FORUM TO ASSESS DEVELOPMENT POLICIES OF TANZANIA

THE IMPACT OF HIV/AIDS ON HUMAN CAPABILITIES AND NATIONAL PRODUCTIVITY IN TANZANIA

Commissioned Paper

Sub-theme 6: Human Capabilities and National Productivity: A Foundation for Self- Reliant Growth

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List of Acronyms

ARVs	Antiretrovirals
AIDS	Acquired Immunity Deficiency Syndrome
CSOs	Civil Society Organizations
DAC	District AIDS Coordinator
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
ILO	International Labor Organization
MoH	Ministry of Health
NACP	National AIDS Control Program
NGOs	Non-governmental Organizations
NMSF	National Multi-Sectoral Strategic Framework
PLWHA	People Living With HIV/AIDS
PMO	Prime Ministers Office
STI	Sexually Transmitted Infection
TACAIDS	Tanzania Commission on AIDS
TBL	Tanzania Breweries Limited
TShs	Tanzanian Shillings
UNAIDS	United Nations…….
UNICEF	United Nations Children Fund

1.0 Introduction

1.1 Background Information

Tanzania's economy has recorded a significant growth in the 1990s after the implementation of major economic reforms. In 1994, for example, the country's real growth rate was less than 1.5 percent and inflation was running at around 35 percent. However, by the year 2001 Tanzanians real growth rate was around 5 percent and the inflation rate had declined to 6 percent (URT, 2002a). This growth was mainly attributed to the growth in the sectors of agriculture, trade, hotels and restaurants, and transport and communication. This growth presents a significant and positive change of direction for the Tanzanian economy. However, these positive gains in economic growth are threatened by HIV/AIDS scourge and a significant reversal may be experienced if the rate of infection of HIV is not curtailed. In addition, different positive economic impacts achieved due to the ongoing poverty reduction initiatives may not be significantly realised.

Almost two decades after the first 3 AIDS patients were confirmed in Tanzania, the threat of the pandemic is now more glaring as the prevalence and incidence rates are on the increase among all age groups of the population. It is estimated by the National AIDS Control Program (NACP) that 2.2 million individuals (0.9 million men and 1.3 million women) aged 15 years and above were living with HIV in Tanzania during the year 2001 (URT, 2002b). The pandemic continues to spread with some urban areas having an infection rate of more than 20 percent (UNAIDS, 2001). In various African countries, Tanzania included, the reversal of earlier gains in life expectancy and morbidity and mortality rates among vulnerable groups such as infants, children and women is attributed to the spread of HIV/AIDS. It is estimated that life expectancy could decline to 47 years by 2005 (1992).

Today, it is widely acknowledged that HIV and AIDS have substantial economic impact on individuals' productivity, that is, the blight erodes human capabilities necessary for viable production activities. Thus, the pandemic continues to decimate the workforce, impoverishing households, shredding traditional safety nets and tearing the social fabric of the communities, for many the only reliable support systems available. Furthermore, AIDS has already destabilized the resource-stricken health and education sectors as well as, industrial and the formal and informal agricultural sectors. HIV/AIDS is hindering both men and women's capabilities to contribution to development, participating in social roles, and getting improving and sustaining productive capacities. Through erosion of income, pre-mature deaths, dis-saving and less investment, the pandemic posses great threat on

households. communities business sector and governments abilities to improve human capabilities in development

1.2 The Purpose and Objective of the Paper

The paper is motivated by the widely voiced concern that the pandemic has been recognized to be a major national crisis of unprecedented magnitude and impact to humanity and development. The epidemic is not only a health sector problem but a wider social cultural and economic disaster. What is more anguishing is that; HIV/AIDS is killing people in their most productive years; it has up to now, no cure, and even if the preventive vaccine is available today, those who are already infected would still die of the disease within 15 years or so; the cost of treatment of opportunistic infections and reduction of the viral loads by use of Highly Active Anti-retroviral Therapy (HAART) is too high for many people to afford; it neither discriminates by age, sex, nor educated and skills, that is, it affects children, young, old, women, men, educated and less educated alike; once one is infected, one is likely to debilitate for a long time; and there is no effective treatment, at least currently, and is likely to be suffering for along time before death..

