

Economics of HIV/AIDS Impact Mitigation: Responding to Problems of Systemic Dysfunction and Sectoral Capacity

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Introduction:

The adverse economic impact of HIV/AIDS is becoming increasingly evident. In high- prevalence countries the growth rates of gross domestic product are slowing down, the manpower losses in key sectors are mounting, the number of orphans is increasing and household poverty is deepening. These countries are facing the formidable challenge of mitigating the economic impact of HIV/AIDS. Yet economic mitigation is not high on the agenda of those donor agencies and countries involved in mounting a response to HIV/AIDS impact. They appear trapped in an awareness, prevention and care paradigm, which, while vital, fails to recognize the issue of systemic erosion and impending socio-economic collapse. In short, they have assumed HIV/AIDS to be a public health issue and failed in many cases to recognize it for the development and systemic management challenge it more properly represents.

There are three important contributory reasons for this: First, the paucity of data precludes recognition of the extent of the impact of the epidemic and its economic cost. 20 years into the pandemic, reliable data on prevalence, infection and impact remains hard to come by. Relative to the steady spread of the disease into the new century, available studies and data are remarkably outdated while more routine economic research is comparatively insensitive to HIV/AIDS issues. Second, existing levels of systemic dysfunction are often so endemic in high-prevalence countries that they mask the real impact of the disease until it is too late. Even informed high HIV/AIDS prevalence countries apparently remain unconvinced of the longer term impact, and have not yet developed strategies to cope with the obvious and incontrovertible impact of HIV/AIDS, such as the increase in the number of orphans and decline in the size of the labor force. And third, much of the responsibility for national HIV/AIDS mobilization and response is vested in the health sector, leading to the assumption that it is a passing health issue.

This paper concludes that:

- The vicious cycle of low growth, unemployment, low social and economic status, depression and poverty will become increasingly virulent over the coming years as HIV/AIDS mortality and morbidity spirals in high-

prevalence countries. The dysfunctionality of current systems, the lack of sustainable management capacity and the inefficiency of allocation and resources utilization at every level of the economy – macro, meso and micro – are likely to paralyze public and private systems as they operate at the margin of collapse.

- Economic mitigation activities at every level are interlinked, with the micro dependent on the robustness of meso-level sectors, and the meso dependent on the policies and inter-sectoral approaches of the macro-level. Thus, stronger sectoral and inter-sectoral policies and programs (multisectoral approaches) are essential to mitigate the impact of HIV/AIDS on the household and on economic growth at the macro-level. Dependent on their intent and effectiveness such policies and programs could constitute the basic determinants of HIV/AIDS mitigation through their influence on issues such as education and poverty. Implemented effectively with due understanding of the issues, these could help in turn prevent new infections and convert the vicious cycle to a virtuous one.
- The key point of departure is to accept and understand HIV/AIDS as a systemic management challenge rather than a public health problem. HIV/AIDS will impact every aspect of systemic functioning, over the long-term, and will exacerbate existing problems of capacity and sustainability. To respond strategically to this challenge it is necessary to move beyond the continuum of awareness, prevention and care and frame a management approach that uses hard data and appropriate indicators to inform decision-making. The objective should be to mitigate – at all levels, and in all sectors – by managing better and focusing on those issues that both drive and impede the economy.
- A simple operational framework for adopting such a multisectoral approach exists, together with the methods and tools required to implement it, and could be applied in key sectors. These include health, education and agriculture but depend for rigor and implementation on the support and monitoring of finance. Governance and democracy also has a key role to play in establishing the socio-political environment in which the mitigation of economic impact can be empowered to build sectoral capacity. This sectoral strengthening has to take place within the context of economic growth strategies that need to be developed and reviewed with the future impact of HIV/AIDS in mind.
- The time required to replace increasing manpower losses and associated effects, including the loss of experience and institutional memory, reinforces the need to take urgent action to mitigate HIV/AIDS impact and prevent countries from accelerating deeper into the vicious economic cycle. Thus rapid response – especially at the public sectoral level – is essential. This suggests that the immediate focus of mitigation efforts should be on the sustainable improvement of management capacity and the consequent reduction of dysfunctionality in these sectors.

