e. between 1975/76 and 1981/82 were not reached in the subsequent periods. Further, the ratio of health recurrent expenditure to total Government current expenditure has ranged from 6.4 per cent to 10.2 per cent, and the general trend since 1975/76 has been downwards.

An analysis of budgetary allocation in one hospital, Machame, shows that whereas only 0.03% of its budget was allocated to AIDS related diseases in 1992, the share rose to 26.26% in 1994. It is further estimated that this ratio will increase to 87.03% by the year 2000 and 210.86% by 2010.

It is in the context of the above budgetary constraint that the cost sharing scheme was conceptualized. However, it is unlikely that the scheme will improve the overall health delivery system in terms of better facilities and adequate drugs availability. Evidence shows that the scheme has some negative effects, which might mitigate against AIDS fighting efforts. The very fact that STD infected persons are at present supposed to pay for treatment, those who cannot pay remain untreated. However, the strong positive correlation between HIV/AIDS and STD is well documented.

Apart from the budgetary issue, AIDS will overstrain the available facilities, both in terms of personnel and bed occupancy. This survey estimates that AIDS will claim 10-15 per cent of the beds in the short-run. In the medium and long-run the occupancy rates will range between 40 and 50 per cent for rural and urban hospitals respectively. This will demand reallocation of resources to AIDS: a phenomenon which might divert attention and resources from other diseases.

The increasing number of donor and NGOs in AIDS related assistance programmes in Tanzania testifies the inability of the Government and the households to meet the increasing health care expenditures, Pallangyo and Laing (1990) estimate that in Tanzania, for example, the

average cost incurred per adult AIDS patient's over the duration of the patients illness is approximately TShs.50,139 assuming that the present centralized health care delivery system, (not home-based care) remain in place and that 60 percent of the required drugs for treatment are actually available. For children, the corresponding figure is TShs 34,395. If these figures are compared to Tanzania's per capita income of Tshs 12,590 in 1988, it is clear that these AIDS related health care costs could become a tremendous burden as the epidemic worsens.

Apart from individual (own pocket) costs, there are costs incurred by institutions for HIV/AIDS related deaths. For example in 1993 the medical costs for TAZARA workers (mainly associated to AIDS-related diseases) increased from TShs.2.8 million in January to 4.6 million in December: an increase of about 64 per cent. Data on medical costs for other institutions were not available.

A further example of rising labour costs associated with funerals is evident at the University of Dar-es-Salaam (UDSM). Whereas as in 1988/89 funeral expenses were a meager sum of TShs 1,323, this sum rose to TShs. 2.4 Million in 1989/90 to TShs 3.5 Million in 1991/92 and to TShs 5.8 Million in 1992/93. This means that in 1988/89 the total funeral costs were only 2 per cent of what they were in 1992/93. To be on the safe side we could assume that 50 per cent of these costs, especially after 1989 are associated with AIDS-related deaths.

The rising mortality rates will have two important demographic aspects which in turn impact on the macroeconomic performance of a country. This section, thus draws heavily from the study by Currdington. Firstly, the rising mortality rates will have negative impact on population growth rate. That is it will result in a smaller population at each future data. According to the results of his simulations higher death rates will more than affect any change in birth rates, so that the population growth rate will indeed fall. There are at least two reasons why birth rates may be affected by the AIDS epidemic: (i) fertility rates may change if, as the prevalence of AIDS rises, women alter their childbearing behavior because of various economic and non-economic considerations, and (ii) AIDS may change the number of women in the various childbearing - age cohorts, thereby affecting the overall birth rate, even if behaviour patterns within each age cohorts are unchanged. Bulatao's (1990) model which incorporates the latter but not the former aspect came to the conclusion that, the size of Tanzania's working age population by 2010 will be roughly 20 percent smaller because of the AIDS epidemic than it would be without it.

The second effect of the rising mortality rates is the shift in age structure such that the youth dependency ratio increased while the elderly dependency ratio decreases. According to Bulatao (ibid.) between 1985 and 2000 the youth dependency ratio (the number of people ages 0 to 14 as a fraction of people ages 15 to 64) will rise a couple of percentages points more than it would if there were no AIDS; the elderly dependency ratio (the number of people at age 65 and older as a fraction of the number ages 15 to 69) will be slightly higher with AIDS than without AIDS until 2000, after which it will fall during the next 20 years by roughly 2 per cent more than it would if there were no AIDS.

In summary, the AIDS epidemic will reduce the overall size of the population and will shift its composition towards the youth. The labour force in turn, will be composed of younger, less experienced workers. According to Bulatao's estimates, the mean age of the working age

population (15 to 64 years) will fall from 32 years in 1985 to 28 years in 2020 with AIDS, compared with 31.5 years in 2020 without AIDS.

It is important to note that shifts in the age structure towards the young have a least four consequences. They affect the size of the working age population, the labour force participation rate, the composition of public sector expenditures, and saving rates.

The third impact of rising rates due to AIDS is loss in human capital. This refers to the premature loss of well trained, educated and experienced workers. To replenish this stock of human capital heavy investment in training becomes indispensable. However, since training takes long, the replacement of such skills in the short and medium term is inconceivable. Consequently, it will be almost impossible to reverse the falling trends of labour productivity in the short to the medium-term. If this assumption is accepted, then output (GDP) has to fall as well.

3.3 HIV/AIDS Impact on Labour Force

This section attempts to look more closely on the epidemic's impact on the productive labour force and discusses the validity of the general trends presented in section 3.1.

3.3.1 Labour supply/employment

Looking at the labour supply side, the labour surplus theory suggests that an epidemic will shift the labour supply curve to the left. Thus indicating that no effect on the production side. By contrast, if labour is not in surplus, such a shift would lead to decline in the production of crops and of the acreage sown.

If we assume that the concept of labour surplus theory does not apply because the organisations surveyed for this study reveal that these AIDS infected labour force is in "rare profession" categories". Table 4 summarizes the AIDS-related deaths in seven production and service organisations covering the period 1988-93. It is clear from the table that more men than women are affected. This relates to the employment structure which tends to discriminate against women as far as employment is concerned. This is also true in the case of the University of Dar es Salaam where the male/female student ratio is about 1:3.

The evidence given in Table 4 also supports the assumption that "rare professions" are most affected than the "surplus" skills. This implies that replacement of the former category in the short and medium term will be almost impossible. Further, since students are also being infected, and this cuts across all faculties, this delays even further the process of replenishing the labour force through training.

If we consider the mean age of those who have died of AIDS. It is clear from the table that it ranges from 31 to 38.7 years. Assuming that the retirement age in Tanzania is 55 years. It thus means that on average each worker has lost between 16.3 to 24 years of his or her productive employment because of the premature death.

Table 4: AIDS Deaths in Selected Organisations, 1988-93

Organization	No. of Male	Death Female	Total	% RP	Meanage (Years)	Total Workforce	% 3/5
	1	2	3	4	5	6	7
Kibo Paper (1991-93)	11	2	13	84.6	38.7	529	.025
TAZARA (1993)	41	1	42	79.0	-	3451	.012
NIC (1989-93)	-	-	17	88.0	3.6	2192	.008
J.V. Group (1992-93)	5	2	7	100	-	4500	.002
CUT (1992-93)	3	1	4	75	-	250	.02
UDSM (students)	31	10	41	-	31	3000	0.01[a]
UDSM (Workers)	-	-	33	72	39	2837	.006[b]
NBC	-	-	22	-	-	N.A.	N.A.

a= assumes 75% AIDS related deaths
b= assumes 50% AIDS related deaths

Source: Author, 1994 (RP = Rare Profession)

Perhaps it will be interesting to know the proportion of the deaths compared to the total employment in an organisation. If we take the case of TAZARA with a total workforce of 3,451 people and thus assume 42 AIDS - related deaths per year, it means that every year the organisation will lose 1.2 percent of its workforce. Generally, it can be assumed that most of the organisations will lose between 0.5-1.5 per cent of its labour power through AIDS related deaths. Except for UDSM, Kibo Paper and CUT the ratios given on the last column of the table are misleading because the total workforce include countrywide branches whereas the reported deaths are at the headquarters in Dar es Salaam.

3.3.2 Employment security and discrimination

In Tanzania there is no stipulated policy on HIV/AIDS. Because of this lack of policy on part of the government both employers' and employees' associations do not have clear policies as far as HIV/AIDS is concerned. However, the associations' general policy is that the management of the respective organisations should protect its investment in human capital. This means that the employer should adopt a policy of HIV/AIDS prevention and the management should show commitment to it.

Perhaps it is because of the above general policy that the Association of Tanzania Employers (ATE) conducts seminars on AIDS by showing videos on Uganda's AIDS scenarios as a way of educating the employers on the dangers of the disease and on control measures to combat the disease.

The employees association. The Organisation of Tanzania Trade Unions (OTTU), embarked on a workplace project (AIWP) with the overall goal of reducing the spread of STD/HIV/AIDS among workers in the targeted worksites through a peer education strategy with

emphasis on behaviour change to be achieved by adoption of safer sex practices and use of condoms.

In principle both the government and the employee-employers' association emphasize the non-discriminatory behaviour as far as employment and security of employment of people infected with HIV is concerned. However, certain trends do point to the fact that there are cases where such a principle is not adhered to. It is true that no law in Tanzania which requires a would be employee to be screened for HIV/AIDS before he takes up employment. In practice however, there are employers who ask some doctors to do the screening without the knowledge of the would be employee. If the results are HIV positive, definitely the applicant won't be employed.