The overall objective of this paper is to discuss the effects of the pandemic on human capabilities and national productivity in Tanzania. The impacts have been analyzed using available documented data supplemented by some findings from other Sub-Saharan African countries whenever deemed necessary. This paper is organized into four major parts. The introduction is provided in section one, which is followed by a discussion on the consequences of the HIV/AIDS pandemic on labor and national productivity in section two. Section three explores the approaches and responses to the pandemic whereas section four makes some conclusions and recommendations.

2.0 The Impact of HIV/AIDS on Labor and National Productivity

2.1 Preamble

One of the most striking characteristics of HIV/AIDS is that it is mainly sexually transmitted, and hence predominantly affects adults in their most productive and reproductive ages. This is the same population that produces health, wealth and other social needs. This is particularly a problem in Tanzania, where most workplaces are labor-intensive, which cannot be easily substituted by technology, at least in the short run. There are number of ways in which HIV/AIDS impact human capabilities. These include; the loss of physical labor through HIV/AIDS related mortalities, loss of skills and decline in the available labor through absenteeism of the sick worker, and workers attending the sick or attending funerals. Other indirect effects are manifested through loss of income that results

to declining consumption of basic goods by the workforce, labor substitutability, orphanhood which may result to school absenteeism and/or withdrawal, changing or quitting jobs because of stigma and discrimination, and over-stretching of the social sectors such as education and health which are essential in enhancing human capabilities.

2.2 Loss of Skills and Labor

The negative impacts on human capabilities are manifested in increased mortality and morbidity that results in decreased labor, skills/expertise and eventually decreases in the productivity and economic growth. A number of public and private companies in Tanzania have lost up to 450 experienced workers in five years. As a consequence companies have reported to replace those workers with less-experienced ones, and costs hiring and training on the job have ranged from Tshs 100,000 to about Tshs 17m (Mujinja, 2002, Nguma and Mujinja, 2003). Private companies have also reported to have spent to about 20 percent of their medical bills on HIV/AIDS related complications (Mujinja, 2002; Nguma and Mujinja, 2003). Such results, other things remaining equal, would lead to reduced productivity, and sometimes increased cost of production.

A study by ILO, (1995) estimated that by year 2010, the size of the workforce in Tanzania would be only 80 percent of what it would be without AIDS. In addition, 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. HIV/AIDS epidemic is also associated with blurred human development progress. It is reported, for instance, that in Tanzania there is a eight years loss in human development progress due to the epidemic (Okonmah, 2002).

As a significant number of workers become ill, their level of absenteeism increases. In addition, as family members of employees fall ill, those employees are likely to spend increasing amounts of time attending funerals and caring for loved ones at home. Such absenteeism is likely to result in less time spent in production, reliance on inexperienced temporary labor, overworking of the remaining laborers, and a potentially inefficient combination of the remaining labor with available equipment, thus, a decrease in productivity. Absenteeism in East Africa has been reported to account for between 25-54 percent of business costs (UNAIDS, 2000c).

Mortalities and absenteeism of the sick workers may make labor an expensive major factor of production in many sectors as substitutability of labor by technology cannot be, at least, in the short run successfully done. Consequently, production costs will increase.

Products produced in a high labor cost industry are less likely to be competitive in the international markets.