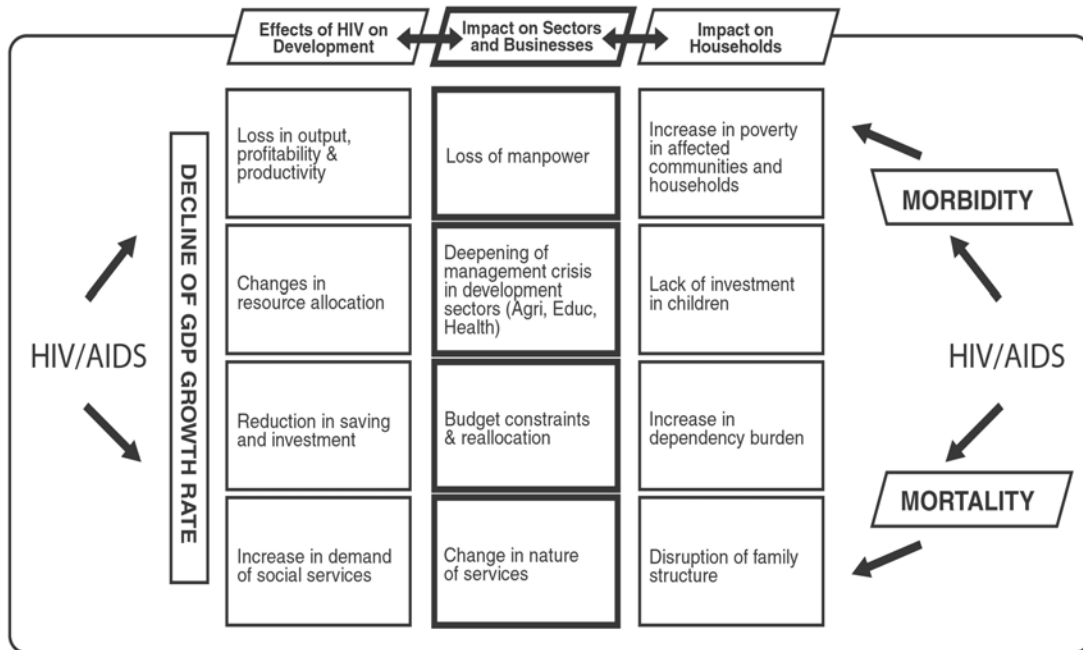
Economic Impact - A Vicious Cycle:

This section makes three points. First, that HIV/AIDS has an impact at all levels of the economic system - macro, meso and household - and these interrelated impacts feed on each other to create a vicious cycle. Second, HIV/AIDS impact at all levels is evidenced by three main indicators:

- The loss of manpower and skills;
- Changes in the population structure and the erosion of whole production and consumption bands, with consequent distortion of resource allocation due to changes in demand for goods and services;
- Deterioration in management capacity and governance.

And third, the most direct impact of HIV/AIDS mortality and morbidity is at the household level, the base building blocks of the economy. It reduces their ability to work, generate adequate income, save and invest, and increases their dependency on the state. These factors change the extent and nature of demand for the services and output of different sectors such as agriculture, education and health, and will place unprecedented strain on social service delivery. In addition, the lead-time involved in replacing skilled manpower losses due to HIV/AIDS and the associated loss of experience and institutional memory, will reduce sectoral capacity to produce goods and services and meet the needs of households and the macro-economy. This will in turn reduce or slow economic growth. This vicious cycle constrains the ability of the system to reduce household poverty, as the following chart will illustrate:

ECONOMIC IMPACT OF HIV/AIDS: A VICIOUS CYCLE



Source: Adapted from Alan Whiteside's Presentation

Note: Sectors here are defined as functional spheres managed by all the stakeholders including governmental and non-governmental organizations.

The destructive erosion of HIV/AIDS is not occurring on neutral ground: Its advent coincides with a number of complicating socio-economic and development factors, and its primary impact is to exacerbate these as well as existing and residual levels of societal and sectoral dysfunction. It is unfortunately true that many high-prevalence countries also suffer residual problems of limited human resource capacity, suggesting that this lack of sustainable management capacity and associated systems may overlay a second vicious cycle of vulnerability.