The management in some organisations is using the in-house medical facilities (clinics, dispensaries) to force their employees to undergo screening for HIV. It is observed that the management has instructed the medical officers in the in-house dispensaries to screen those workers who are either frequently sick or appear to be sick. This exercise has been both discriminatory and reduces job security. Discriminatory in the sense that those who prove to be HIV positive are transferred to their home regions (districts), if the company happens to have a branch there, as a way of reducing after-death costs. At present there is a retrenchment exercise being carried out by the Government in the context of public sector reforms. The retrenchment exercise involves a total of 50,000 employees. The management can and does use this exercise as a loophole to retrench those who are HIV positive as a way of reducing costs of premature deaths.

Without the retrenchment exercise it would be very difficult for an employer to overtly discriminate an infected person. The laws in Tanzania require that only a medical board (composed of 3 doctors) can certify the suitability or non-suitability of a worker and thus recommend for his termination (boarded off) on medical grounds. This provision does, to some extent, guard against discrimination.

Further, labour laws in Tanzania stipulate that when a person is on sick leave one should be paid full salary for the first 3 months and half salary for the next three months. This applies to the private sector. In the case of public sector employment, the full and half salaries are for a period of six months respectively. We are not aware of cases where the employers did not abide to these rules. It is important to emphasize that, if it were not for the above laws cum rules, then discrimination would have been practiced on a wider scale.

There is only one case, that of National Insurance corporation (NIC), where screening for HIV/AIDS was a precondition for a grant of a life insurance policy. However, the screening becomes compulsory depending on the amount to be insured. For example, an insurance policy exceeding TShs.1 Million requires that the would be insured be screened. Evidence shows that most of those insured have contracted for policies which are below the above amount so as to avoid falling victims of the conditionality.

3.3.3 Labour productivity

The studies cited under section 3.3.1 and the results of such studies tend to confirm the contention that HIV/AIDS will lead to decrease in labour productivity. By mere observation and

the experience of having participated in a number of pre- and funeral arrangements at the UDSM, and assuming that labour productivity is partly measured by time input into production of goods and services, then as AIDS deaths occur the pre-funeral and funeral arrangements will definitely consume the time of some members of the management, head of sections and some co-workers. In short, there will be divergence of time of the above personnel from their day to day activities towards funeral arrangements. This alone might lead into negative productivity indices.

Since it has been quite difficult to get data on the effect of morbidity on productivity, we intend therefore to analyse the mortality effects on productivity. Indeed, morbidity will reduce productivity as reflected in less man-hour input into production owing to frequency of absenteeism, sick leaves and less working hours. None of the visited institutions do keeps such morbidity data.

The death of a worker might affect the efficiency of a section or an organisation in a number of ways. First, less people carrying the burden of doing the same amount of work. If these can execute the work within the same time period as before, then the productivity of people would have increased. However, the studies from the field show that this has not been the case. The expenditure Section of the University of Dar es Salaam in 1993 through AIDS related disease lost two accounts clerks. Since they have not been replaced until now, the efficiency of that section has decreased. Whereas formerly the processing of payment voucher took two days, now it takes three days.

Another example is that Kagera region has since 1987 lost a total of 55 health workers,out of which 34 were nurses. All these workers have died of AIDS. This has affected the effectiveness of the health care system in the region. This is more so when one considers a lot of people refuse to be transferred to Kagera because of the severity of the epidemic in region (Kashaija, 1993).

Second, if replacement through a less experienced person takes place immediately still the efficiency of the section might not improve because of the long learning process of the newcomer and adapting to the new working environment.

Third, if there was an over-employment in the organisation in question, as is the case in a number of Tanzania's public enterprises, AIDS deaths will reduce such over-staffing and thus improve productivity, depending on who dies.

In rural areas the picture might be quite different. If we assume that the migration of young people to urban areas has left the rural production activities to the relatively old and younger age cohorts, AIDS deaths will reduce productivity. The present practice of encouraging families to care for patients at home and not in hospitals in order to reduce costs will aggravate further this problem.

The FAO study on the impacts of HIV/AIDS on agriculture came out with the following results:

a. Partial or total loss of production of coffee because of the lack of family labour or of cash to employ hired labour;

b. Decline in bean and groundnut production;
c. Contraction of the land area under cultivation. In one survey nearly 25% of the households in a high HIV/AIDS area reported area contraction with sickness and death being a common reason for it;
d. Reduction of input use, together with lack of or delays in planting, weeding and harvesting. Collectively these factors can reduce yields by up to 50 per cent.

These results on agricultural productivity correspond quite well with those of Uganda which showed evidence of direct reductions in food and agricultural production, and substantial changes in labour allocation and land use.

At this point, it might be necessary to consider some of the labour productivity mitigating factors. Firstly, there is a methodological problem of isolating the variable "AIDS" from other variables which might have the same impact on productivity including policy variables which mitigate against low labour productivity tendencies. At present the Government of Tanzania is implementing a number of policies aimed at increasing productivity, accelerating economic growth, raising per capita income, etc. These may further reduce the productivity in rural areas.

Further, the HIV impact on the agricultural economy will be small if there is a surplus of labour supply. However, one should keep in mind that, not only is production affected by the ailing and dead but there will also be production lost due to caretaking of the ill. HIV/AIDS patients have a two year life expectancy on average. During this time family members will spend a lot of time in looking for medical help and caring for the sick. But this time is not available for production activities.

The impact of macro-policies on growth, productivity, per capita income etc. have been generally positive. The impact of AIDS on macroeconomic aggregates is either not evident or is counterbalanced. In such a situation it is difficult to isolate the impact of the macro-policies on the aggregates from the effects of AIDS. In order to solve this problem perhaps the best approach would be to consider the impact of such policies from the perspective of "with AIDS" and "non-AIDS" scenarios.

Furthermore, the adoption of policies packaged in the "Economic Recovery Programmes (ERPs)" has induced a lot of foreign financial flows into the Tanzania economy. However, it is difficult to conceptualize a situation whereby foreign inflow will not be forthcoming because of the negative impact of HIV/AIDS on productivity. Such inflows will be reduced in cases where the government fails to implement donor's and international financial institutions' (IFIs) prescribed or already agreed upon policy packages and conditionalities.

Thirdly, changes in technology changes in entailing changes in organisation and methods of production by altering the capital-labour ratios could compensate for and reverse the loss in productivity. Obviously, it might be easier to use more capital intensive technologies in manufacturing and service industries than in agriculture. The agricultural sector faces a number of constraints (capital, topographical, crop culture, size plots, etc.) which tend to perpetuate the use of labour-intensive techniques. The use of fertilizer, hybrid seeds and improved crop husbandry techniques might improve productivity. However, the issues of ability to pay for these inputs, the supply and availability at a place and time required add to the already enumerated

constraints.

It appears that technological changes could reverse negative productivity trends in manufacturing and service sectors more easily and rapidly than in the agricultural sector. This leads to the assumption that the decrease in labour productivity will be much higher in the agricultural sector than in the other sectors of the economy. If this assumption holds, then rural incomes will fall more drastically than "urban" incomes.

We did note in Section 3.3.1 that the AIDS deaths in the selected organisation cut across all skill levels. Likewise the students deaths at the UDSM (an average of 4 annually) cut across all training categories. This being the case it is difficult to project or make productivity trend analysis in different sectors and sub-sectors of the national economy. Again, it is important to bear in mind that some skill categories are institutional specific. Thus the skill structure of a banking or an insurance institution will be very different from that of a manufacturing company. Nevertheless, Table 5 makes a summary of the skill categories of AIDS deaths in two selected institutions.

Table 5: AIDS Deaths: Skill Categories (1988-93).

ORGANIZATION: NIC		ORGANIZATION: KIBO PAPER LTD.	
Skill Category	**No. of Deaths**	**Skill Category**	**Number of Deaths**
Managers	3	Store's officer	1
Clerks	10	Ass. machine operator	4
Account clerks	1	Machine operator	2
Drivers	3	Quality controller	1
Total	**17**	Messenger	1
		Security guard	1
		Carpenter	1
		Ass. mechanical engineer	1
		Accountant assistant	1
		Total	**13**

Source: Author, 1994

3.3.4 Labour mobility, wages and costs

Many studies have produced evidence suggesting a direct link between migration and increased seroprevalence. One survey in Tanzania found that travelling outside the region but within the country was associated with an increased risk of HIV infection in rural areas; however, travelling was associated with lower risk of infection in urban areas (Russell, 1990).

Table 6: Prevalence of hiv and syphilis among truck driver and their sexual partners, trucking company and communities around truck stops (Summary August 1991)

	No. interviewed	No. tested	Syphilis		HIV-1		HIV-2		Compliance with testing
			+	(%)	+	(%)	+	(%)	
Truck stops									
Male	204	100	15	15.0	31	31.0	0	0	49.0
Female	161	131	39	12.2	39	55.7	0	0	81.4
Total	365	231	54	14.7	104	45.0	0	0	63.3
Communities									
Male	70	62	6	9.7	4	6.5	0	0	88.6
Female	129	118	19	16.1	21	17.8	0	0	91.5
Total	199	180	25	13.9	25	13.9	0	0	90.5
Trucking. co.									
Male	70	61	6	9.8	7	11.5	0	0	87.1
Overall	**634**	**472**	**85**	**18.0**	**136**	**28.8**	**0**	**0**	**74.5**

Key: 1. Syphilis (Active) TPHA + (titre > 1:80)
Source: Ochieng D., Masuka A., Mwizarubi B., Laukamm. Josten U., at el Aug 1991 (AMREF - Tanzania)

In another study of the Trans-African Highway which has created a highly mobile segment of the population namely: truckers and other transport, workers that are often exposed to increased risk of infection from multiple sexual partners and hence a high prevalence of both HIV and STD is observable as summarized in Table 6. One quick assumption which could be made from the table is that non-infected areas will nevertheless be affected by the epidemic through migration. However, it is crucial to analyse the effects of migration on HIV/AIDS .

