The United Nations General Assembly has recognized that “to address HIV/AIDS is to invest in sustainable development.”¹ While a number of factors complicate African sustainable development, HIV/AIDS is destroying the social and economic infrastructure on which poverty eradication and development in Africa depends.² With more than 25 million people estimated living with the virus in Sub-Saharan Africa, the HIV/AIDS pandemic is already seriously affecting development in the hard-hit southern and eastern sub-regions and seems poised to increase its impact in other parts of the continent.³ HIV/AIDS adds an extra burden on already struggling societies in Africa by increasing the demand on services while diminishing their supply through the elimination of much needed human and financial resources. It is therefore not enough to approach HIV/AIDS in Africa as a simple health crisis. Rather, it must properly be recognized as a systemic condition representing the

most immediate and long-term threat to sustainable development on the African continent. Examining the pandemic’s impact on critical aspects of social and economic development on the continent is vital to designing policies and strategies that can be effective not only in combating HIV/AIDS, but also in achieving the broader objectives of poverty eradication and sustainable development in Africa.

**SUSTAINABLE DEVELOPMENT POLICY INSTRUMENTS AND HIV/AIDS IN AFRICA**

The concept of sustainable development first gained worldwide attention with the 1987 report of the World Commission on Environment and Development, entitled *Our Common Future*. This report defined sustainable development as “development that meets the needs of the present without compromising the abilities of future generations to meet their own needs.”

The UN Conference on Environment and Development, held in Rio de Janeiro five years later, aimed at implementing the concept globally by calling for the integration of social development and environmental protection along with economic development. This served as the foundation of the global program of action for sustainable development that was adopted in Rio and dubbed *Agenda 21*. Ten years later, The World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa examined the progress made on *Agenda 21* and found low levels of implementation, particularly in Africa. Delegates at the summit attempted to reinvigorate global commitment to the concept of sustainable development and once again highlighted the urgent need for development frameworks, strategies and actions that integrate economic, social and environmental objectives.

There are a number of overlapping international and regional policy frameworks that together outline the implementation strategies and objectives of sustainable development in Africa particularly. The Africa Chapter of the Plan of Implementation of the WSSD affirmed the international community’s commitment to support sustainable development in Africa by addressing the special and unique challenges of the continent through concrete actions to implement *Agenda 21* along with the framework of the New Partnership for Africa’s Development (NEPAD).

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line with the commitments for sustainable development in Africa contained in the WSSD Plan of Implementation and the African Ministerial Statement on Sustainable Development. These priority actions make specific reference to the importance of the inclusion of HIV/AIDS strategies into broader sustainable development objectives. The African Ministerial Statement, for example, recognized that the HIV/AIDS pandemic is a serious threat to sustainable development and that HIV/AIDS strategies should be incorporated into overall poverty reduction/eradication, sustainable development and economic growth strategies. Additionally, the Millennium Development Goals (MDGs), with their integrated focus on accelerating economic, social and environmental development, currently form a major focus for development policy and efforts. They must also be acknowledged as an important vehicle for attaining and measuring sustainable development on the continent. Combating HIV/AIDS has been identified as one of the 8 specific goals of the MDGs.

Despite the commitment to sustainable development demonstrated by the adoption of the frameworks and strategies mentioned above, African sustainable development has remained elusive as widespread poverty continues to affect most countries. During the last two decades, HIV/AIDS has spread rapidly in parts of Africa, further exacerbating poverty, complicating development efforts and adding to the pressure on already overburdened countries and communities. The pandemic particularly impedes the social and economic objectives of sustainable development. These objectives include poverty eradication, the improvement of human health and systems for delivering health care, changing consumption patterns, creation of sustainable human settlements, and the capacity of governments’ to deliver essential services in all sectors. There is also emerging evidence that the impact of HIV/AIDS on social and economic structures in turn affects the quality of the physical environment, damaging efforts at environmental sustainability. For example, the poverty exacerbated by HIV/AIDS and ill health causes land to be degraded through poor farming practices; trees to be cut down for firewood; soil, no longer held in place by vegetation, is eroded and washed away; and smoke

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10 Ibid. at para 30.
13 Human Development Report 2005, supra note 2 at 22; MDG Report 2005, supra note 2 at 24 stating that “In the 25 years since it was first reported, AIDS has become the leading cause of premature death in sub-Saharan Africa, …[and] has reversed decades of development progress in the worst affected countries.”
14 See The Socio-Economic Impact of AIDS, supra note 3.
from cooking fires where there is no electricity creates poor air quality.\textsuperscript{15} Thus, while the overall destruction is on social and economic development infrastructure, the reversal in development that HIV/AIDS causes in hard-hit communities has the potential to impinge on all three core pillars of sustainable development.

**THE DIRECT IMPACT OF HIV/AIDS: INCREASED ADULT MORBIDITY AND MORTALITY**

HIV/AIDS has a significant impact on sustainable development efforts because it infects and kills otherwise healthy, productive members of society. As shown in Figure 1, in the 38 hardest hit African countries, it is projected that there will be 19 million additional deaths due to AIDS between 2010-2015. These deaths will occur overwhelmingly among the productive and reproductive age groups, reshaping population structures to such an extent that in the hardest-hit countries, there will be far fewer adults left to care for the disproportionate numbers of children and elderly.