The assumption that technology alone may resolve these problems is also misleading and requires instead a systematic process of training and empowerment, based on need, rather than simple supply-driven interventions. Indeed, the move to technology enhanced economic growth has slowed, and in some sectors obliterated job creation in the developing world, providing an uncomfortable reminder that development has its costs. Globalization and changing trade dynamics too have contributed significantly in some developing economies to deepening poverty and unemployment, and economic gaps may in fact be widening along these fracture lines, further stressing the micro and meso economy.

Evidence of the Impact of HIV/AIDS:

A key failure both within the sectors involved and those development agencies that support them has been the lack of attention to the collection of data and development of management information systems. Few systematic studies have been carried out on the impact of HIV/AIDS at the household, sector or macro levels and this failing has contributed in large measure to the lack of awareness and understanding in sectoral management – often misinterpreted as denial. Due to limited number of impact assessments the same evidence is quoted over and over by different authors. This information is summarized in the Annex. While quantitative *estimates* of impact are available for the increase in orphan numbers, the decrease in the size of the labor force, increased mortality rates and changes in size, age and structure of the population, these are often not taken seriously by sectoral management. These estimates can and should provide the basis for developing systematic management and mitigation strategies but in many high-prevalence countries still require the evidence of hard data to make the case for intervention. The introduction of new ways to regularly collect and analyze a time series of key indicators to provide an effective decision support system is long overdue in both the interests of HIV/AIDS mitigation and good sectoral management.

Strengthening Sectoral or Meso Capacity - Adopting and Implementing Multisectoral Approaches to Break the Vicious Cycle:

This section discusses the critical role of the sectors or meso level interventions in economic mitigation, provides evidence of their effectiveness, presents a simple operational framework for adopting and implementing multisectoral approaches including a mobile task team method for addressing the systemic problems at the sectoral level.

The Critical Role of Sectors in Economic Mitigation:

As shown in the chart above, sectoral or meso level actions could be most effective in economic mitigation and in breaking the vicious cycle. They are the link between macro policies and programs and the ultimate beneficiary - the household. Stronger sectoral systems could help in bridging top-down and bottom-up approaches and in formulating and implementing policies and programs. The sectors play a key role in:

- Providing stronger support to households to meet their needs (orphan care, health services, micro and small scale enterprise) more adequately. This will influence their decisions on savings, investments and productivity. Examples of the successes of stronger sectoral policies and their impact at the grassroots-level have been documented recently in Uganda by the World Bank. In that country, the education sector, with

more inclusive and equitable policies, has reached the orphans better than the health sector with no such policies.¹ Similarly, besides medical and social care, support for micro-enterprise and micro-finance activities for affected families and communities are growing. However various studies have indicated that for sustainability and success, these activities depend on the extent to which they are linked to growth sectors.

- Contributing better to national output as a result of increased efficiency through better management of sectoral resources.
- Adopting policies that may bring about behavior change. Examples include improvement in girls' education, women's empowerment and the provision of housing for families posted away from home.

Multisectoral approaches in HIV/AIDS:

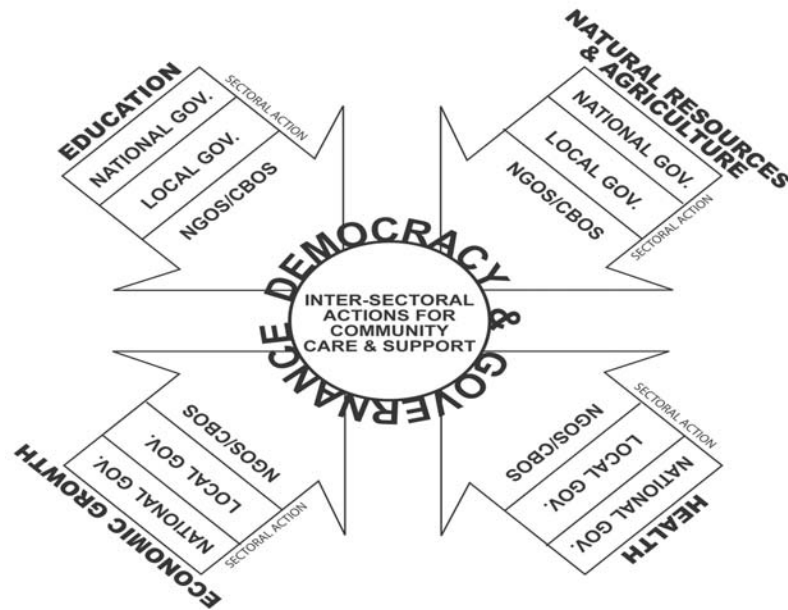
Multisectoral approaches could be either sectoral or inter-sectoral. The sectoral approach can be defined as those actions that each sector could undertake to mitigate the impact of the epidemic on its core business, and thus strengthen its capacity to contribute better to economic development and HIV/AIDS mitigation, prevention and care. Examples include strengthening the education sector to deliver education more efficiently as well adopt policies and programs for care and prevention, such as the education of orphans or life skills education. In the second case, the ability of each sector to deliver results increases exponentially if related sectors coordinate their activities inter-sectorally to agree prioritized objectives for development in general and/or HIV/AIDS mitigation, prevention and care in particular.

Thus, greater attention needs to be given to the strengthening of sectors or sectoral clusters related to the improvement of household economic and social status, as well as contributing to economic growth through agriculture, education and health.

An Operational Framework for a Multisectoral Approach:

Given the points above, an effective approach would involve each of the key sectors in strengthening their capacity to provide services to the communities affected by HIV/AIDS, in the concerted manner illustrated below:

**Multisectoral Framework:
Sectoral Strengthening for Intersectoral Collaboration**



- Each arrow represents sectoral actions by different implementing agencies to strengthen the capacity of the sector to respond better to the household needs. Assessing the household needs and matching them with response capacity of the implementing agencies (governmental and non-governmental) is a first step in the sectoral strengthening.
- The Center represents inter-sectoral activities focused on issues important to the communities and household, such as orphan-care or youth development.
- Sectoral and Inter-Sectoral Activities require strengthening of management capacity by addressing systemic issues through better governance, as a common objective.

Example of the functioning of the above operational framework:

A number of operations have been underway at the community level in which various sectors work together to achieve a common objective as illustrated in the operational framework given above. One example of such effort is the USAID/Malawi project COPE II (Community-based options for Protection and

Empowerment II). The specific objectives for COPE II, as mentioned in the USAID Project Profile for Orphan and Vulnerable Children, include:

- Strengthening the capacity of government and community organizations to lead and sustain effective responses to meet the needs of HIV/AIDS affected children and families
- Advocating policy change at national, district, and local levels

It has been a successful effort and has reached 12, 583 orphans and other vulnerable children in four districts with care and support via village AIDS committees. Nearly district AIDS coordinating committees and community action committees through local fundraising raised \$20,000.

Similar efforts are underway in other countries through decentralize of programs. The successful efforts are those where the local level programs get strong support in terms of favorable policies and adequate finances and technical assistance. Thus building the systems from the national to local level is essential.

Methods and Processes for Strengthening the Sectors:

The Health Economics & HIV/AIDS Research Division – or HEARD – at the University of Natal has been funded by a number of agencies, but primarily USAID, to prepare toolkits and briefs for all relevant sectors to assess the impact of HIV/AIDS, and prepare an appropriate response. These toolkits have been expressly prepared for the use of government ministries and a wide cross-section of private sector activities. The toolkits are available at the HEARD website www.und.ac.za/und/heard.

In addition to these, a methodology and virtual organization has been developed to provide a systemic approach to sectoral HIV/AIDS mitigation and management, specifically for the education sector initially, but as a model for multisectoral adaptation. Named the Mobile Task Team (on the impact of HIV/AIDS in education), the MTT has developed a principled approach and terms of reference that address almost all the underlying issues already described.