With the decline of the labour supply in some areas, a pattern of migration will develop between areas: rural to rural, rural to urban, and urban to rural. In the post-colonial era migration between rural areas in Tanzania were virtually non-existent. This was due to the shift or wage employment from rural plantations to urban manufacturing sectors. With the depopulation of an area, if wages rise or land is left with too little labour, in-migration to these areas will tend to increase. However, because of the high risk of infection normal levels of risk aversion may cause there to be few workers interested in settling in these high risk areas, there might even be out-migration.

The issue of migrants working on tea plantations show averages of infections of STD and HIV of 17.4 and 21.2 per cent respectively. Female Migrants show higher (24.1 percent) rates of infection of HIV than men (19.5 per cent). However, the picture is reversed when one considers STD. Men show higher rates of infection (18.9 per cent) than women (14.9 per cent). These results are summarized in the Table 7 below.

Table 7: Prevalence of HIV, Syphilis and Gonorrhoea Among Employees of a Tea Estate in Tanzania, August 1992 Summary

	No. Interviewed	No. Tested	Syphilis[1]		Gonorrhoea[2]		HIV-1		HIV-2		Compliance with Testing
			+	(%)	+	(%)	+	(%)	+	(%)	
Male	349	344	65	18.9	ND		67	19.5	0	0	98.6
Female	197	195	29	14.9	0	0	47	24.1	0	0	90.0
Total	546	539	94	17.4	0	0	114	21.2	0	0	98.7

1 = Syphilis (active) RPR+, TPHA+, (Title < 1:80), syphilis acid: 0.3% in males, 0% in females

2 = Gonorrhoea screening by direct smear was done only in females, 46 out 195 females were not screened for gonorrhoea

Source: Ochieng D., Msauka A., Majonga C., Laukamm-Josten U., de Jong K., at el. Aug 1992, AMREF - Tanzania

Especially important for public health, consideration is how to deal with the infections given migration. When there is an infection, especially in small areas such as villages and towns, it is preferable for those infected to remain in their areas, and for there to be no, in- or out-migration. This will help keep transmission from spreading to other areas.

In urban labour markets, the marginal product of labour is generally thought of be greater than zero. This suggests that if the demand for urban sector goods falls less than the supply of urban workers, wages will increase, holding migration constant.

The Harris-Todaro model of migration (Harris and Todaro, 1970) describes the interactions between the rural and urban labour markets in developing countries. In the model, the urban wage is above the market clearing level and higher than the rural wage. There exists unemployment in the urban areas. Urban unemployment adjusts to equate the competitive rural wage to the urban 'expected' wage- the high urban wage weighted by the probability of holding an urban sector job.

The implicit migration function of the Harris-Todaro equilibrium, is that labour migrates in response to differentials in expected income. In equilibrium, the wage in the rural sector equals the wage in the urban sector multiplied by the probability of getting a job in the urban sector. If the two differ then migration will take place, one way or the other.

With the HIV epidemic and decline of labour supply the urban wage may increase (see above) causing migration from rural to urban areas. If the wage in the urban sector does not increase, but unemployment decreases (because of an increase in mortality), migration also may take place. In this case, migration might serve to limit the impact on wages. As a result of migration, the decline in rural labour supply may raise wages in unaffected areas if there is no surplus labour.

On the other hand, urban areas are more heavily HIV-infected than rural areas. Because of the higher urban infection rates the risk associated with the decision to migrate to urban areas may be increased. The more risk averse who would be near the margin in the absence of the HIV

infection may choose not to migrate. The effect will be similar to an increase in unemployment, and may cause no migration to take place, or even cause reverse (out) migration. Thus, if the expected urban wage is higher than the rural wage, but still no migration takes place it may be because of the increased risk associated with the high urban HIV-infection rate. One approach to account for the HIV risk is to modify the Harris-Todaro migration equation by extending it to incorporate workers' risk aversion. The choice of migration will depend on the expected utility of the two prospects. The utility function used will be the Von Neumann Morgenstern utility function - wage will have a positive effect on utility and the HIV infection rate will have a negative effect.

In summary therefore the pattern and the nature of migration rural-urban, rural to rural and urban to rural will be determined by a number of factors: wage differential, the condition of the social and economic infrastructure, risk-aversion behaviour of the populous and employer response to increasing labour costs. Although at present it is rather difficult to assume with relative certainty that wages will increase and thus raise labour costs, it can be claimed that medical costs and funeral costs will continue to increase. Thus, indirectly raising the labour costs. Nevertheless, computer simulating using general equilibrium models suggest that as AIDS related deaths rise, and given the tendency for greater infection levels amongst the higher skilled, the decline in the trained labour force will drive up wage rates. This is likely to occur first in the primarily urban based industrial and commercial services sector, as mentioned in Section 3.3.3, and later, in the large-scale commercial farming sector. Greater wage rate differentials would attract workers out of small-holder agriculture, and hence compound the negative effects of direct labour losses from AIDS in that sector.

3.3.5 Education and training

The fact that a number of trained people in all sectors of the economy will fall prey to the HIV/AIDS epidemic is undisputable. Indeed certain skills can be more easily replaced than others. That is, specialised skills will take many years to replace. Issues of education and training thus become crucial. HIV/AIDS can affect education in a number of ways: through an impact on cohort sizes and enrollment numbers; teacher needs, turnover and training; parent's willingness and ability to pay for schooling; the efficiency of the education system; and the economic returns to education.

The World Bank study (1991) concludes that, by 2020, in a worst AIDS-scenario, at the primary level there would be 22 per cent fewer children to be educated, and at the secondary level, the relevant age groups would be reduced by about 14 per cent.

The same study projects that by the year 2010, 14,460 teachers will have died from AIDS, with the number mounting to 27,000 by the year 2020. It is thus expected that illness and deaths of teachers and students from HIV/AIDS will have negative effect on the quality of education system. As efficiency of the education system deteriorates the cost of educating each graduate will rise relative to the returns realized from education. A phenomenon which might create a disincentive to sending children to school. When issues of decline in equality of schooling, premature deaths of graduates and deteriorating ability to pay for education are considered, one should expect less school enrollment and training in the society.

Evidence from Kagera shows that 56.7 per cent of the 1987 children aged 7-19

interviewed for the KHDS had been enrolled in schools. A higher percentage of boys (59.8 per cent) than girls (53.6 per cent) had been enrolled. However, the drop-outs rate has been between 2.0 to 3.0 per cent of the total enrollment as summarized in Table 8. Apart from the issue of drop-out per se, one third of the enrolled pupils do not attend school regularly for a number of reasons: vacation (37.9 per cent); holiday (15.5 per cent); own illness (13.9 per cent); work at home (3.2 per cent); cared for ill (2.8 per cent); moving (2.5 per cent); other reason (24.3 per cent).

Table 8: Enrollments and Dropouts, 1981-1990

Year	Sex	Total Number of Pupils	Dropouts	Dropout Rate (Percent)
1981	Boys	43,453	1308	3.0
	Girls	47,610	1111	2.3
	TOTAL	91,063	2419	2.7
1984	Boys	99,953	2188	2.2
	Girls	98,252	2006	2.0
	TOTAL	198,205	4194	2.1
1985	Boys	96,118	2079	2.2
	Girls	94,722	2432	2.6
	TOTAL	190,840	4511	2.4
1987	Boys	97,629	2463	2.5
	Girls	90,802	2155	2.4
	TOTAL	188,431	4618	2.5
1990	Boys	99,054	2867	2.9
	Girls	94,609	2354	2.5
	TOTAL	193,663	5225	2.7

Source: Education Department, Kagera, 1993

The above trends of low enrollment rates, high drop-outs and irregular attendance could be generalized countrywide. This gives testimony to the fact that overall enrollment in schools will decrease.

Given the above state of affairs are there new approaches to education and training? Presently, the approaches to education and training are conceived within the context of the ERP policies without considering the issue of AIDS at all. The main approach is that of cost sharing. That is, the beneficiaries of education, just like in health, should pay for it. The effect of this approach has been twofold. First, some people have failed to send their children to school. This

has in turn led to declining enrollment rate in schools. Second, a number of school children have discontinued themselves (dropouts) because their parents have failed to pay school fees for them. These two tendencies will lead to fewer graduates even in a situation of no-AIDS scenario. The with-AIDS scenario will tremendously increase this figure. This being the case, it could be argued that the studies which have been referred to earlier in this section do not capture these issues and thus underestimate the impact of HIV/AIDS on education in a country implementing ERP policies.

Perhaps it will be necessary to mention that, since most of the labour force in Tanzania is not being paid a living wage, cost-sharing programmes will send children out of schools into informal sector activities of supplementing household incomes. Again, as parents fail to send their children to school, migration of young people from rural to urban areas will increase. These two processes are observable in both rural and urban areas in the country.

4 IMPACT OF AIDS ON WOMEN LABOUR FORCE

The purpose of this section is to review relevant issues in which HIV/AIDS will impact on female labour force by looking at (i) patterns and employment opportunities, (ii) female unemployment and pressures to prostitution; (iii) changes in age at marriage; (iv) migration; and (v) changes in division of labour between men and women.