![Figure 1: Deaths with and without AIDS, 38 African countries. Millions.](image-url)

Data source: UN DESA/Population Division\textsuperscript{16}


\textsuperscript{16} Data provided to author by UN Population Division, 2005, (on file with author).
The increased mortality resulting from HIV/AIDS significantly impacts on life expectancy levels, which are a common measure and indicator of development.\textsuperscript{17} As Figure 2 shows, in several countries, AIDS has reduced life expectancies by several decades, reversing an otherwise positive trend.

![Figure 2: Changes in life expectancy, five African countries](image)

Data source: UN/DESA Population Division\textsuperscript{18}

The reality of HIV/AIDS is simply that large numbers of productive-age adults in African countries will no longer be there by 2015. Even if prevention efforts are successful in stopping new infections from occurring, the trend of mortality of productive-aged adults will continue as present infection levels only translate into morbidity and mortality 5 – 10 years from now. The estimated median time from infection to death for HIV/AIDS is 8-10 years.\textsuperscript{19} Given the delayed impact of AIDS onset and a continued increase in prevalence, the worst of the pandemic’s impact on societies and economies in Africa is likely still to come.\textsuperscript{20} The pandemic therefore represents an immediate crisis, but also a long-term systemic condition, with profound consequences for African development. In the words of the United Nations-initiated Commission for HIV/AIDS and Governance in Africa (CHGA):

> Already, Africans are facing a day-to-day experience of declining standards of living, reduced capacities for personal and social achievement, an increasingly uncertain

\textsuperscript{17} The widely cited Human Development Index, used in the UNDP annual development reports, for example, uses life expectancy as one of three variables in calculating level of human development in a country.

\textsuperscript{18} Data provided to author by UN Population Division, 2005 (on file with author).


\textsuperscript{20} \textit{The Socio-Economic Impact of AIDS}, supra note 3 at 3.
future (with important consequences for what can be achieved today), and a diminished capacity to maintain what has been secured over past decades in terms of social and economic development. As a result, HIV/AIDS is distorting the very fabric of everyday life on the continent, with profound implications for both social and economic development for succeeding generations.21

HIV/AIDS does not affect men and women equally. In Sub-Saharan Africa, more than 60 per cent of those living with HIV/AIDS are estimated to be women.22 Young women are disproportionately affected and in some areas, up to six times more women than men are infected in the 15-24 age group.23 Life expectancy is generally higher for women than for men, however, in four countries – Kenya, Malawi, Zambia and Zimbabwe – the higher prevalence of the virus amongst women has caused life expectancy for women to drop below that of men.24 The disproportionate impact of HIV/AIDS on women frustrates development efforts further, as women play key productive roles in African societies that are critical to the sustainability of African social and economic development.25 Women have traditionally had a central function in African communities as care givers at home and within the community more broadly, as well as in a professional capacity.26

DEVELOPMENT IMPACTS OF HIV/AIDS AT THE MACRO, SECTORAL AND HOUSEHOLD LEVELS

Macroeconomic Impact of HIV/AIDS: Increased Poverty and Incremental Growth Reduction

At the macroeconomic level, Africa is the only continent that has experienced an increase in poverty and hunger over the last fifteen years.27 Africa is far from attaining the eradication of extreme hunger and poverty, which is the first goal of the MDGs, and is equally far in achieving other conditions necessary for implementing sustainable development objectives. The numbers paint the severity of the picture. In 1990, an estimated 45 per cent of Sub-Saharan Africans lived on less than a dollar a day. By 2001, that percentage had increased to 47, and those living on less than a dollar a day were poorer in 2001 than they were in 1990. The number of people living on less than a dollar a day increased from 227 million in 1990 to 313 million in 2001. In the same period, the number of chronically hungry also increased in Africa by a staggering 34 million. Of the children under five in sub-Saharan Africa who are under-

21 Ibid. at 1.
24 2006 Global AIDS Report, ibid. at 89.
26 Ibid. at 38-39.
27 12 Countries in Sub-Saharan Africa alone have experienced reversals in human development since 1990 as measured by the Human Development Index: Human Development Report 2005, supra note 2 at 21.
weight, the proportion decreased somewhat (from 32 to 31 per cent from 1990 to 2003), but in absolute terms, the numbers rose from 29 million to 37 million.28

These realities are the product of a context where leaders are faced with the daunting task of constructing viable states out of the authoritarian structures of their colonial past, within the changing global loyalties of the Cold War and its aftermath. Coupled with domestic challenges and what can only be termed bad governance, the result is increasing poverty and destitution. Despite economic structural adjustment policies that were imposed on most African countries in the 1980s and 1990s, and which continue to persist today, the promised advantages of economic restructuring have not been delivered on the continent.29 Foreign investments have failed to flow in, the debt burdens continue, and commodity prices continue to fluctuate amid declining industries.30 The domestic economy, at both macro and sector levels, remains fraught with a wide range of problems that have existed since the 1960s and which have been compounded with the passage of time. Dependence on external resources, even for budgetary support, continues to increase but the actual resource flows have fallen short of requirements.

Overall, Africa has experienced economic growth in the order of 4 to 5 per cent over the last two or three years, however, this is largely related to increased prices for unprocessed export commodities such as crude oil, minerals, and agricultural products.31 There is no guarantee, however, that this growth can be sustained if commodity prices fall once again. The recent patterns of growth are not likely to create meaningful and sustainable increases in living standards for the majority of the population given the weak employment gains from resource-based economies.32

HIV/AIDS is an additional complicating factor in the analysis of African economic performance and possibilities for improvement. HIV/AIDS affects public budgets by diverting limited resources towards mitigating its impact and eroding tax bases due to the loss of income generation of infected individuals in their working prime.33 The exact scale of the pandemic’s impact on macroeconomic performance however has proven difficult to determine. There are two main reasons for this. First, a number of factors influence African countries’ economic performance. Isolating the effects of any one of them is extremely difficult. Second, the impact of HIV/AIDS on the overall economy is slight, but incremental, and the impact will therefore only be significant and noticeable several years from now. Models therefore need to capture impacts that may be felt at least a decade or two from now, possibly over several generations.