HIV/AIDS has a severe impact on household economic performance through declining productivity, which is an outcome of reduced man-hours and capital resources allocated for production. The impact on household occurs as soon as a member of the household starts suffering from HIV/AIDS related illnesses until after death where coping to mitigate the impact starts. A study by UNAIDS, (2000a) reveals that a woman with a sick husband spent 60 percent less time on agricultural activities than she would normally do. This illustrates the strong inter-relationship between subsistence agriculture and the labor resources of the household. Further, a smaller financial base of the household with a sick individual forces the household to reduce consumption and hence the quantity and quality of food consumed in the household (Michiels, 2001, Lundber et al, 2000). A study conducted in Kagera region shows that, among the poor, AIDS deaths led to general consumption drop of 32 percent and food consumption drop of 15 percent (Lundberg et al, 2000, UNAIDS, 2000b). Poor nutrition has serious consequences on the productivity of an individual. The same Kagera study also showed that HIV/AIDS has a direct effect on human capabilities by reducing the nutritional status of children which in turn affects children's school attendance and later performance (Ainsworth and Semali, 2000).

2.3 Impact on Social Sectors on Development of Human Capabilities

In addition to the impact that HIV/AIDS is expected to have on labor supply, HIV/AIDS is also likely to have profound effect on social sectors (health and education), which are instrumental to the supply and development of human capabilities. The public services that enhance human capabilities such as education and health services is succumbing to the effects of the pandemic.

2.3.1 The Effects on the Health sector

Anecdotal evidences show that the rate of HIV infection among employees of education and health is at least as high as that of the adult population as a whole (Cohen, 1999). The already over-stretched health sector, among other sectors, has suffered multiple effects due to HIV/AIDS: loss of health increased number of patients due to AIDS opportunistic infections, increased demand and sometimes reallocation of resources from other equally important health problems, decreased number of health workers, and at time, hesitation to work in HIV/AIDS patient areas.

The health sector has not been spared from the epidemic. For instance, from 1985 to 1992, Kagera region recorded 55 deaths of health workers due to HIV/AIDS (Kashaija, 1996, reported in Over et al, 1996). These are data that were obtained when the epidemic was at its infancy in the country, The situation would be expected to more serious as the epidemic progresses.

In some highly prevalent areas, more than 50 percent of the medical wards in hospitals have been occupied by AIDS related patients (Mujinja, 1999). Despite the fact that patients are charged at district and regional level hospitals, many patients are still being attended at lower level facilities (MOH, 2000). This increases the burden on local and central government budgets.

While the exact costs of treating someone with HIV/AIDS has not been updated, an earlier study in Tanzania by World Bank shows that in 1993 the average cost incurred per adult AIDS patient over the duration of the patient's illness was approximately 50,000 Tanzanian Shillings (Tshs) while for the children the annual figure was Tshs 34,000 (World Bank, 1993). Another more recent study indicated that the cost of treating an adult in Tanzania with AIDS is $295, while the cost of treating a child with AIDS is $190 (Mrope, 1997, cited in Forsythe, 2002). This is overwhelming in a country that spends only about USD 6 per capita and less than 12% of the total development budget on health care.

Significant private and public resources have been spent on prevention of HIV/AIDS and treatment of HIV/AIDS related complications, in Tanzania. In 1996, it was estimated that private sector, government and donor community spent about Tshs 95 billion in interventions against HIV infection (World Bank, 1996, cited in Tibandebage et al., 1997). The government allocated US $ 8m for HIV/AIDS activities for the fiscal year 2000/2001 (PMO, 2001). However with increasing incidence and prevalence, and with the advent of HAART, the cost of the disease to the nation has significantly increased. In absence of cure, and increase in new cases, more resources would be required to safeguard and improve (to those already affected) human capabilities. The burden on the government expenditure on the health services is implicit bearing in mind that the majority of Tanzanians live in the rural areas and they depend on government facilities for health services.

2.3.2 The Effects on Education Sector

The effect of the pandemic on the supply of and demand for adequate public education matters because education is both constructive and instrumental in the process of

development. It contributes to higher individual productivity and income, and thus to sustainable economic growth. However, the volume and quality of education services depend on the number of teachers, teaching facilities, and on system managers. It is no doubt that education system in Tanzania has been seriously hit by the pandemic. More than 10 teachers are reported to die annually from the highly affected districts **(Source...)**. A model developed by UNAIDS and UNICEF in 2000 shows that, of around 4 million primary school students, 49,000 children would have lost a teacher to AIDS in 1999 (UNICEF, 2000 cited in Forsythe, 2002).