4.1 Justification for Gender Approach

Gender analysis takes as its starting point the different situations of men and women, which in turn generate different interests and priorities which sometimes coincide, and sometimes conflict. In gender analyses, these differences are not based in biological differences, but because of a society's construction of what constitutes male and female roles and responsibilities, behaviour, values, and cultures. Gender analysis also recognizes gender, as opposed to sex, as a social construct which varies in different historical and socio-economic contexts. Societies have given men and women different roles, activities, responsibilities and authorities and levels of power and value. These differences intersect with other axes of differentiation such as age, ethnic group and urban/rural location to characterize the life situations and parameters of various women (Mbughuni, 1994).

In reference to the foregoing paragraph, it could be argued that women face various cultural constraints and their consequences have hindered them from participating effectively in the labour force. These constraints include socio-cultural beliefs and myths, marital and household status, formal education, employment law, and limited access to resources.

Cultural barriers towards women's employment have led to: (i) high unemployment rates among women in urban areas; (ii) high entry of women into the informal sector due to their low levels of education; (iii) occupancy of the lowest paid and sexually differentiated occupations; and (iv) the undervaluing of the contribution of women to development.

Studies done in Tanzania tend to confirm the above assumptions. Firstly, an examination of the labour force by geographical location shows that in the urban areas males constitute 55.9 percent of the total urban labour force, and genders constituted 44.1 percent. In the rural areas the situation was 48.5 percent and 51.5 percent for males and females respectively (Bureau of Statistics, 1993). This is in line with the theory that in the rural areas, where a lot of agricultural activities are taking place, more women are involved than men.

Secondly, labour force surveys in Tanzania show that unemployment ratio were 3.6 per cent in the case of males and 4.2 percent for females. However, underemployment rates for males are higher (4.3 percent) than for females (3.9 percent). The latter rates being indicative of women being overloaded than men.

The majority of non-farm positions are still monopolized by men in both rural and urban areas. The largest concentration of women remains in cultivation and mixed farming, in rural areas; and in clerical, service and small scale trade in urban areas. Women are 39% of all service employees and 45% of clerks; compared to only 26% of all professionals; and 14% of

administrators and managers. They are systematically deprived of access to positions which have decision-making powers by factors which are explored below, as well as factors in education, culture and politics.

Most women are concentrated in traditional female occupations; nursing, teaching, clerical and sales work. Women employed in the formal sector, which is regulated by government, are mainly found at the bottom of the occupational ladder, with low wages and fewer opportunities for on-the-job training and advancement. The only occupation with half or more women is nursing (69%) - even clerical jobs have remained a male preserve (in 1980) (69% men), and only 27% of teachers were women. Women have been blocked from equal entry into wage employment, even in occupations which are universally considered to be female work (TGNP, 1993).

Many women are employed for years on a casual or temporary basis, illegally. According to the Employment Act, after three consecutive months of employment, a worker has the right to regular terms of employment. Employers use different tactics to keep employees on casual basis, so as to reduce production costs. On the other hand, many women may prefer part-time work, so as to be able to carry out other economic activities, including maintenance of their households (Mbilinyi, 1990).

The female ratio in formal wage employment rose in private and public sectors during the 1977-84 period, according to a study by Marjorie Mbilinyi, using Employment and Earnings (EE) data of the Bureau of Statistics. EE data is limited to enterprises employing ten or more workers, whose management responds to written questionnaires. The female ratio of regular employees in the private sector rose steadily from 7.5% in 1977 to 12% in 1984 (Total N=110,669 in 1977; = 121,366 in 1984); for casual employees, it rose from 8% to 17% for the same period (N=46.271 in 1977 & 46,371 in 1984). In the public service sector, the female ratio of regular employees rose steadily from 13% in 1977 to 20% in 1984 (N=260,482 in 1977 and 413,475 in 1984); the female ratio of casual employees rose from 8% in 1977 to 12% in 1983 (N=61,011 in 1977 and 48,094 in 1984). A growing proportion on both regular and casual employees were therefore women. Both women and men found much greater employment opportunity in the public sector, which is now being reduced through retrenchment. as a matter of public policy.

The proportion of all adult wage earners who were casually employed (i.e. the casualisation rate) varied, according to gender and private/public sector during the same period. In the private sector, more women than men were hired on casual terms throughout the same period (1977-1984), and the casualisation rate increased from 31% to 35% for women, whereas it declined from 30% to 26% for men. In the public services sector, the casualisation rate was actually higher for men than women, and declined for both: from 20% to 11% for men, and from 13% to 7% for women.

Employers were hiring more women on regular terms, and fewer casual workers, during the same period - which suggests that women represented a source of cheap labour, whether on regular or casual terms.

Plantation work remains one of the largest sources of employment, for both women and men. Data on plantation work is usually underestimated, because so many people work on a

daily, unrecorded basis - especially women. Recent research with the OTTU/MWEMA project has confirmed the fact that plantation management began to specifically target women for work as field hands and in agroprocessing factories in the 1990s. Management explain that women are more reliable and dexterous - repeating universal gender stereotypes about women. In fact, there has been a decline in the number of men who are willing to accept low paid farm work on plantations and large farms, because of the expansion of non-farm employment opportunities since independence. Women may be more reliable workers, because they lack alternative sources of employment. (Mbilinyi and Semakafu, 1993).

Another reason employers may prefer to hire women is that women employees tend to be paid lower wages in practice even though statutory wage differentials were abolished after independence in 1965. Statistical analyse have shown that women earn less than men, within the same industrial sector, and even within the same occupation. In their study of urban employment, Sabot et al 1980 found that women with Standard 7/8 education earned 87% of what men with similar education levels earned in manual unskilled work, their earnings were 83% of men with the same education, in clerical and secretarial work, 68% at the Standard 7/8 level, 77% at the Form 1-4 level, and 85% at the post-Form 4 level. Women managers with Form 1-4 education earned 61% of their male counterparts earnings; those with post-secondary education earned 63%. In other words, wage discrimination actually increased against women, the higher they rose in the occupational hierarchy, and the more education they acquired.

Further, studies have shown that women's working day is much longer than men's. Women tend to have a workday of more than 16 hours! According to a recent study by DANIDA in four villages of Iringa region, 25 percent of women's working hours (totalling 14 hours) was devoted to farm work; 28 per cent to food preparation, 8 per cent to washing and cleaning; 8 per cent to collecting water and firewood; 2 percent to child care; 15 per cent to other activities; and only 14 per cent to resting.

In summary therefore the gender approach to HIV epidemic is justifiable on the following grounds: first, women are increasingly becoming infected with HIV. In most of the third world, there are as many; or more, infected women as there are infected men. These women are wives and other partners, daughters and grandmothers, sisters, aunts and nieces.

Second, women are becoming infected at a significantly younger age than men. In areas where the epidemic is newly emerging and in areas where it is deeper, the same pattern is recorded; on average, women become infected five to ten years earlier than men.

Third, proportionally more girls and young women in their teens and early twenties are becoming infected than women in any other age group. A possible exception is post-menopausal women who also seem to be particularly susceptible to HIV infection.

It is our contention that the extent of HIV infection in young girls in their teens or early twenties shown in these data sets will be affected by all the contribution factors currently identified in the literature as increasing the rates of infection in women and men but cannot be adequately accounted for by these factors, even in the aggregate,. In the case of young women there would seem to be other influential factors. These need to be identified.

The factors identified in the literature include the incidence of sexually transmitted infections (STIs), frequency of intercourse, sexual practices, and male/female age differences in sexual relationships. To these may also be added women's nutritional status, and the presence of lesions, inflammation and scarification in female genital tract from causes other than STIs as well as women's socio-economic status. These may well be contributing factors but cannot be the complete explanation. Other factors like physiological vulnerability as contributory factors become relevant here. These include issues on young women's genital tract, mucus production in young women, the presence of cervical ectopy in young sexually-active women and the influence on vulnerability to infection of these biologically based differences and how they might be amplified by the circumstances and situation in which women have sexual intercourse. We do not intend to discuss these issues in detail. However, we would like to point out that the biological (physiological) differences between women and men increases the vulnerability of women to HIV/AIDS than men.

4.2 Women and AIDS in Tanzania

AIDS is a leading course of death in women aged twenty to forty in major cities in sub-Saharan Africa, the Americas, and Western Europe (Gillespic, 1991). This global picture is also reflected in Tanzania. A recent study (The Express, 1993) cautions that as Tanzania enters the second decade of the AIDS epidemic more women are increasingly being infected than men in urban and rural areas. It goes further by indicating that prevention strategies lag behind and delays in introducing HIV/AIDS education in schools deprives school girls of the necessary education to protect themselves from the scourge.

The general male to female ratio of HIV infection has decreased to current 1:5 significantly low from 1:16 three years back and the NACP reports that by the year 2000 there are expected to be more HIV-infected women than men.

In some regions, HIV infection is already 1.5 times more common in women than in men. The trend is evident both in urban and rural areas. According to AMREF men and women HIV ratio is 1:2 in rural, 1:6 in the roadside and 1:7 in urban stratum in the country's lake zone region of Mwanza. Similar ratios have been recorded in the neighbouring Kagera region where the country's first AIDS case was reported in November 1983.