28 MDG Report 2005, supra note 2 at 8-10.
32 Ibid. at 32.
33 2006 Global AIDS Report, supra note 15 at 93.
Recent modeling efforts demonstrate that HIV/AIDS will slow economic growth in the hardest-hit countries, yielding a 0.5 – 2 per cent reduction in GDP growth annually. These reductions may seem small – however, if not arrested, the cumulative effect will become significant over time. Applying a model which takes into account these long-term effects of HIV/AIDS on South Africa, World Bank economists paint a harrowing picture of the effects the pandemic can have on the economy:

In the absence of AIDS, the counterfactual benchmark, there is modest growth, with universal and complete education attained within three generations. If nothing is done to combat the epidemic, however, a complete economic collapse will occur within three generations. With optimal spending on combating the disease, and if there is pooling, growth is maintained, albeit at a somewhat slower rate than in the benchmark case in the absence of AIDS. If pooling breaks down, and is replaced by nuclear families, growth will be slower still. Indeed, if school-attendance subsidies are not possible, growth will be distinctly sluggish. In all three cases, the additional fiscal burden of intervention will be large, which reinforces the gravity of the findings. Sensitivity analysis suggests that these findings are robust to changes in a variety of key assumptions and parameter values concerning mortality, the efficiency of measures taken to combat it, and the formation of expectations. A delay in responding to the outbreak of the epidemic, however, can lead to a collapse.

Sectoral Impacts

The impact of HIV/AIDS cuts across all sectors of society – public, private and voluntary – taking out skilled and unskilled workers and frustrating efforts to attain sustainable development and the MDGs. Loss of human capacity results in reduced rates of return from both private and social investment in all countries. The impact is greatest where human capital is a significant factor of production and where lost labour is concentrated among those with skills, higher education and managerial training. The effects of the epidemic are compounded in countries where:

- HIV prevalence rises or is high in all social and occupational groups;
- More highly educated groups are affected, including health professionals, teachers, engineers, planners, managers, and policymakers;
- Public services as well as private companies and civil society organizations face widespread attrition of trained and experienced staff;
- Employers are unable to replace losses owing to budget and other constraints;

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34 The Socio-Economic Impact of AIDS, supra note 3 at 5.
35 The study defines ‘pooling’ as providing care within the extended family rather than in the nuclear family unit, infra. note 36.
Skill losses in primary productive activities, such as mines, farms, and plantations occur at an accelerating rate.\footnote{HIV/AIDS and the World of Work. A Report on the CHGA Interactive session on HIV/AIDS and the World of Work, (Addis Ababa: United Nations Economic Commission for Africa, 2004), at 7.}

HIV/AIDS impacts all sectors through two main paths: first, by killing skilled workers, as discussed above, and second, by increasing costs associated with health care provision, prevention efforts, and the recruitment and training of replacement health care providers. The impact on the educational, agricultural and health sectors are cases in point which will be discussed individually in more depth in the following sections.

Impact on the Agricultural Sector

An estimated two-thirds of all Africans live in rural areas, and the vast majority of these derive their livelihoods from subsistence farming. Operating with extremely small margins, rural households are exceptionally vulnerable to shocks such as a household member being infected with HIV/AIDS. For rural Africans, HIV/AIDS can therefore impact not only on the first of the MDGs relating to food security, but on the attainment of every single MDG as the household diverts scarce resources to care for the sick.\footnote{See Impact of HIV/AIDS on Rural Livelihoods and Food Security (Addis Ababa: United Nations Economic Commission for Africa, 2004).}

While a number of studies on the impacts of HIV/AIDS on rural livelihoods, food and nutrition security have emerged in recent years, the findings are localized, and generalized statements about the impact of the epidemic are difficult to make.\footnote{See T.S. Jayne et al., “HIV/AIDS and the Agricultural Sector: Implications for Policy in Eastern and Southern Africa” (2005) 2 Electronic Journal of Agricultural and Development Economics 158, online: FAO <http://www.fao.org/es/esa/en/ejade.htm>.} Some generalizations have emerged and are beginning to form the basis for our understanding of the impacts of HIV/AIDS on the sustainability of rural development. At the conceptual level, an environment of vulnerability to HIV infection is created by a complex interplay between factors on the structural level, such as infrastructure, climate, regional disparities, gender differentials, and unequal distribution of resources, as well as factors at the community and individual levels, including community institutions and organization, lack of resources, malnutrition, sexual violence, and presence of other diseases.\footnote{See Michael Loevinsohn and Stuart Gillespie, HIV/AIDS, Food Security, and Rural Livelihoods: Understanding and Responding (Washington DC: International Food Policy Research Institute, 2004) online: <http://www.ifpri.org/themes/hiv/hivpubs.asp>.}

HIV/AIDS impacts livelihoods by negatively affecting assets that are essential to livelihood strategies: human, natural, financial, social, and physical capital. The extent of the impact depends on the presence of other vulnerability factors, as well as household resilience.\footnote{See D. Topouzis, Food Security in the Context of Severe HIV Epidemics: Key Issues & Challenges for Policy and Programming (Addis Ababa: Presentation at CHGA Interactive, 2004), online: <www.uneca.org/chga>.} The illness and death caused by AIDS in a disproportionate number of adults of productive age deprives households of their labour, but also requires households to expend time and resources
for care, medication, and ultimately funerals. Increased morbidity and mortality of productive household members can therefore lead to a decline in labour supply and households’ productive capacity, which in turn may lead to a decline in production.