In the public sector, the Ministry of Education and Culture, although the information is not published, has reported a great loss of teachers due to HIV/AIDS(Mr, Sawaya, personal communication, 2002). In Kagera region where the first AIDS case was diagnosed, from 1985 to 1992, about 57 teachers were reported to have died from the diseases (Mugisha, 1996 reported in Over et al, 1996). The thinking that there is a pool of unemployed or under employed labor that labor could be drawn from in case one dies or leaves the job is fallacy (Katigeorgis, 2002). Training and acquiring of teaching skills are costly and require a long duration.

The ILO study reported by Katigeorgis (2002) shows that a high prevalence of HIV/AIDS among the African workforce will impact on education. It will become increasingly challenging to replace skilled workforce across all economic sectors. Training of new workforce, loss of transfer of acquired knowledge accumulated over years from premature deaths of experienced workers and increase in child labor who join the labor force because of being forced to miss long training opportunities, are direct, affect on human capabilities in production and productivity. If the education sector would not be able to match with the loss of trained workforce, the impact on development and capabilities of the work force are going to be severely affected.

The learning process in schools will be negatively affected through increased absenteeism, both of the pupils themselves and of teachers, as a result of the epidemic. The students who have lost their parents due to HIV/AIDS are likely to have a high absenteeism rate (Ainsworth and Semali, 2000) that are caused by lack of uniforms and school fees and stigma and discrimination, and child labor to support their families (Over et al, 1996). It is estimated that infected teacher and education officer will loose six months of professional time before developing full-blown AIDS and then an additional 12 months after developing full-blown AIDS (Isaksen et al., 2002). Furthermore, teachers are likely to face a higher

stress in the job as children from households that have been affected and infected with HIV/AIDS are forced to drop out of school, or attend sporadically, due to reasons mentioned above.

Hamoudi and Birdsall, (2002), explores likely effects of the AIDS pandemic on the ability to produce education and use it effectively for growth and poverty reduction. They conclude that the pandemic affect supply side of education though premature deaths and demoralization of teachers. This may necessitate the need to reduce the educational requirements of teachers. The demand effects are manifested in the reduction of the lifetime private returns to education, making investments of time and money in schooling appear less attractive. The loss of physical capital assets may reduce the ability of skilled workers to contribute to overall economic production, to the extent that physical and human capital are complementary inputs (complimentary effect). Insofar as this in turn reduces the skill premium, it will have a negative impact on both the rate of growth and social productivity of the teachers.

2.4 Impact on the National Productivity

The individuals, households, communities and sectoral impacts could be aggregated to assess the national (macro) effects of HIV/AIDS on productivity. The Tanzania AIDS Assessment Study projected that by year 2005 the population growth of Tanzania would be reduced by 0.5 percent, life expectancy would decline to 47 years, and labor force would be smaller than otherwise would be in the absence of the epidemic (1992). A study by Cuddington (1993) using the early 1990s HIV/AIDS data from Tanzania shows that per capita GDP in 1985-2010 would be up to 10 percent smaller in the AIDS scenario. Furthermore, the labor force in sub-Saharan African countries has been estimated to be about 10 to 20 percent smaller than it otherwise would be in no AIDS scenario (ILO, 2000). As the epidemic reduces domestic savings, as well as foreign investment, it will erode the physical capital stocks in the hardest hit countries

In a labor-intensive country like Tanzania, where most of the labor force is in the agricultural sector, crops production and farming systems would suffer a decline in production and productivity (Barnett and Blackie, 1992). In Zimbabwe, for instance, it has been estimated that the epidemic has reduced production in a household with an AIDS death: maize by 61 percent, cotton 47 percent, vegetables 49 percent, groundnut 37 percent (Mukherjee, 2000). Aggregated together, an agricultural economy would suffer a massive reduction in food production and incomes, which are important ingredients in increasing human productivity.