If one observes specifically the associations between socio-demographic characteristics and HIV among women in Tanzania, then the picture which emerges is as follows:

a. The HIV seroprevalence is lowest among women in the youngest age group (15-19 years) and married women;

b. 50 per cent of seropositive women were in monogamous marriages;

c. HIV risk increases with both women's education and increasing education of husband/partner, even though reported number of sex partners decreased significantly among women with more years of education;

d. HIV prevalence was lowest among housewives (9.0% HIV);HIV prevalence increased significantly in almost every category of paid employment of both women and their husbands;

e. Hotel/bar workers were at highest risk in univariate analyses.

These sociodemographic characteristic are summarized in Table 9.

Table 9: Sociodemographic characteristics and HIV-infection among women attending Family Planning Clinics in Dar es Salaam, 1991-92

	N	%	% HIV+
Age (completed year)			
15-19	191	8.4	4.2
20-24	784	34.3	11.7
25-29	679	29.7	13.5
30+	631	27.6	11.1
Marital Status			
Married (monogamous)	1,485	65.0	8.8
Married (polygamous)	148	6.5	12.2
Cohabitating	637	27.9	17.4
Single/divorced/widow	15	0.7	13.3
Level of Education			
None or adult education	264	11.6	7.2
Primary (1-4 years)	232	10.1	9.5
Primary (5-7 years)	1,661	72.7	12.3
Secondary	128	5.6	13.3
Husband/Partner's Education			
None or adult education	122	5.3	4.9
Primary (1-4 years)	149	6.5	6.0
Primary (5-7 years)	1,478	64.7	11.4
Secondary and above	456	20.0	13.8
Unknown or not applicable	80	3.5	18.8
Occupation			
Housewife	1,226	53.7	9.0
Agricultural/manual	123	5.4	13.0
Small-scale trade	778	34.0	13.4
Hotel/bar worker	21	0.9	23.8
Secretary/professional	69	3.0	18.8
Other (student, police etc.)	68	3.0	20.6
Husband/Partner's Occupation			
Unemployed (incl. students)	209	9.1	7.7
Agricultural/manual	656	28.7	9.8
Soldier/police	155	6.8	14.2
Driver	264	11.6	14.4
Small-scale trade	608	26.6	11.8
Hotel worker	52	2.3	11.5
Secretarial/clerical	155	6.8	8.4
Professional	157	6.9	17.2
Unknown or not applicable	29	1.3	13.8

Source: Kapiga, Said H. et al, 1993

The implication of the above results (findings) is that women morbidity and mortality rates will increase in future. Further, given that 30 per cent of pregnant women will transmit the HIV positivity to their offsprings increased children mortality (1-2 years) will also be realized. What implications will all these have on the labour force?

4.2.1 Employment patterns and employment opportunities

We did note earlier that women labour force is more rural than urban based. Further, women are responsible for much of the planting, weeding and harvesting, which if delayed due to morbidity and mortality can cause a 25-50 per cent reduction in yields as well as qualitative losses. Hence their death from AIDS or their diversion to take care of HIV/AIDS suffers or to replace male labour can have serious consequences. Will this pattern change given the high incidence of HIV/AIDS on women? The answers to these question cannot be conclusive because of the paucity of research work which exists on the subject. Nevertheless some assumptions can be made to give some tentative cum indicative answers.

The first assumption is that the pattern will not change much because cultural (traditional) restrictions might hinder women taking up employment opportunities in urban areas. The second assumption is that whenever employment opportunities in urban areas arise, of those already in urban areas are in a better position to tap such opportunities than those in rural areas. In other words, urban areas have better and varied communication media than rural areas in terms of newspapers, posters, pamphlets, booklets, etc. The third assumption is that as urban husband-workers die, there will be a tendency for the non-working wives with children to migrate back to the villages. This might also happen in the case of working wives who, after the death of the husband, are not in a position (incomewise) to sustain the family in an urban - environment. For the latter case, a woman loses her employment opportunity in an urban area and chances for an employment in a near-home town or village.

The fourth assumption is that employers knowing that the chances of women to be infected with HIV/AIDS are higher than men, may resort to discriminatory tendencies.

However, it is wrong to consider that the gender division of labour is a fixed factor. It is in part of reflection of the opportunity costs of male and female labour, wage rate differentials, and the marketability of different crops. The division of labour shifts as employment opportunities outside agriculture change, or as the introduction of new crops or technological innovations in agriculture affects labour requirements and the relative profitability of labour. This is clear from past behaviour. Men have switched their attention to food crops as they changed status from subsistence to cash crops. women have taken responsibility for cash crops following the migration of their husbands to gain paid employment. Thus current labour impacts are not necessarily indicative of future ones.

Nevertheless, the present gender division of labour tends to intensify the negative impacts of HIV/AIDS. Furthermore, not only are women commonly responsible for a large proportion of crop planting, weeding and harvesting as mentioned above, they also care for small ruminants and poultry, and collect most water and fuelwood requirements. Thus they have very little unutilized time to compensate for male mortality. So any loss of male workers, or of female labour diverted to caring for HIV/AIDS patients, is difficult to absorb at the household level without additional agricultural production losses, or other health and welfare risks as those from

unsanitary water or undercooked food, because of the lack of time to collect freshwater or adequate fuelwood.

4.2.2 Female unemployment and pressure to prostitution

Reference to Tanzania's unemployment statistics shows that 206,549 women compared to 145,960 men are usually unemployed. When these figures are presented in geographical terms, then a total of 131,068 (urban) women and 62,047 (urban) men are unemployed. In the absence of other employment opportunities women might be forced to prostitution as a way of earning a living. We have already referred to cases where the female/male differences in prevalence of HIV and AIDS reach very high levels in some vulnerable communities on trade routes where a majority of women may be infected due to their economic dependence upon provision of commercial sexual services to infected mobile men.

The unemployment factor may not be the only one forcing women into prostitution. Women tend to be paid lower incomes than men even for the same work done. To supplement for this "denied" income prostitution may be the only salvation. Observations in urban areas: Dar es Salaam, Arusha, etc. show high prevalence of prostitution. This is more so after the adoption of the ERP policies. These policies reduced the real wages, through devaluation and high inflation, to unbearable proportions. Thus boosting both informal sector employment and prostitution.

The trade liberalisation has contributed to prostitution in a big way. Almost along all urban and suburb roads and streets in Dar es Salaam are full of the so called groceries. In reality these groceries are beer shops selling alcohol from the early hours of the morning to very late hours at night. Thus circumvent the official open hours of bars. These groceries have offered employment opportunities to unemployed women in Dar es Salaam. They have also exposed those women to prostitution since these places become contact points to the would be customer.

4.2.3 Age at marriage

Evidence in Tanzania suggests that HIV/AIDS epidemic affects women at an earlier stage than men. The implication of these is that the labour input of women into production is lower than that of men. That is, women's chances of an early pull-out from the workforce are higher than men because of early morbidity and mortality rates.

As women become aware of the dangers of HIV/AIDS, they may prefer to marry early so as to avoid situations whereby one has to come into contact (sexually) with a number of boyfriends before getting the right choice of a husband. This tendency may coincide with the contemporary behaviour of men who view young and school girls as being safer than older women. However, in search for the "virgins" the infection is spread even further and chances for early marriage are increased especially in cases where pregnancy occurs.

Whether early marriages are voluntary or circumstantial, they would significantly weaken the position of women in the labour force for a number of reasons. Firstly, the educational status of women would be negatively affected. Secondly, chances for higher job status are reduced given that there is a direct correlation between the level of education and the status of a job. Thirdly, male dominance will persists. If this happens women cannot insist on those types of behaviour within partner relationships which would prevent the spread of sexually transmitted

diseases (STD).

4.2.4 Migration

In section 4.2.1 we did discuss the possible patterns of migration in the light of employment opportunities, if any, arising from HIV/AIDS and how they impact on women. In this section we do not intend to dwell again in detail on the issue. It is adequate to emphasize that the urban-rural, rural-urban, urban-urban and rural-rural migration among women will depend on a number of factors: employment opportunities, levels of education, levels of empowerment, compliance or non- compliance to traditions and beliefs, the economic status of women versus men - after the latter's death, government policy on employment issues, etc. All these will not only affect the pattern and direction of migration but also the division of labour between women and men.

Perhaps one issue of migration which needs some focus is that of prostitutes and some members of the society who tend to feel that they are at higher risk of getting infected because of either through the nature of their job or of the area they come from. Observations in Dar es Salaam show a lot of mobility among these groups as a way of concealment of identity. For example, if a bar maid in Sinza area contracts a skin disease or Tuberculosis (TB), after getting healed she migrates to Temeke where she continues with the same employment. The same phenomenon is evident among prostitutes who stay for a definite period in a location before migrating to another. This type of behaviour has been instrumental in spreading the disease in Dar es Salaam. It is in this context that serious interventions have to be undertaken to check such behaviour. However, such interventions have to be conceptualized in a wider context which realizes that HIV/AIDS is not only a development issue but also a population and a gender issue.

Another factor which affects, and will continue to affect migration in Kagera region is of cultural nature. It is usual that when their husbands die, Haya women to migrate to live with relatives or to other areas where they can earn a living. This cultural "norm" portrays an overt discrimination against women as far as ownership of property is concerned. Further, it encourages the mobility of widows of AIDS victims and thus increases the likelihood of more people being infected through sexual contacts with such women.

Furthermore, women migrating into distant areas, both rural and urban, will tend to hide their identity and background of where they came from and what had happened to their husbands so that they do not "scare" the would be male friends. Such an attitude will definitely increase the risk of HIV/AIDS infection. Indeed, in Dar es Salaam and other urban areas one can observe a tendency of Hayas hiding their identity by changing names. Again, there is an emerging attitude among the Hayas that "why should we die alone". That is, AIDS should not be allowed to be only a Haya disease.