Declines in agricultural production are the primary consequence of the impacts of HIV/AIDS in rural communities. Such declines in agricultural production result from decreased area under crop cultivation and decreased productivity of the areas that remain under cultivation. For example, a study conducted in Zimbabwe found that HIV/AIDS affected households suffered a decline in area under crop cultivation. This decline is attributable to the effects of HIV/AIDS on rural households, which include shortage of labour, lack of inputs as the provider had died, and lack productive assets as the latter were sold to cover medical and funeral expenses. These results are mirrored in a study of 1422 rural households in Kenya, where the total area under cultivation decreased by 26% following the death of the household head. Furthermore, HIV/AIDS affected households also experience declines in crop harvests because of poor management of the crops. For example, HIV/AIDS affected households experienced production losses of close to 50% in maize, cotton, and vegetable production in Zimbabwe. It follows that decreased agricultural production in turn negatively impacts household food security and livelihoods contributing to increased human suffering and hindering overall sustainable development objectives.

HIV/AIDS does not affect men and women equally, and once infected, the impacts on the household and community are also differentiated by the gender of the person infected. This has serious implications on the continuity of agricultural and livestock production. A 2005 case study on the impact of HIV/AIDS and drought on local knowledge in Swaziland demonstrated that the pandemic erodes gender-specific local knowledge. Skills and knowledge related to maize and cotton production were generally lost following male deaths, whereas knowledge about legume production was lost following deaths of women.

This gendered impact is echoed in the findings of a comprehensive Kenyan study. Here, the death of a ‘core prime-age woman’ (wife) was associated with a reduction in land devoted to cereals, i.e., for household consumption, of close to 1.89 acres. The death of a ‘core prime-age man’ (husband), on the other hand decreases the size of cultivated land devoted to high-value crops by 0.83 acres. A compounding factor in rural areas is that infection rates are higher among women, who account for 70 per cent of the agricultural labour force and 80 per cent of

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47 Supra note 44 at 17.
food production. The gendered impact is also related to the dispossession of women and children of assets after the death of the male household head and increased workload for women as the burden of care is added to the already long list of responsibilities that African women have in the household.

Impact on the Education Sector

A number of countries in southern and eastern Africa are reporting increased mortality among teachers, as well as attrition among other education sector staff to the extent that it is unlikely that the second MDG, achieving universal primary education, can be met. As education underpins the attainment of a range of other developmental goals, such as health and environment related goals, reduction in educational attainment will negatively impact other aspects of development.

While the impact of HIV/AIDS on education in most countries is based on estimates, South Africa has carried out a study among educators demonstrating the severity of the epidemic. As shown in Table 1, the study found that well over one in ten South African educational staff are HIV positive.

Table 1: HIV prevalence by type of educational institution and position in educational system, South Africa 2004

<table>
<thead>
<tr>
<th>Type of institution</th>
<th>Proportion of staff HIV positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>12.3%</td>
</tr>
<tr>
<td>Secondary/high school</td>
<td>12.5%</td>
</tr>
<tr>
<td>Position in the educational system</td>
<td></td>
</tr>
<tr>
<td>Educator/teacher</td>
<td>14.1%</td>
</tr>
<tr>
<td>Senior teacher</td>
<td>9.6%</td>
</tr>
<tr>
<td>Education specialist</td>
<td>10.0%</td>
</tr>
<tr>
<td>Deputy principal/principal</td>
<td>7.3%</td>
</tr>
</tbody>
</table>

Data source: Shisana, 2005

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48 _Supra_ note 38 at 6.


51 Education is a pillar of development, and providing universal access to primary education by 2015 is a target of the MDGs.

While there is disagreement as to whether teachers indeed do constitute a high-risk group, it is clear that this profession is not spared the impact of the pandemic, and AIDS-related morbidity and mortality is adding to the already high rates of attrition among educators. Countries such as Swaziland, Zambia, Uganda, and Tanzania are reporting similar trends as those reported in South Africa. Even in West and Central African countries, where HIV/AIDS prevalence rates generally are considerably lower than in the hard-hit countries of the south and east, HIV/AIDS infection among teachers results in higher mortality rates, an increase in early retirements and lower productivity. In addition to the direct effects of increased teacher turnover and in many cases teacher shortage, these prevalence figures have implications, although harder to measure, on staff morale, as well as intergenerational knowledge transfer and loss of training capacity in general.

Impact on the Health Sector

The impacts of HIV/AIDS on the health sector are of primary importance because health is critical to the attainment of every single MDG as well as other development frameworks such as the Programme of Action adopted at the 1994 International Conference on Population and Development. Health is also a key component of the social development aspect of overall sustainable development. As HIV-related illnesses both take out much-needed health staff while also increasing the demand on the health sector, this sector is acutely impacted by the pandemic.