Transport, mining and construction sectors are also seriously impacted by the pandemic. Transport sector contributes significantly to economic growth in Tanzania (URT, 2002a). Mining sector has also grown at spectacular rates in recent years due to inflow of foreign direct investments. All available surveillance data indicate that infection rates are high and continue to rise along the main transportation corridors[1]. The mining sector is also vulnerable to impact of HIV/AIDS because it is characterized by the requirement for workers to stay away from their homes for a long period of time. A study done by AMREF in Geita and Bulyang'ulu mining sites and surrounding communities revealed that 10% and 34% HIV prevalence among Barmaids and mining communities respectively (Prof. Mwaluko, personal communication, 2003) Data from other countries show that the prevalence is alarming. For instance, gold mining giant AngloGold Company, which has branches in South Africa, Argentina, Australia, Brazil, Mali and Namibia, estimated that between 25-30 percent of its South African workforce was HIV positive (InteliHealth, 2002). Gold Fields, a gold mining company based in South Africa reports that although they have been barred from screening employees for HIV/AIDS since 1998, it is estimated that more than 25 percent of its 50,000 strong workforce is HIV positive. It is projected that the AIDS pandemic will cost the company up to US$10 per ounce of gold it mines in added production costs if no interventions are put in place (BBC News, 2002).

The pandemic is also associated with reduced exports and increased imports. The decline in export earnings will be severe if strategic sectors of the economy are affected. Thus, lower domestic productivity reduces exports, while imports of expensive healthcare goods may increase. The decline in exports earnings would affect the balance of payments (between export earnings and import expenditure). This can further disrupt the government budget processes. This can seriously impair the debt repayment capacity and encourage borrowing from both internal and external sources.

Stover (1993) estimated that with a survival rate of about one year, Africans who contract HIV, in a steady state epidemic with an incubation of five years, 14% of the HIV infected population would be sick in any year. And, point increase in prevalence would have an effect on the labor force by 0.9 and 1.4 percent points, and up to 4.2% of the labor force in a year will be suffering from AIDS, lowering their efficiency and per capita income.

3.0 Approaches and Responses to the Pandemic

Tanzania has undertaken many different approaches in attempting to slow the spread of HIV infection and minimize its impact on individuals, families and the society in general. Since 1983, when the first 3 AIDS cases in Tanzania were reported, the HIV epidemic has progressed differently in various population groups while national response has developed itself into phases of programs and activities. In 1985, the Ministry of health formed an HIV/AIDS technical committee to advice on the diagnosis, treatment and prevention of the disease. This led to the inception of the National AIDS Control Program that subsequently established Districts AIDS Coordinators (DACs) in every district. Further, the National AIDS Committee and the National Advisory Board on AIDS were formed in 1989 and 1999 respectively to complement the NAPC efforts. Latter the Tanzania Commission on AIDS (TACAIDS) was formed by the President and became legally established in November 2001. TACAIDS is in charge of providing leadership and coordination of AIDS activities and multi-sectoral responses in the country.

HIV/AIDS has moved from being a health sector problem to a wider development problem having profound impact on people living with HIV/AIDS (PLWHA), households, and different sectors of the economy. Recognizing the profound effects of HIV on development process, the government of Tanzania declared HIV/AIDS a National crisis and is now one of the top priority development agenda in the government, along with poverty alleviation initiatives. Poverty reduction strategy incorporates the issue of HIV/AIDS as one of its priority areas under the crosscutting issues. The Tanzania HIV policy deems HIV/AIDS a national disaster (URT, 2001). It is a national crisis offering a compelling reason for a multi-sectoral approach. Multi-sectoralism means effectively inviting non-health government officials to join HIV/AIDS program committees and/or giving different ministries responsibility for providing HIV/AIDS services to their employees.