5 INTERVENTION IN RESPONSE TO HIV/AIDS

This chapter attempts to look into interventions from different institutions both governmental and non-governmental in response to the HIV/AIDS pandemic. An attempt will be made to assess the effectiveness of such interventions.

5.1 The National AIDS Control Programme (NACP)

The history of NACP goes back to 1985 when the government created a national AIDS Task Force (eventually to become the National AIDS Technical Advisory Committee - TAC). The TAC sought the assistance of the world Health Organization (WHO) to assist it in formulating a medium Term Plan (MTP) for dealing with the epidemic. A MTP for the period 1988-1992 was presented to the donor community in 1987, and the NACP was officially inaugurated in April 1988. The plan had ten objectives spread within three broad areas of action namely:

(a) Monitoring and Research

i. To assess the current status of the epidemic
ii. To monitor progression of the epidemic
iii. To improve research activities

(b) Prevention

iv. To decrease sexual transmission
v. To decrease transmission by blood transfusion
vi. To reduce transmission by injection and other skin piercing activities
vii. To prevent HIV infection through contact with materials
viii. To reduce mother to child transmission

(c) Coping

ix. To ensure optimal quality of life of AIDS patients
x. To improve diagnostic capabilities.

5.1.1 NACP organization

The NACP, which administratively is established within the Department of Prevention Services of the Ministry of Health (MOH), began implementing the first MTP in 1988. Four technical units were established within the NACP to guide the implementation of the MTP. These units are (i) Information, Education and Communications (IEC), (ii) Laboratory, (iii) Clinical Services, and (iv) Epidemiology/Research: The IEC and Laboratory units focus primarily on prevention strategies; i.e. education/ behaviour change and blood screening, respectively. The clinical Services Unit deals with both coping strategies (improved management on Tanzania's referral system for AIDS patients, training of health workers, estimating drug requirements) and prevention strategies (treatment of sexually transmitted diseases (STD) to reduce AIDS transmission, provision of disposable needles and other supplies to prevent infection of care givers, etc.). The Clinical Services Unit was also charged with conducting research cum risk factors and improving diagnostic criteria. Finally, the epidemiology unit is responsible for the monitoring and case reporting systems, research and evaluation of control activities. A fifth unit for counselling and social support was established in 1990 after the number of AIDS orphans gained political attention.

5.1.2 Programme activities to date

Since its inception, NACP has embarked on a number of activities en route to the achievement of the objectives of MTP. First, several sentinel stations have been established for surveillance prevalence, and the blood of women attending pre-natal clinics is now regularly monitored for HIV antibodies. Second, almost 200 blood transfusion centres have been equipped with simple rapid kits for testing HIV-1 antibody such that about 80 percent of donated blood is being screened. Third, protective wear and disposable needles as well as condoms have been widely distributed within the country. Fourth, information, education and communication campaigns have been undertaken to inform the public about the disease and its modes of transmission. Fifth, it has sponsored research to evaluate the effectiveness of its IEC efforts.

Through these undertakings one could consciously, but optimistically, claim that these programmes have been useful and their implementation serve as major interventions for slowing the epidemic's spread. However, much remains to be done especially in bringing the "HIV/AIDS Message" to school children. To date HIV/AIDS education in the schools has not been officially introduced despite a low HIV/AIDS awareness in the schools. This cultural resistance is blind of the fact that promiscuity among pupils is as high as 20 percent with girls more in danger than boys.

5.1.3 The future of NACP

According a recent announcement made by the Principal Secretary in the Ministry of Health, the government of Tanzania intends to form a National AIDS Council (NAC) to deal with all AIDS related activities. The NACO will be an autonomous body consisting of technical people. This means that NACP will be an autonomous programme administratively, but technically responsible to the Ministry of Health.

The main reason for this institutional restructuring is the feeling that NACP could not perform the coordination of HIV/AIDS and sexually transmitted diseases effectively. On the other hand, the NAC representation will include Ministries, Non-Government Organisations, private sector and other influential members of the community.

Along with this institutional reforms, the Government directed Ministries to include in their budgets an AIDS-budget component. This move should be viewed positively because it will provide for a wider approach to the pandemic.

Despite of these reforms one should caution that unless AIDS related programmes are financed adequately, the effectiveness of the institutions will not be realized. One will recall that the performance of the second medium term plan (MTP II) of NACP was extremely poor because only 10 per cent of the plan was implemented due to financial constraint. The MPT II (1992/96) had a total budget of US dollars 63 million. Total pledges from donors amounted to US dollars 41 million. However, the total money made available was only US dollars 4.8 million - representing only 7.7 per cent of the pledges!

Related to this, the inadequate donor financial support is negatively affecting dissemination efforts. For example, since last year (1993) NACP has been trying to publish its eighth report on HIV/AIDS/STD surveillance as a way of updating the 1992 data. However, until

now (July 1994) the report has not come out because of the financial constraint.

5.2 The Organisation of Tanzania Trade Unions (OTTU)

OTTU's AIDS programme for workers with a special emphasis on women goes back to 1989 when initial discussion took place between the Union and AIDSCOM/The Academy for Development.

The intention of having the programme for workers was mainly to reduce the transmission rate of HIV and prevent discrimination through a series of activities designed to monitor behaviour, to influence behavioural change towards safer sex in order to reduce high risk of AIDS.

AIDSCOM thus recruited project staff, procured equipment and supplies, met training costs of trainers and peer education. OTTU on its part shouldered the responsibility of training workers, delivering the education, distribution of condom and monitoring the impact. Officially, therefore the OTTU's programme of AIDS at workplace began in February 1991.

The activities of OTTU's programme consisted of:

a. Workshops and seminars for OTTU's Parastatals' Management;

b. Selection of worksites to be covered by the programme. Initially, it included eight organisations namely: Air Tanzania Corporation, (ATC), Tanzania Tourist Corporation (TTC), Tanzania Harbours Corporation (THC), The National Bank of Tanzania (BOT), Tanzania Posts and Telecommunication (TTPT), National Insurance Corporation (NIC) and OTTU. At present it covers a total of 27 organisations, all based in Dar es Salaam;

c. Meeting with the management of the selected worksites, and giving them ideas on what kind of educators should be selected to run the AIDS activities at their worksite. Management then selects poor education;

d. Organisation of workshops to train the peer educators - assisting peer educators to implement the programme at their worksites.

- organize evaluation workshops
- training of trainers' workshops.

In general terms one could argue that the programme has achieved some positive results. Firstly, more collaborative organisations and NGO's have been attracted to the OTTU's programme. For example, AMREF, TACOSODE through FHI/AIDSCAP have joined the programme with the aim of developing a model of STD/HIV intervention at workplace(s).

Secondly, an increasing number of workers (worksites) have participated in the programme. At present there are 27 worksites under AIDSCOM. Thus becoming beneficiaries of HIV/AIDS education at their respective workplaces. Thirdly, increase in demand of condoms at worksites. A positive sign that at least some change of sexual behaviour is taking place. For example, in the case of NBC the "offers" for lunch to the opposite sex is reported to have declined tremendously.

It should be emphasized that where successes of the programme has been registered the

management of the worksites concerned were instrumental to such successes. In the cases where the management showed non-cooperative attitudes to the programme failures have been encountered. The limited scope of the programme by being confined to Dar es Salaam might be one of the constraints which need to be addressed as soon as possible.

The future of the programme is quite uncertain because of financial and dwindling donor support. In fact recent surveys (July 1994) indicate that the morale of worksite educators is low because of inadequate incentives. The incentives had been in terms of attending seminars which had been quite well financed. Since seminars are becoming a rare phenomenon, because of financial problems, the programme is robbed of an important ingredient.

5.3 Association of Tanzania Employers (ATE)

The association is aware of the existence of the HIV/AIDS epidemic and the dangers it imposes on the labour force. However, resource constraints have made ATE not to make serious interventions in this area. The limited resources which the association commands are used in terms of showing video screens on Uganda's AIDS scenario as a way of informing its members on the dangers associated with AIDS. To date ATE has not been in a position to issue either pamphlets or leaflets on HIV/AIDS epidemic. Perhaps this is an area when ILO or other donors could offer a helping hand.

5.4 Ministry of Labour and Youth Development

A youth targeted programme is being carried out by the Directorate of Youth of the Ministry of Labour and Youth Development. The programme's objective is to train all District Youth Development Officers (DYDO), through seminars, on the dangers, control and prevention of HIV/AIDS epidemic. DYDOs in turn are supposed to organize a two-week seminar in their respective districts to train leaders of Youth Economic Groups (YEG) on the HIV/AIDS pandemic. In the country there are about 635 such economic groups. Ultimately the leaders of these groups carry further down the HIV/AIDS message to their members.

The programme is in collaboration with the NACP. Apart from the AIDS component, the programme has another component of family planning which is being supported by UMATI.

In the implementation of the programme zonal seminars have been organized which have covered the entire country. At present about 150 officers have attended such seminars. Further, leaflets have been distributed carrying HIV/AIDS message which target specifically on the youth. Furthermore, peer educators have been chosen among the youth to sensitize their contemporaries on the HIV/AIDS scourge.