Health services in most African countries were already struggling to cope with a crippling disease burden. As a result of decades of externally imposed restructuring and ‘ceilings’ on public expenditure to promote macroeconomic stability, African health care systems have been


cut back. Simultaneously, a rising disease burden due to HIV/AIDS means that the demand for services increases continually.60

Health systems are so inadequate that a large proportion of Africans do not even have access to the most basic health care.61 At the same time the current drive to provide complex anti-retroviral treatment (ART) for people infected with HIV, and opportunities to treat tuberculosis, malaria, and other diseases, place new demands on existing models of health care, which may be cumbersome and static where flexibility and innovation is required. However, innovation and change is difficult to achieve in health care systems that are already straining to cope with the demand, and African countries now find themselves in a position whereby they must address decades of health system underdevelopment within very short time frames.62

Health care delivery, including HIV/AIDS related prevention, treatment, care and support services, necessitates the involvement of trained professionals at different levels of specialisation. Currently, however, Africa is experiencing shortages of health professionals at all levels, particularly in rural areas. The continent currently has the lowest number of health professionals (including managers and support workers) in relation to the population, at 2.3 per 1,000 people, compared to 24.8 per 1,000 in the Americas.63 This lack of human capacity is a result of training inadequate numbers of health care professionals, coupled with difficulty in retaining those who are trained.64

In the context of an increased need for health care, there is a chronic and increasing shortfall of trained health care workers globally. Sub-Saharan Africa has only 66 medical schools, 288 schools for nursing and midwifery, 34 dental schools, 50 schools for public health, and 57 schools of dentistry.65 With around 14 per cent of the world’s population and an estimated 24 per cent of the global disease burden, sub-Saharan Africa therefore has only 4 per cent of the world’s institutions to educate doctors and 5 per cent of the institutions to educate nurses and midwives.66 It is questionable at best that existing institutions provide the appropriate mix of training opportunities for the challenges that African health systems currently face.67

While increasing training capacities is important to addressing the human resource shortfall in the health sector, the time lag in training new health workers means that strategies to improve the performance of the health workforce should initially focus on retaining existing

61 Supra note 59 at 19.
62 Supra note 60.
63 Supra note 59 at 8-13.
66 Calculated by author based on data found in H. Mercer and M. R. Dal Poz, ibid.
An increasing problem for the countries hard-hit by HIV/AIDS is that health care providers are themselves falling ill and dying, taking out much-needed skills, and increasing the work load of the remaining health workers. The documented increase in health worker work load in a number of hard-hit countries is largely due to loss of colleagues, either to diseases such as HIV/AIDS, or to health workers leaving the domestic health sector for more attractive employers in the country or internationally.

Around 20,000 highly qualified Africans emigrate every year to richer countries. A large proportion of these are health care workers. For example, only 50 of the 600 doctors trained in Zambia were still working in the country’s public health care system in 2000, and although there were a total of 800 doctors registered in the country, this is far short of the 1500 doctors that were needed to fully staff the country’s health system. 10,936 physicians trained in sub-Saharan Africa since 1992 are now practicing in the USA, the UK and Canada. This number represents 12 per cent of all African physicians, and is probably higher if those trained before 1992 were included. Given that the cost of educating a specialist doctor in Africa is estimated at about US $100,000, the health professional exodus represents a massive subsidy from Africa to wealthy nations.

This health worker ‘brain drain’ poses a serious challenge to the retention of already scarce African health workers. HIV/AIDS compounds factors that lead African health workers to emigrate. Health workers report that increased workload because colleagues are lost to HIV/AIDS while the number of patients increases, lack of protective equipment and fear of HIV infection at work, and the resulting low morale are powerful push factors for emigration. The Global Commission on Migration states that:

In many countries in Sub-Saharan Africa, for example, the departure of essential health workers has seriously impeded the delivery of health services to local populations, especially those in remote rural areas. If this trend continues unabated it is likely to undermine the progress that has to be made in achieving the health related objectives of the Millennium Development Goals.

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68 Supra note 59 at xxii.
74 Global Commission on International Migration, Migration in an Interconnected World: New Directions for Action (Switzerland: SRO-Kunding, 2005) at 24; See also, supra note 69 at 378, concluding that “the migration of physicians and other trained health professionals (from poor to rich countries) undermines the ability of developing countries to meet agreed Millennium Development Goals and creates untenable
As a result of the demonstrated challenges that African countries face in both training and retaining health professionals, it is clear that the impacts of HIV/AIDS on the health sector will severely limit African countries’ abilities to meet these MDGs. The World Health Organization has developed a threshold for the density of the healthcare workforce below which adequate coverage of essential interventions, including those necessary to meet the health-related MDGs, is very unlikely. Of the 57 countries that fall below this threshold, 36 are in Sub-Saharan Africa.75

Beyond the shortfall of human capacity, HIV/AIDS challenges African health care systems as they struggle to reorient themselves from a focus on acute, infectious diseases to also handling the increasing need for long-term care for chronic diseases, including HIV/AIDS.76 Compounding the challenges, African countries still largely use Western health care models, which require large numbers of highly skilled health care professionals mainly found in health care facilities. While this model may be appropriate in contexts of relatively low disease burdens and adequate resources, it becomes untenable in most African countries which face high disease burdens.77 In addition, sharply defined roles for the different groups of health care professionals create unnecessary gaps in service delivery, as certain tasks that could have been performed by lower level staff or even lay service providers at present can only be performed by highly skilled and scarce staff.