The Mobile Task Team Method:

The MTT approach is based on the understanding that HIV/AIDS is a sectoral management challenge that requires a systematic and sustainable response. Since few sectors, including education, have the knowledge, experience or capacity to address the strategic issues involved, it is appropriate to mobilize a support mechanism to guide them through the development of an informed response. The MTT was created for this purpose and is available on request to develop a process of on-going support to meet sectoral needs and help generate a prioritized implementation plan. Its operations are however designed to train

and build sectoral skills and transfer ownership of its tools, templates, models and techniques to nominated counterparts within the sector. The education MTT comprises a team of southern Africa-based professionals active in complementary disciplines relevant to the management and mitigation of HIV/AIDS, and is in effect an Africa-to-Africa initiative.

The MTT is funded for this purpose by USAID and is effectively available at zero cost to the sector concerned. MTT overheads are limited by dint of its 'virtual' organizational character and its costs are therefore almost entirely operational. Most importantly, the MTT is a self-mobilizing 'learning unit' in a constant state of knowledge absorption and development, and as such, has an acknowledged obligation to feed this knowledge back into the HIV/AIDS and education environments. The MTT is already working in 11 education systems in Africa and is committed to the replication of its operations in other sectors, as well as a multi-sectoral approach to social service delivery.

In treating the impact of HIV/AIDS as a systemic management issue, the MTT suggests that each Sector has to address four areas of impact and response:

- 1 Budget allocation and management:

The review, probably including an Impact Assessment, of system vulnerability, budget allocation and expenditure, management capacity and HIV/AIDS national and sectoral planning. One key outcome might be the establishment of a full-time HIV/AIDS Management Unit for the sector, to act as a management information and budget support clearing-house.

- 2 Replacement of Skilled Manpower:

The collection of relevant hard data on payroll, attrition and other variables sufficient to inform projection modeling and develop a clear basis for calculating and budgeting demand for the replacement of skilled manpower – and the location of these skills and models in sectoral hands.

- 3 Changing Demand/Service Dynamics:

Analysis of the service demand equation and the development of a comprehensive understanding of the 'market dynamics'. In education for example this would involve the research and analysis of enrolment, drop out, permanent loss and orphaning by age and gender, and the consequent impact of these changes on service demand and output by level.

- 4 Policy and Implementation Response:

This might necessitate a Policy Audit in response to the data available but would certainly involve a facilitated process of developing a shared vision for the sector, a prioritized sector-wide implementation plan with clear lines of responsibility and timing and the enlistment of multisectoral and NGO partners. The emphasis would be on the practical and attainable, and on the fact that the HIV/AIDS crisis also represents an unprecedented opportunity to redesign sectoral practice and future development that could not, in conventional circumstances, be easily opened for review.

In order to achieve these goals, the MTT have developed a series of tools, techniques, templates and models that assist in the workshopping and training process and in generating a variety of outcomes. In principle these tools are designed to add value to existing work and analyses, and can be replicated quite easily in other sectoral environments. The MTT is in a constant state of development and learning and so will continue to refine and improve these tools and approaches, based on their comparative success in operational terms.

The key to this MTT process however lies in the empowerment of the sector concerned to define its needs, take ownership of the process and take on sufficient skills and knowledge to take charge of its own destiny.

Suggested Actions:

- Economic mitigation could be treated as an important third component of HIV/AIDS programs. Addressing the level of systemic dysfunction, as it exists, may appear too formidable a task by the countries and donors concerned and may deter action.
- The multisectoral approach presented above may make the task of mitigation of economic impact somewhat more manageable. Thus, those sectors key to economic growth and primarily concerned with HIV/AIDS mitigation, prevention and care could adopt or adapt the MTT approach to strengthening their sectors.
- In addition, the above mentioned sectors could work collaboratively in high priority areas to make an impact on critical issues such as food security, basic health care, orphan support and youth employment. The technological vehicle of GIS could be used to merge multisectoral and provide the practical means to advance a shared agenda.
- The MTT approach can be applied fairly rapidly as it does not require elaborate preparation or initiating studies. It is an outcome-based approach that helps ministries and sectoral agencies to take prioritized action as they identify the problems within a holistic context.