TACAIDS has formulated the National Multi-Sectoral Strategic Framework (NMSF) on HIV/AIDS (2003-2007) which is now in place (TACAIDS, 2002). MNSF will translate the National Policy on HIV/AIDS by providing strategic guidance to the planning of program, projects and interventions by various stakeholders in the fight against HIV/AIDS. It spells out the basic approaches and principles, which guide the National response, and identifies goals, objectives and strategies for the period 2003-2007. The NMSF will guide all future program and interventions by different stakeholders. It also contains a Monitoring and Evaluation system to measure progress towards the goals as well as institutional coordination and financial frameworks of the National response.

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[1] AMREF has for long time implementing intervention activities with truck drivers in most

Although the NMSF addresses all preventive, treatment and enhancement of life skills as a means of improving human capabilities, there are still many barriers and professionals and parental circles to intensifying and scaling up education activities related to sexual issues in schools. Appropriate circular is missing as well as capacity by teachers to guide the young people (TACAIDS, 2002).

It is true that because of the high prevalence of HIV/AIDS in urban areas, interventions have favored more urban than rural areas. However, HIV/AIDS had spread to rural areas due to the urban-rural migration. These developments have had an adverse impact on agricultural production. Estimates show that by the year 2015 there will be more people in rural areas infected with HIV/AIDS than in urban areas (URT, 2000). This is an alarming situation particularly because agriculture is an important sector to the economy of the country, accounting for about 85 percent of the rural employment.

Further, HIV/AIDS interventions have mainly focused on preventive programs. Care/treatment services in Tanzania remain fairly minimal. While in Kenya and Uganda there is an increasing demand for Antiretrovirals (ARVs) by employees and their unions, there is reportedly little pressure for businesses to provide ARVs to its employees in Tanzania. This may however change, with the expansion of foreign investment in Tanzania. Most indigenous companies have neither the resources nor the motivation to offer ARV to their employees in Tanzania[2]. This is not the case, however, with multinationals. Companies such as Heineken, for example, have begun to offer HAART to their employees and the families of their employees in Africa.

It is apparent that some of the private entrepreneurs in Tanzania have not been ready to invest in HIV/AIDS prevention (Mujinja, 2002; Nguma and Mujinja 2003). Thus, the government would still be required to invest in health of its population by virtue of the fact that health care is a merit good. Formulation of favorable health and training policies are therefore still a task of the government. These policies should be population focused bearing in mind that more than 50 percent of the Tanzanian live in abject poverty and therefore not able to afford high cost treatment and or training.

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highways

[2] Recently, some companies have started programs to provide ARVs to their employees. A good example is Tanzania Breweries Limited (TBL) ARV support under the "AIDS Program ART Policy" initiative. The ARV therapy costs between TShs 100,000 to TShs 200,000 per month, a bill TBL management has promised to foot in full (Mmbaga, 2003).

Recently, the government has allowed the importation of ARVs. However, the drugs are extremely expensive and the poor can rarely afford a monthly dose that costs between $50 and $150. Furthermore, the drugs require a close follow up by a qualified prescriber to monitor the likely side-effects.

4.0 Conclusions and Suggestions

This paper reviewed the impact of HIV/AIDS on human capabilities and national productivity in Tanzania using the available information on Tanzania, supplemented by findings from other Sub-Saharan African counties, owing to the fact that studies on that subject matter in Tanzania are scanty. At households and workplaces, the pandemic has been found to have severe impact on individuals' productivity and thus firm's profits. It is associated with high rates of morbidity and mortality. These have negative impact on labor supply and productivity that is accompanied by loss of skills in key sectors of the labor market. The economic models predict that the pandemic will have long-term macro economic effects in the countries affected (Ainsworth and Over. 1994). Reduced labor supply and productivity reduces exports, and increases imports that may create a potential for fiscal imbalances.