The present influx of resources for specific services, such as those related to HIV/AIDS, or achieving the MDGs, is also posing its own set of challenges – notably what the World Health Organization (WHO) has termed “epidemics of in-service training” – to train health workers to provide certain types of treatment or service, various donor-funded programmes have provided piecemeal off-site training which has proved to be more harmful than beneficial to overall health service provision.78 No substitutes are provided for the time when workers are away on training, and the knowledge that those trained return with is not always what the site needs. Reports of health care providers being diverted from other forms of health care to provision of anti-retroviral treatment for HIV/AIDS in order to facilitate rapid scale-up are also emerging.79

There is still no cure for HIV/AIDS, however, ART can sustain health and prolong life. The increased prevalence of HIV/AIDS, charted above, coupled with the increased feasibility of providing this treatment in resource-limited settings, creates demand for these products in Africa. As no African country produces the full range of anti-retrovirals (ARVs) and other supplies required to test for, and treat, HIV/AIDS, every country has to make decisions about importing drugs and other supplies. Most HIV/AIDS related pharmaceutical products are

75 Supra note 59 at 12-13.
76 Ibid. at 24-25.
77 Supra note 60 at 284-285.
78 Supra note 59 at 20.
79 Ibid. at 24.
fairly new and therefore still under patent. However, the pharmaceutical industry in some countries such as India, Thailand, and Brazil have produced low-cost generic versions of ARVs, and a number of the African pilot sites for ART provision have used and continue to use these products.

Patent holders have disputed the legality of the exportation of these generic products from the countries where they are produced, and this debate is still ongoing. International agencies such as WHO and UNICEF try to help countries navigate this complex legal territory. However, African countries still report that they find it difficult to understand what they can and cannot do under international legal frameworks for trade and intellectual property, notably the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), which are part of the World Trade Organization’s set of agreements.

Some advocates argue that domestic production of ARVs will circumvent complex legal issues related to importation of drugs, and ensure a steady supply of quality drugs at low cost. A number of African countries indeed do already produce some types of ARVs. However, the various components used to produce the drugs need to be imported, and this supply may also be interrupted, particularly in a context of impending global shortage. Quality control is also a key concern related to domestic production of ARVs, as in some cases production may be subject to less stringent controls and the resulting quality may not be adequate for these products.

Addressing HIV/AIDS requires not only a sustained supply of ARVs, but also of related products such as test kits. Increased demand for such products is straining inadequate procurement and distribution systems. Modern health care provision requires a chain of health care facilities at different levels, supported by laboratories and pharmacies, with adequate equipment and supplies – requiring streamlined procurement and supply management procedures. African countries report that cumbersome procurement procedures for drugs and other necessary supplies, including time-consuming import and certification procedures, result in occa-

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80 Patents are contracts which grant the patent holder exclusive rights to commercial exploitation of a product for a limited period of time, usually around 20 years, in a particular area (usually a country). However, under the TRIPS agreement the monopoly can be suspended under certain circumstances, for example if the product is required to address a public health emergency. See generally Yves Beigbeder, “HIV/AIDS and Global Regimes: WTO and the Pharmaceutical Industry” in Nana Poku, Alan Whiteside & Bjorg Sandkjaer, eds., AIDS and Governance (Aldershot: Ashgate, 2007) 193.


82 HIV/AIDS and Governance, supra note 80.


85 Supra note 81.
sional drug and supply shortages. Internal management procedures to ensure that supplies reach the health care facilities at the different levels of the health care system are also often inadequate, which in turn leads to interruption in service provision. In some settings, countries report that lack of adequate (cold) storage facilities and frequent power cuts complicate keeping a stock of supplies at the service facility. These factors all increase the risk of interruption in drug supplies and service provision, which is serious as patient adherence to the treatment regimen is central to keeping patients healthy and preventing the development of drug-resistant strains of HIV/AIDS. One possible positive result of the HIV/AIDS pandemic might therefore be heightened awareness of and efforts to address the shortcomings of procurement and logistical systems.

Household Impacts: A Vicious Poverty Cycle

At the base of the macroeconomic and sectoral impact are the infected individual, and the affected family and household. One of the main localised effects of HIV/AIDS is the negative economic impact that it has on households. This impact generally manifests itself through decreased household productivity, which in turn results in decreased income, and simultaneous increases in household expenditures that occur when a household member falls ill and eventually dies. HIV/AIDS creates pockets of poverty in communities that if left unchecked may grow in size until the whole community’s structure unravels.

Paying for health care provides an illuminating illustration of how even seemingly small expenses can push impoverished households over a ‘tipping point’ where the household can no longer provide for its members. Healthcare is primarily funded through one of two main approaches. The first approach is that the services are paid for in advance, through government taxes and national or private insurance. In the second approach, services are paid for at the point of delivery.

Pre-payment through government spreads the cost of healthcare throughout the society, and is the most common means of finance in the wealthy countries. In poorer countries, however, most people pay for healthcare when they use it. Those with the lowest incomes are more prone to ill health, and also spend the highest proportions of their incomes on health care. As an illustration, the cost of the same treatment for tuberculosis represents income from 500 working hours in Tanzania, 100 in Zimbabwe, 20 in Thailand, and 1.4 in Switzerland. Sexually transmitted infections are important co-factors for HIV transmission, and the comparable costs for gonorrhoea treatment are 120 working hours in Tanzania, 20 in Zimbabwe, 6 in Thailand, and 0.4 in Switzerland.