6 CONCLUSIONS AND RECOMMENDATIONS

The HIV/AIDS epidemic affects the capacity of the economy to produce by reducing the quantity of labour input. This is the basic assumption which guided this study. The effect of this impact is multifarious: lower productivity, changes in labour/capital ratios, changes in migration patterns, lower savings, increase in prices of factors of production. In short, the adverse effects of the epidemic to the national economy are enormous. What then should be done to minimize this adversity?

a. The Government should be more forceful, than at present, sensitize the population on the macro-economic impact of HIV/AIDS. Such a programme should target at all vulnerable groups or cohorts in all sectors of the national economy;

b. The planning system in the country should incorporate AIDS statistics in its plans. It is only through this way that the AIDS consciousness can penetrate the planning system both from the macro to the meso level and eventually to the micro level. Such an approach will make it necessary to design production and service rendering strategies in the wake of "scarcity of labour". The motto here is "better get prepared now to avoid a painful adjustment process in future";

c. The present policies of the Economic Recovery Programme (ERP) should also be looked into in the context of its impact to HIV/AIDS. The policies should not contradict the HIV/AIDS prevention efforts. For example, in the wake of trade liberalisation the government lacks a policy of alcohol distribution and sale. Specifically the Government should strictly impose open- and closure hours on bars and groceries;

d. As it is becoming increasing clear that HIV/AIDS is not only a development issue but also a gender issue, it is important therefore, that more research should be directed towards studying the actual and potential impacts of HIV/AIDS morbidity and mortality on women in general, and women in the labour force in particular, and its subsequent impacts upon agricultural and industrial production and family survival. Women economic coping strategies should be studied;

e. Use of condoms has proved effective in reducing the risk of HIV/AIDS infection. However, due to cultural, traditional and religious beliefs widespread usage is being hindered. Ways and means should be addressed which will solve this problem. At present, the biggest resistance comes from religious organisations both christians and Muslims. The Government should intensify its dialogue with these organisations;

f. As in the past donor support programmes will be needed in future to effectively combat the HIV/AIDS epidemic. However, a well coordinated and targeted approach is likely to be more successful not only in objective attainment but also cost-effective;

g. Introduction of sex education should not be delayed any further. The Ministry(ies) responsible for shouldering this task should embark on it as soon as possible. Such education should contain strategies to lengthen the time before the onset of sexual intercourse in young women, increase the age at first pregnancy, and increase the ability of young girls to control the situations in which they are sexually active;

h. Worksite interventions have shown high rates of success as far as producing an "AIDS conscious worker" is concerned. However, financial constraints have limited the scope of such interventions. It is in this context that the Government, the ILO and other donors should extend support to workers' unions and employers' associations so that they could embark on a country wide worksite interventions.

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appendices

Appendix 1: NACP/Tanzania: Cumulative AIDS Cases by Region, 1983-1993 Jan.

Region/Yr	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	Rate	Rate	Rank
Arusha	0	0	0	10	47	217	429	579	881	966	1,351,675	71.5	16
Coast	0	0	1	4	79	224	413	705	1,147	1,341	638,015	210.2	4
D'Salaam	0	0	51	471	1,470	3,093	5,203	7,196	8,651	8,868	1,360,850	651.7	1
Dodoma	0	0	0	7	47	105	247	277	400	426	1,237,819	34.4	20
Iringa	0	0	1	3	68	305	374	612	1,660	1,945	1,208,914	160.9	6
Kagera	3	106	322	847	1,665	2,142	2,543	3,164	3,886	4,135	1,326,163	311.8	3
Kigoma	0	0	0	3	50	109	243	434	631	819	854,817	95.7	14
K'njaro	0	1	8	36	207	455	570	854	1,523	1,779	1,108,695	160.5	7
Lindi	0	0	0	1	9	45	111	394	569	666	646,550	103.3	13
Mara	0	0	0	3	30	99	139	237	483	600	970,942	61.8	18
Mbeya	0	0	0	16	208	747	1,042	1,829	4,741	5,633	1,476,199	381.6	2
Morogoro	0	0	0	11	88	247	339	544	1,733	2,167	1,222,737	177.2	5
Mtwara	0	0	1	5	23	95	173	369	824	995	889,494	111.9	11
Mwanza	0	0	15	54	171	448	644	1,065	2,191	2,448	1,878,271	130.3	8
Rukwa	0	0	0	1	5	90	94	124	203	258	694,974	37.1	19
Ruvuma	0	0	0	20	45	76	187	388	788	999	783,327	127.5	9
Shinyanga	0	0	0	8	31	144	227	463	931	1,102	1,772,549	62.2	17
Singida	0	0	0	6	74	197	284	405	577	683	791,814	86.3	15
Tabora	0	2	5	6	59	232	510	802	1,071	1,208	1,036,283	116.6	10
Tanga	0	0	0	13	80	210	335	650	1,256	1,377	1,283,636	107.3	12
Tanzania	3	109	404	1525	4,456	9,280	14,107	22,181	34,140	38,416	22,533,754	170.5	
Doubling time (in years)		0.19	0.53	0.52	0.65	0.94	1.66	1.55	1.59				

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* Rate per 100,000 population.

Appendix 2: Distribution of new AIDS cases by age and sex, 1987-1993 January

Age	Male				Female				Total			
	Number	%	Population	Rate	Number	%	Population	Rate	Number	%	Population	Rate
0-4	559	5.3	2501834	22.3	477	4.7	2,474,728	19.3	1,036	5.0	4,976,562	20.8
5-9	54	0.5	2,066764	2.6	78	0.8	2,055,045	3.8	132	0.6	4,121,809	3.2
10-14	42	0.4	1588241	2.6	57	0.6	1,593,470	3.6	99	0.5	3,181,711	3.1
15-19	193	1.8	1288892	15.0	669	6.6	1,285,902	52.0	862	4.2	2,574,794	33.5
20-24	941	8.9	1067910	88.1	2258	22.4	1,119,240	201.7	3,199	15.5	2,187,150	146.3
25-29	2321	21.9	745321	311.4	2749	27.3	785,896	349.8	5,070	24.5	1,531,217	331.1
30-34	2417	22.8	655392	368.8	1873	18.6	742,984	252.1	4,290	20.7	1,398,376	306.8
35-39	1703	16.0	490636	347.1	1056	10.5	590,806	178.7	2,759	13.3	1,081,442	255.1
40-44	1073	10.1	486976	220.3	452	4.5	567,344	79.7	1,525	7.4	1,054,320	144.6
45-49	656	6.2	372713	176.0	223	2.2	404,581	55.1	879	4.2	777,294	113.1
50-54	345	3.3	316552	109.0	106	1.1	338,841	31.3	451	2.2	655,393	68.8
55-59	164	1.5	209008	78.5	42	0.4	217,725	19.3	206	1.0	426,733	48.3
60-64	94	0.9	182928	51.4	31	0.3	190,796	16.2	125	0.6	373,724	33.4
65+	49	0.5	278020	17.6	12	0.1	353,710	3.4	61	0.3	631,730	9.7
Total	10611	100.0	1225118	86.6	10083	100.0	12,721,068	79.3	20,694	100.0	24,972,255	82.9
Unknown	399	3.6% of the total			394	3.8% of the total			793	3.7% of the total		
Total	11,010			89.9	10,477			82.4	21,487			86.0

M/F ratio: 11,010/10,377 = 1.05
M/F rate ratio 89.9/82.4 = 1.09
M/F rate ratio (age-adj.) = 1.15
* Rate per 100,000 population

Appendix 3: HIV Seroprevalence in Blood Donors by Region for Males, 1987-1992 (in percentage)

Region	1987	1988	1989	1990	1991	1992	Total	Rank
Arusha			0.00	1.93	2.31	2.58	2.35	18
Coast	0.00	5.00	4.63	4.14	4.36	4.64	4.49	14
Dodoma			1.90	6.14	3.48	2.27	3.18	15
DSM	1.49	7.50	2.51	9.39	6.86	8.78	7.15	5
Iringa			11.11	11.41	10.60	9.68	10.48	1
Kagera			10.48	10.13	10.30	10.97	10.47	2
Kigoma		7.46	1.19	1.20	2.46	1.92	1.95	20
Kili'jaro			1.27	5.20	2.69	2.36	2.70	17
Lindi			0.63	5.60	4.78	4.18	4.50	13
Mara			4.62	4.47	4.54	7.01	4.72	11
Mbeya	4.82	4.98	5.17	7.80	1156	16.59	8.39	3
Morogoro		10.91	6.76	3.10	5.43	4.68	5.69	10
Mtwara			4.92	2.00	4.16	5.38	4.57	12
Mwanza			15.33	5.48	6.17	5.16	5.90	7
Rukwa			11.59		8.08	6.68	7.69	4
Ruvuma		3.50	4.91	4.38	7.10	6.34	5.81	9
Shinyanga			12.96	4.29	6.01	6.10	5.89	8
Singida			3.13	2.25	2.19	2.04	2.21	19
Tabora			2.45	2.48	2.95	2.93	2.83	16
Tanga			6.59	6.17	6.95	9.19	7.09	6
TANZANIA	3.30	7.42	4.97	5.14	5.77	5.51	5.56	

Source: NACP, 19892

Appendix 4: HIV Seroprevalence in Blood Donors by Region for Females, 1987-1992 (in percentage)