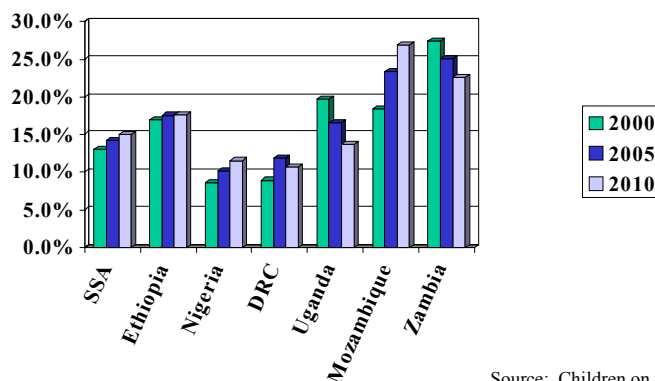
- The above approach could be supplemented by the development of trained, in-country rapid response teams located strategically to help expedite action by trouble shooting within or between sectors.
- Any sectoral actions need to be supported by an economic growth strategy and plan that takes full account of the impact of HIV/AIDS on future economic growth prospects at every level and of the needs of the household and the communities.
- In addition, the allocation of resources both at the macro and sectoral levels could be brought in line with the objectives defined in the growth strategy. The Goal model, described elsewhere in this report, could be used for such resource allocation decisions.

Available Evidence of HIV/AIDS Impact

Household Impact:

Apart from the loss of breadwinners and the growing realization of reduced life expectancy, the most serious issue for the household, the community and society as a whole, is the increase in the number of orphans. As illustrated in the following chart, the percentage of orphaned children in selected high-prevalence countries increased from 2% in 1980 to 15-17% in 2000, and will increase to almost 20-30 % in 2010. In South Africa, for example, figures suggest that one in five children of school-going age will be orphaned by 2010, rising in some higher-prevalence provinces to one in four.

Percentage of orphans from all causes 2000-2010



Source: Children on the Brink, 2000; U.S. Census Bureau

In these high-prevalence countries, almost three-quarters of the households in the community take in and care for orphans, reducing their own consumption per head as well as their ability to save and invest. The burden of this large number of orphans is sending shock-waves through the communities concerned: Africa's traditional extended family system, exemplary at absorbing members under stress, is confronted with impact on every constituent part of its network and may reach breaking point without some assistance. The ability of these emerging populations to absorb this level of stress is limited, given that they function off a very low – often non-existent – social security base to begin with. Adding the impact of HIV/AIDS to this strain may have the effect of not only accelerating the reversal of development gains but of fragmenting the very societal structure that has so far sustained marginal societies.

Thus, HIV/AIDS may generate a new class of poor and push those who are already living at the margin closer to the edge. 'In Zambia, for example, AIDS led to a rapid transition from relative wealth to relative poverty in many households. In two-thirds of families, when the father died monthly disposable income fell by more than 80%.⁵

Sectoral Impact:

While most of the sectoral assessments available are confined to the impact such inputs as labor, financial resources and management capacity, analysis on HIV/AIDS impact on output or outcomes is rare. However, estimates of the decline in labor force size, a few ad hoc studies on the loss of specialized skills and some anecdotal evidence of impact on management capacity are available, and are mentioned below. This is not an exhaustive inventory but shows the magnitude of the problems, which are illustrated by the following points:

- Labor Force:

According to data from the ILO and the UN Population Division, about 10% to 30% of the labor force in identified high-prevalence countries will be lost during the next 15 years, necessitating a major overhaul of development strategy and process thinking:

Southern Africa: labour force losses due to HIV/AIDS (%)		
	By 2005	By 2020
Botswana	-17.2	-30.8
Lesotho	-4.8	-10.6
Malawi	-10.7	-16.0
Mozambique	-9.0	-24.9
Namibia	-12.8	-35.1
South Africa	-10.8	-24.9
Tanzania	-9.1	-14.6
Zimbabwe	-19.7	-29.4
Source: Africa Recovery and United Nations ¹		

- Loss of specialized skills:

Education: According to a report by the World Bank, HIV/AIDS is killing teachers faster than nations can train them, undermining an international effort to enroll all children in school by 2015 and confirming the redundancy of many well-intentioned declarations in the AIDS-era. The report states that in parts of Uganda and Malawi, nearly a third of all teachers are HIV-positive. In Zambia, teacher deaths nearly doubled, to 1,300 in the first 10 months of 1998 from 680 in 1996. In the Central African Republic, 85% of the 340 teachers who died between 1996 and 1998 had AIDS, and vanished from their classrooms an average of 10 years before they would have normally retired.