The costs associated with HIV testing and treatment are a major deterrent to their uptake. A comprehensive study of experiences with ART provision in Zambia found that the cost of

86 Supra note 60 at 287.
87 Supra note 38 at 7.
88 Supra note 84.
ART was the main concern of all those on treatment. In practice, treatment provided through the public sector is not free for the user, and a high proportion of those surveyed do not have money to access it consistently. Additional costs for laboratory tests, food and transport to clinics compound these problems. Most patients are also responsible for children, spouses and other relatives. One respondent stated that “it is a drug for life – as long as I can afford it.”

Even a low cost to the patient of testing and treatment can be unbearable in a continent where almost half of the population exist on less than a dollar a day. The most marginal costs can force patients to either sell property and cut down on education, food, and other needs in order to pay for the drugs, or discontinue treatment. In Senegal, for example, means-tested user fees were initially charged for ARVs supplied through the government’s ART programme. However, the triple effect of (i) lowered monthly cost of drugs from 326 000 FCFA (app. US$ 520) in December 1999 to 62 000 FCFA (app. US$ 80) in December 2001, (ii) user fees driving away patients who needed the drugs, and (iii) the high cost of administering the means-testing as well as the user fees themselves, led the government to provide the treatment at no cost to the vast majority of recipients.

User fees have a disproportionate negative impact on women’s access to treatment. African women, particularly those who are poor, have comparatively lower access to cash. In addition, faced with resource constraints, households generally prioritize spending on men’s health. One often-heard argument for user fees is that it increases patient ownership and incentive to follow treatment regimens as instructed. However, there is no evidence to support this claim in relation to HIV/AIDS related treatment. On the contrary, costs and other obstacles to accessing treatment (such as having to travel long distances to ART distribution centres) can deter adherence. In the medium term this leads to increased resistance and therefore to increases in cost of treatment provision. Free HIV treatment and care at the point of delivery is therefore a clinical and programmatic necessity.

In addition to diverting scarce financial resources, the increased burden of care, for sick family members, but also for the increasing number of orphaned children, is straining traditional coping mechanisms such as the extended family and community networks. As a disproportionate number of women are infected in Africa, and as the bulk of the burden of care falls on women, HIV/AIDS further aggravates the gender inequities in affected households and communities.

HIV/AIDS therefore creates a vicious cycle at the household level. It deepens poverty and gender inequality through taking out productive members of the household and diverting

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91 Ibid.
92 “Statements followed by Recommendations on Free Access to Treatment, Care and Support for Persons Infected with HIV in Developing Countries” (Paris: Conseil National du SIDA, Plenary Session of 15 February 2007) at 5.
household resources to caring for the sick. Poverty in turn renders the individual vulnerable to HIV infection. While the scale of this dynamic is yet to be determined, it is clear that this has serious implications for development. It will be near impossible to achieve sustainable development, or attain the goal of eradicating extreme poverty and hunger when faced with an epidemic which exacerbates both.

Adding to the scale of the impact and the complexity of its measurement is the fact that the impact of HIV/AIDS is not linear. Those countries which already have the structures, resources and political ability to curb the spread of HIV/AIDS early are also those that are the least impacted by the pandemic. HIV/AIDS therefore aggravates existing differences, plunging already resource-constrained countries even deeper into poverty and compounding their development challenges.

RESPONDING TO HIV/AIDS: SOME POLICY IMPLICATIONS OF THE OBSERVED IMPACTS

A multifaceted challenge requires a multifaceted response:

Well over two decades into the HIV/AIDS epidemic, a number of experiences have emerged that can help guide policy responses. One important lesson learned is that the factors that influence the trajectory of the epidemic are complex, as demonstrated by the multiple impacts of HIV/AIDS on different levels and sectors of society discussed earlier in this article. Effective measures must therefore also be multi-faceted and take into account the multiple realities that render different people vulnerable to infection. This means that while one national AIDS coordinating body might be useful for a focused response at the national level, this should not prevent a number of public and non-state actors to from getting involved in working to prevent and/or mitigate the effects of HIV/AIDS. It also means that efforts that address HIV/AIDS directly, such as prevention, treatment, or care must coexist with efforts that address indirect causes and consequences of HIV/AIDS, such as extension services for farmers, ensuring women’s inheritance rights, and support for orphans regardless of the cause of their orphanhood.

Reform legislation and policies to fulfill rights and facilitate an effective response:

A number of African countries are in the process of revising legislation to address factors that have shown to be harmful in the context of HIV/AIDS. These include ensuring inheritance rights for women, streamlining procurement and other logistical procedures to increase availability of medical supplies, and changing certification requirements to enable lower-level health cadres to carry out certain functions previously reserved for higher-level colleagues. However, these and other issues remain challenges that create vulnerability and hamper effective responses. The limited fulfillment of countries’ human rights commitments compound these challenges, as persistent gender inequities, HIV-based stigma and resulting discrimination, and violation of the rights to health, food and other rights, again both render individuals vulnerable to infection and complicate the response. Law and human rights on paper need to

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be supported by an efficient law enforcement system, currently sorely missing in many African countries.