Region	1987	1988	1989	1990	1991	1992	Total	Rank
Arusha			0.00	0.88	5.50	2.21	3.69	16
Coast		0.00	6.90	6.06	6.07	4.97	5.59	13
Dodoma			0.00	5.88	3.26	0.00	2.26	20
DSM	0.00	14.29		0.00	14.10	9.38	12.81	3
Iringa			16.67	15.84	8.72	7.32	9.60	6
Kagera			9.68	12.50	12.86	11.05	12.29	4
Kigoma		29.63	9.43	1.82	4.71	4.80	5.91	10
Kili'jaro			3.85	6.67	3.23	2.49	3.03	17
Lindi			11.76	10.87	4.40	2.48	4.04	15
Mara			13.77	7.58	5.42	8.70	7.83	9
Mbeya	9.52	2.04	10.16	11.80	11.76	18.09	11.41	5
Morogoro		12.50	1.82	4.64	5.07	5.81	5.25	14
Mtwara			0.00	1.59	3.52	11.35	5.73	12
Mwanza			7.50	5.31	6.21	5.28	5.84	11
Rukwa			24.00		21.43	0.00	19.44	1
Ruvuma		6.25	14.03	8.73	6.97	6.57	8.52	7
Shinyanga			33.33	16.47	18.12	8.00	14.76	2
Singida			10.53	2.17	1.92	2.83	2.55	19
Tabora			2.52	1.99	2.84	2.97	2.75	18
Tanga			23.53	2.13	7.95	10.68	8.39	8
TANZANIA	7.14	7.98	11.25	7.90	7.19	5.99	7.32	

Source: NACP, 1992

Appendix 5: HIV Prevalence for MALE Blood Donors by Age, 1987-1992 (in percentage) 1987-1992 (in percentage)

Age	1987	1988	1989	1990	1991	1992	Total
15-19	0.00	1.56	1.82	3.33	3.24	3.95	3.26
20-24	3.36	6.77	4.53	4.68	4.98	5.11	4.57
25-29	1.80	8.30	6.04	4.98	6.68	6.21	6.27
30-34	2.13	9.25	5.34	5.48	6.38	6.25	6.19
35-39	7.81	8.71	5.46	4.29	6.08	5.54	5.68
40-44	7.14	10.05	3.79	3.79	4.83	4.16	4.51
45-49	10.00	5.56	2.15	5.07	4.48	4.46	4.44
50-54	0.00	4.17	3.05	3.81	4.41	3.00	3.81
55+	0.00	15.38	3.60	5.00	4.00	2.50	3.75
Total	3.32	7.71	4.87	4.72	5.68	5.43	5.45

Source: NACP, 1992

Appendix 6: HIV Prevalence for FEMALE Blood Donors by Age, 1987-1992

Age	1987	1988	1989	1990	1991	1992	Total
15-19	0.00	0.00	7.93	7.49	4.88	3.55	4.97
20-24	0.00	4.55	13.53	9.46	7.69	7.11	8.08
25-29	14.29	11.78	8.24	9.03	8.75	6.70	8.21
30-34	16.67	14.29	893	6.19	6.56	6.06	6.51
35-39	0.00	21.05	7.95	6.16	4.80	6.40	5.76
40-44	0.00	16.67	9.64	2.88	6.33	3.73	5.73
45-49	0.00	0.00	7.69	1.23	3.41	5.07	3.88
50-54	0.00	0.00	0.00	0.00	5.56	6.78	4.69
55+	0.00	0.00	0.00	10.00	6.78	5.00	6.25
Total	7.14	7.51	9.60	7.61	6.97	6.09	6.96
Male/Female Ratio:	0.46	1.03	0.51	0.62	0.82	0.89	0.76

Source: NACP, 1992

Appendix 7: Women Management Officers in Government Ministries , 1990

Position	Male	Female			Total Female Ratio	
	£	%			%	F/Total
Director of Manpower & Administration	22	4	1	0.7	23	4
Principal Manpower Management Officer	11		1		12	8
Principal Manpower Management Officer II	57	113	5	14	62	8
Senior Management Officer I	74		7		81	9
Senior Manpower Management Officer II	138	140	39	133	177	22
Manpower Management Officer I	64		11		75	15
Manpower Management Officer II	81		48		129	37
Manpower Management Officer III	84	143	28	162	112	25
TOTAL	531	100	140	100	671	21

Source: Mbilinyi, 1990

Appendix 8: Economically Active Population by Major Occupational Groups and Gender, 1988

	Total			Rural		Urban		
	Total	Women %	Men %	Women %	Men %	Women %	Men %	Total[R /U]
Cultivators	8,247	56	44	50	41	6	4	101
Craftsmen, Machine Operators	228	10	90	3	26	7	64	100
Clerks	105	45	55	8	16	37	39	100
Professionals	332	27	74	12	33	14	40	99
Administrators	42	14	86	5	38	10	48	101
Agriculture	37	19	81	11	49	8	32	100
Mixed Farmers	761	44	56	43	53	2	3	101
Service	270	39	61	15	17	24	44	100
Small Scale Traders	380	27	73	6	21	21	52	100
Other Workers	99	38	62	22	31	16	30	99
Total	10,501							

Source: Calculated by Lucy Mboma, using Women and Men in Tanzania p. 40, Table 3.2c

* Percentages may not add up to 100% because of rounding off.

Appendix 9: Currently Employed Persons By Sex and Education Level By Mainstatus, 1993 (Percentage Distribution)

Sex and Education level	Total	EMPLOYMENT STATUS				
		Paid Employees	Self Employed		Unpaid Helpers	Tradit-ional Agric
			With Employee	Without Employee		
Total	100	100	100	100	100	100
None	32	6	10	17	11	37
Primary not complete	21	13	14	20	29	22
Primary complete	43	58	59	58	50	40
Sec and Over	3	24	17	5	10	1
Male						
Total	100	100	100	100	100	100
None	23	5	6	11	9	28
Primary not complete	24	15	15	21	27	27
Primary complete	48	56	59	63	53	45
Se. and Over	5	23	20	5	11	1
Female						
Total	100	100	100	100	100	100
None	42	6	26	27	13	45
Primary not complete	18	6	12	20	33	19
Primary complete	38	62	57	50	46	36
Sec and Over	2	26	5	4	9	1

Source: Bureau of Statistic, 1993

Appendix 10: Usually Employed and Totally Employed By Status and Sector and Sex, 1993

Usual Status	Usually Employed	Usually Employed	% Totally employed
Total	10,911,476	6,094,708	56
Agriculture	9,054,821	4,507,931	50
Employer	68,947	64,302	93
Own Account	619,938	619,938	86
Employee	948,554	885,862	93
Unpaid	191,063	93,724	50
Other & NS	28,153	10,287	37
Male			
Total	5,479,384	3,378,056	62
Agriculture	4,157961	2,215,839	53
Employer	58,138	55,744	96
Own Account	412,333	365,262	89
Employee	720,621	609,349	92
Unpaid	110,380	62,228	56
Other & NS	19,951	9,614	48
Female			
Total	5,432,092	2,716,672	50
Agriculture	4,896,860	2,292,092	47
Employer	10,809	8,558	79
Own Account	207,605	165,340	80
Employee	227,933	216,513	95
Unpaid	80,683	33,496	42
Others & NS	8,202	673	8

Source: Bureau of Statistics, 1993

Appendix 11: Persons Employed in Informal Sector, 1993

Location	Total Labour Force	Main Employment		Sec employment		Total Persons	Percent of Labour Force
		Male	Female	Male	Female		
Urban	1,894,160	334,294	196,410	54,363	68,278	653,345	34
Rural	9,400,767	281,410	143,533	383,891	340,680	1,149,514	12
Total	11,294,927	615,704	339,943	438,254	408,958	1,802,859	16

Source: Bureau of Statistics, 1993

Appendix 12: Self-Employed Persons in the Informal Sector by Education Level by Main/Secondary Activity, 1993

Education Level	Self Employed in the Informal Sector					
	Main Activity			Secondary Activity		
	Total	Male	Female	Total	Male	Female
Total	760,319	493,236	267,083	791,262	391,981	399,281
Total	100	100	100	100	100	100
None	16	11	27	31	20	42
Primary	78	84	69	21	23	19
Secondary	5	5	4	46	54	37
F6 & Above	61	1	0	3	3	2

Source: Bureau of Statistics, 1993

Appendix 13: Comparison of Usually and Currently Unemployed by Geographic Area by Sex, 1993

Geograp Area/Sex	Usually unemployed	Currently Unemployed
Total	352,509	405,722
Male	145,960	185,202
Female	206,549	240,520
Urban		
Total	193,115	200,572
Male	62,047	71,572
Female	131,068	129,233
Rural		
Total	159,394	205,150
Male	83,913	93,863
Female	75,481	111,287

Source: Bureau of Statistics, 1993.

Appendix 14: Total Health Expenditure (Real Terms in Shs.Millions) 1975/76-1988/89.

Year	Actual Amount
1975/76	430.0
1976/77	483.0
1977/78	526.3
1978/79	537.3
1979/80	512.6
1980/81	535.6
1981/82	526.7
1982/83	433.1
1983/84	402.6
1984/85	479.5
1985/86	391.5
1986/87	506.3
1987/88	526.6
1988/89	628.2

Source: The Deflated figures were compiled from Nominal figures obtained from the Ministry of Health. The figures were deflated using GDP deflator with 1976 as base.

Appendix 15: Ratio of Total Health Expenditure to Total government Expenditure, 1975/76-1988/89.

Years	Percentage
1975/76	6.95
1976/77	6.3
1977/78	7.3
1978/79	6.0
1979/80	6.1
1980/81	6.5
1981/82	5.9
1982/83	5.8
1983/84	5.7
1984/85	6.8
1985/86	5.8
1986/87	6.5
1987/88	6.3
1988/89	6.5

Source: Ministry of Finance, Hali ya Uchumi, Various Years, and Ministry of Health, Various Sources.