The HEARD Mobile Task Team on the impact of HIV/AIDS on education has found that HIV/AIDS exacerbates existing high attrition rates. In the KwaZulu Natal province of South Africa their research suggests that the impact of HIV/AIDS on an existing attrition rate of 7% (in 1999) will require the replacement of almost 70 000 of 75 000 teachers in service by 2010. The South African Democratic Teachers Union, SADTU, has evidence that the average age of death for teachers in the same province has now declined to just 36, suggesting the need for a complete policy revision in respect of dramatically shortening pre-service training.

Health: Estimates based on different stages of the epidemic suggest that a country with a stable 15% prevalence rate can expect that each year between 1.6% and 3.3% of its healthcare providers will die from AIDS.⁶ Given that antenatal HIV prevalence rates range between 19% and 32% across high prevalence southern African countries, the implications will be obvious, not least because the health sector also seems convinced that HIV/AIDS is a health issue. It is also important to recognize that HIV/AIDS impact is variable over a given area and that these averages mask the extent of impact in certain hospitals and clinics.

Agriculture: In Malawi, death rates among employees of the Ministry of Agriculture and Irrigation have doubled, almost all because of HIV/AIDS.¹ In Namibia, studies indicate that agricultural extension workers spend a tenth of their time attending funerals.

Mining: Approximately 25% of miners in South Africa are living with HIV/AIDS, according to the country's Medical Research Council, which expects this to increase to 30% by 2005.⁷ In neighboring Botswana, with the continent's highest prevalence rate, data produced by HEARD indicates a comparative rate of over 30% in 2001.

Natural Resource Management: The Forestry Department of Kenya has estimated that since 1988 it has lost an average of 36 employees a year (2-4 employees/month) due to HIV/AIDS. Environment professionals such as wildlife veterinarians, silviculturalists and plant pathologists are

highly educated professionals, with the cost of training replacement personnel as high as \$40,000 per person.³

- **Budget and Management:**

The budget and management constraints are made worse due to HIV/AIDS:

Capital and Recurrent Budget Imbalance: Many sectors have little to spend on capital projects because of recurrent commitments and this will worsen as HIV/AIDS inflates health care, training and replacement costs in the recurrent budget. The education sector routinely budgets between 90% and 95% on teacher salaries alone, leaving little to reduce backlogs and address capital needs. The cost of teacher training in South Africa, involving a four-year degree track, may run to between three and four times the cost of building a modern classroom, for example. In spite of comparatively high remuneration for qualified teachers in that country, competition for these skills is intensifying as the private sector seeks to replace its own AIDS losses and puts pressure on increasing wage demands.

Increasing Expenditure Bottlenecks: Inadequate absorption capacity at all levels of the sectoral system leads to under-spending and rollovers; this may also be true of external (donor agency) funds placed in sectoral hands. Loss of skills (permanent and temporary) will lead to capacity failure at all levels while mid- and local-level structures may collapse and lose yet more of their capacity to receive and disburse. The perennial rollover of unspent sectoral funds also has the effect of persuading the finance sector that HIV/AIDS projections are unfounded given the inability of the sectors concerned to spend the money.

Management – Human Resource Shortages: The shortage of skilled and experienced decision-makers is growing at all levels of the system both for reasons of AIDS-mortality and increased recruitment by the private sector. While many sectors are seen to be 'personnel-heavy' (evidenced by the share of recurrent budget) there remains a limited pool of top managers; HIV/ AIDS will reduce the number of candidates for entry into this pool and create pressure for extension of service. There may also be an increasing gulf between the attitudes and value-systems of older managers and the influx of much younger entrants to their ranks, due to evident losses in the group 35 to 50.