Integrate HIV/AIDS response into national planning frameworks:

National planning frameworks such as Poverty Reduction Strategies (PRSs) and other plans provide the overall policy direction and form the basis of public budgets. For an issue to be prioritized, it is therefore important to be included in the planning frameworks. While some countries display profound understanding of and will to integrate HIV/AIDS, there is still a long way to go. Even for many of the hard-hit countries, governments have generally been slow to integrate HIV/AIDS related aspects into their policy frameworks.96

Linking treatment and prevention:

Over the last few years, notably since WHO launched its ‘3 by 5’ initiative in 2003, the attention of both the international community as well as in-country has been largely focused on providing anti-retroviral treatment to those living with HIV/AIDS who need it.97 These initiatives have been criticized for drawing attention away from another crucial component of policies to address HIV and AIDS, namely prevention of its further spread. Some consensus seems to emerge along the lines of the United Nations General Assembly Special Session on HIV/AIDS 2001 Declaration of Commitment which states:

Care, support and treatment can contribute to effective prevention through an increased acceptance of voluntary and confidential counseling and testing, and by keeping people living with HIV/AIDS and vulnerable groups in close contact with health care systems and facilitating their access to information, counseling and preventive supplies.98

Treatment therefore enables more effective prevention through the possibility of individual counselling, while simultaneously reducing the demand for treatment for opportunistic infections and therefore also reducing the pressure on the health system. Modelling the impacts of not providing treatment, providing only treatment, and providing treatment and prevention, Solomon and others found that a combined response would give 29 million averted infections and 10 million averted deaths by 2020 compared with a “business as usual” approach.99


97 The WHO ‘3 by 5’ initiative sought to provide anti-retroviral treatment for 50% of those in need (an estimated 3 million) by 2005. This initiative is part of a larger goal to provide universal access to HIV/AIDS treatment to all those who need it. Online: WHO <http://www.who.int/3by5/en/>.

98 Supra note 1 at para. 19.

Provide treatment to sustain health and prolong life:

The bulk of the impact of HIV/AIDS stems from increased illness and death. Providing treatment that would sustain health and prolong life of those infected would therefore dramatically decrease impact, and as numerous recent initiatives have demonstrated, it is possible to provide such treatment in Africa. Drawing on the challenges highlighted in the earlier discussion, it is necessary to strengthen systems for health care delivery – from service delivery including testing (entry point to treatment), through to treatment provision and support for adherence, to supply chain management and addressing the lack of health professionals. While funding is a challenge, the current increased levels of funding would enable substantial strengthening of all aspects of African health care delivery. Inadequate nutrition can compound the ill effects of HIV/AIDS, and provision of food and nutritional supplements is therefore also an important component in sustaining the health of people living with HIV/AIDS.

Mount effective prevention:

As has been shown earlier, the factors that render individuals vulnerable to HIV infection range from the immediate – such as unprotected sex, sexual assault, presence of other sexually-transmitted infections (STIs) – to the more structural factors that condition the behaviours that constitute the immediate factors. Currently, there is a strong momentum to support prevention that focuses on individual behaviour without taking into account the context within which the individual’s behaviour is shaped. Much of these campaigns focus on Abstinence, Being faithful, and using Condoms (ABC), although the current emphasis is heavily on A and B at the expense of C. However, there is no evidence to support the notion that this strategy, pursued in isolation, will stop the spread of HIV. More than two decades of fighting HIV have proven that stopping this virus, linked to the most intimate aspects of human life, calls for tailor-made responses which takes the reality of women and men’s lives into account. ABC may be a start, but for an effective approach some other letters of the alphabet need to be included: a good start would be Education, Gender equity, and Poverty alleviation.

Developing an evidence-based country-level approach:

A plethora of initiatives, policies, frameworks, and commitments have evolved as governments and others seek to find effective ways to respond to HIV/AIDS. The UNAIDS ‘three ones’ initiative seeks to harmonise initiatives at the country level, and African Unions’s frameworks for policy responses along with other initiatives provides guidance as governments work to address HIV/AIDS. However, the understanding of the multiple factors that create vulnerability to HIV/AIDS – as discussed above – as well as how to work across different sectors to mount an effective response is limited. International blue prints based on ‘good practice’ can provide some guidance, but ultimately each country should be able to develop tailor-made responses that therefore have the potential to be even more effective.

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Support communities in their HIV mitigation:

Communities and households bear the brunt of the impact of the epidemic. Increased support must be provided for community initiatives, for example, to care for orphans, continue agricultural production, sustain educational and health institutions, or other interventions as may be relevant in the particular context. In communities where livelihoods are derived from agricultural production, intervention such as labour-saving technologies and provision of inputs (seeds, fertiliser) can keep households from reaching the ‘tipping point’ where the household can no longer provide for its members. To compensate for skills lost when key household members succumb to AIDS, it may be possible to train government extension workers on technologies and production activities that are relevant to HIV/AIDS affected situations. These may include building farmer field schools, broadcasting rural radio programs, awareness-raising through seminars, workshops, pamphlets, posters and newsletters, peer education, women’s associations, adult literacy classes, and church associations.101

CONCLUSION

HIV/AIDS is not the only challenge facing African governments’ developmental efforts today. Indeed, African countries face immense challenges in their efforts to achieve social and economic development as a result of factors that include poverty; disasters related to drought, floods, and disease; wars and conflicts; poor natural resource management; unfavourable international economic frameworks (terms of trade, debt); poor economic policies; and bad governance. What is clear from examining the impact of HIV/AIDS on the macroeconomic, sectoral and household levels, however, is that the pandemic is, in parts of Africa severely, constraining progress towards achieving social and economic development, which are two core pillars of overall sustainable development. Addressing HIV/AIDS, by stopping its spread and mitigating its impact, is therefore a critical component to achieving sustainable development in Africa and elsewhere.

101 Supra note 46.