The Government of Tanzania has responded by forming different organs/institutions that in turn have developed strategies to prevent, control and mitigate the impact of the pandemic through health education and community participation. In addition, a comprehensive national HIV/AIDS policy has been developed. Currently there is a strong political commitment and leadership from the highest level, aimed at fighting the HIV/AIDS pandemic and HIV/AIDS is now a top priority in the development agenda of the Government. However more needs to be done to directly or indirectly improve and sustain human capabilities that are debilitated by HIV/AIDS pandemic, viz:

- The government should make sure that the National policy on HIV/AIDS is disseminated widely, enforced and clearly understood by the public. In addition, the National HIV/AIDS policy should set a framework within which sector policies can be developed.
- Together with prevention programs, support of ARVs therapy is necessary. ARVS can extend life and improve quality of life and restoring health for many people living with HIV. Since people with HIV could live longer if opportunistic infections are properly managed and ARV therapy are well monitored, introducing ARV will have an added positive impact on productivity.

- On its own, ministry of health lack the resources to cope with the growing demands of the prevention of HIV transmission and care for PLWHA. Individual and community vulnerability to HIV/AIDS is partly a function of their economic, political, legal and social resources. There is, therefore, a clear consensus that effective HIV/AIDS interventions require the collaboration of a range of stakeholders, including government agencies, Non-governmental Organizations (NGOs), Civil Society Organizations (CSOs) and businesses. The NGOs and CSOs are currently playing an important role in assisting the government in many HIV/AIDS programs.
- The health and educational sectors are seen as critical sectors for development of human capabilities in improving skills and productivity that would be translated into raising living standards for the whole population. However, systematic analyses (studies) have not been conducted in Tanzania to assess the magnitude of HIV/AIDS impact on human capabilities to enable an identification of factors that need to be addressed to plan for effective interventions on what and how should be done to streamline human capabilities to cope with the threat posed by the epidemic. The call for such researchers is crucial. The data and information obtained would warrant planning for improvement and sustainability of human capabilities and drawing a workable policy in the country's educational system.
- The education system should match the needs of the country. There is a need to creating a more comprehensive education with less hierarchical system that could easily adapt to the dynamic needs of the economy. Creating base at primary school levels.
- Adults are dying with knowledge that would benefit the youth if passed to them. Creating an environment that would make sure that traditional skills are made available to children to compensate for the loss of knowledge and learning that has been passed down through generations of adults now lost to HIV/AIDS.
- As the need for HIV awareness increases, schools should modify curriculum to address the changing environment by including information on the impact of HIV/AIDS and how to protect oneself against the infection, new skills of managing life, and focus on attitudes and values that would be employed to improve human capabilities in preventing from being infected. A question and concern to that approach is "in already overcrowded school curriculum, where such training should be inserted?" This is a critical issue that has to be addressed by the curriculum experts. A spread-over training in several years of schooling could be one of those quick responses. Adoption of new school system such as

employing counselors and initiating trust funds to attend problems of orphaned students is imperative.

- The burden that is already shouldered by the health and education sectors calls for a need to redistribute the country's scarce resources from other national sectors to health and education due to the fact that both sectors have a direct implication on the improvement of human capabilities. Harnessing other sectors would not only increase the resources available to respond to HIV/AIDS, but would also encourage new and more broad-ranging approaches. While it could be argued that because of excess underemployment in the country, loss of labor force might be taken care by just employing the unemployed, a long-term training is required to fill such a gap. However, skills needed in the health and education sectors are rare and require a long training.
- HIV/AIDS has imposed an excess burden to the health sector. As years pass by, the epidemiological patterns of diseases change. Training has to silmeteneously change to accommodate the changing pattern therefore there is a need to changing health workers training to accommodate HIV/AIDS demands
- Until recently, most workplaces in Tanzania had done nothing directly to address and mitigate the HIV/AIDS effects at workplaces and in communities where their workforce resides. In addition, private investors are not ready to invest in long-term training of their labor force. A call for workplaces to support training programs, not only those that are directly related to awareness of and protection from HIV/AIDS, but also those that focus on improving skills of the workforce should be emphasized. This would create a pool of multi-skilled workers that will serve as a fallback position in case a skilled worker is lost due to the disease. In this regard, positive human resource development policies at workplaces that are geared towards improving workers skills and also addresses the broader social, cultural and community contexts that are determinants of HIV/AIDS transmission are envisaged.

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