Planning and Projection Problems: The inability to calculate and project basic demand and supply equations and model a sustained response has long been evident at the sectoral level. There is a limited culture of decision-making informed by hard data and information, and planning is all too often based on political agendas and promise. The lack of functional

management information systems compounds this problem, as does the uncertainty about the value of HIV/AIDS indicators. Informed planning and adequate data collection holds the key to management response and mitigation

Training Under-Provision or Inadequacy: Failure to provide for appropriately trained replacement stock to meet system demand is the issue. Combined with a lack of informed planning, the failure to adequately project demand for new personnel and factor competition from other quarters could paralyze a given sector. The additional problem of training for entry into the 'emergency' environment of the HIV/AIDS era must be faced, including the prospect of dramatically foreshortening pre-service training time and having to provide additional levels of in-service support.

Macro or National Level Impact:

African economies could be devastated by the forecast 10 million AIDS-deaths in southern Africa over the next 15 years. The apparent high mortality rate among the 15-29 age group and women in particular has profound implications for the provision of services and related productivity.

The SADC's Regional Human Development Report for 2000, released in Swaziland this week, estimated that the potential loss of 6,3 million lives from 1995 to 2005 would slash the gross domestic product (GDP) in countries across the region. It reported that Zambia's GDP had, for example, already fallen by an estimated 9% in 2000 as a direct result of HIV/AIDS.

The UN Development Program (UNDP), in its Botswana Human Development Report, cites government studies showing that HIV/AIDS will result in GDP being between 24% and 38% lower by 2021. It also predicted that in 25 years, GDP could be 40% lower than without HIV/AIDS.

UNAIDS has estimated that when HIV prevalence rates rise to more than 20%, gross domestic product (GDP) in the countries affected can be lowered by as much as 2% a year. In South Africa, the investment bank ING Barings has projected that HIV/AIDS could drag down GDP by 0.3-0.4 percent a year. Another study has indicated that by the end of the decade, AIDS could have reduced South Africa's GDP by 17%, or the equivalent of \$22 billion.¹

HIV/AIDS also exacerbates the systems' inability to allocate and utilize resources in an optimal manner. For example, HIV/AIDS direct and indirect impact on the macro-economy and sectoral budgets will increase the problem of lack of capital and/or recurrent budget at a national or sectoral level through diversion and increased consumption in competing sectors. Similarly, limited numbers of competent financial managers are already under stress and their numbers may

be thinned further, with performance compromised by personal and institutional circumstances.

References

1. Dieninger, K.; Garcia, M. Subbarao, K. *AIDS-induced Orphanhood as a Systemic Shock: Magnitude, Impact, and Program Interventions in Africa*, October 2001.
2. June Beresford, Belinda. *Impact on households and economic growth most severe in South Africa*, Africa Recovery, United Nations; Volume 15 #1-2, 2001.
3. Dwasi, Jane. *Impact of HIV/AIDS on Natural Resource Management in Africa: Case Studies of Botswana, Kenya, Namibia, Tanzania, and Zimbabwe*, 2002. **(Forthcoming report)**
4. Hunter, Susan; Williamson, John. *Children On The Brink: Strategies to Support Children Isolated by HIV/AIDS*, USAID, November 1997.
5. Loewenson, Rene; Whiteside, Alan. *HIV/AIDS Implications for Poverty Reduction*, UNDP Background Paper prepared for the United Nations Development Program for the UN General Assembly Special Session on HIV/AIDS, June 25-27 2001
6. Tawfik, Linda; Kinoti, Stephen. *The Impact of HIV/AIDS on the Health Sector in Sub-Saharan Africa: The Issue of Human Resources*, The Academy for Educational Development, USAID Bureau for Africa, October 2001.
7. *HIV/AIDS in Africa: The Impact on the World of Work*, International Labor Office, Geneva; African Development Forum, December 2000.
8. *USAID Project Profiles: Children Affected by HIV/AIDS*, The Synergy Project, October 2001.