

The Micro and Macroeconomic Impact of HIV/AIDS in Africa

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Abstract

HIV/AIDS¹ is an epidemic of enormous proportions. HIV/AIDS infections are unequally distributed throughout the world and vary within regions. The disease is mostly prevalent in Africa, with the sub-Saharan African region being the worst affected.

Over the second half of the twentieth century and the new millennium, the world has seen enormous health improvements. However, developing countries have benefited unequally from health gains, with many, especially in Africa, continuing to experience high mortality especially because of HIV/AIDS.

This paper discusses the micro and macroeconomic impact of HIV/AIDS in Africa, and demonstrates how it negatively affects growth and development. The paper suggests recommendations to African leaders regarding the win-win policies that could be pursued to both enhance growth and development and combat HIV/AIDS.

African leaders need to continue to deliver public health policies and programs for the control of HIV/AIDS and to focus the world's attention on the impact this disease has on development. There is an urgent need to undertake a comprehensive economic impact assessment of HIV/AIDS on Africa as a whole. This analysis could cover among other factors, the following:

- Careful documentation of the impact of HIV/AIDS on human life in the continent.
- Development of simple and publicly available methodologies to assess the impact of HIV/AIDS on business.
- Creation of an understanding of the micro and macroeconomic effects of the epidemic on nations, particularly on governments and the business and investment environment.
- Assessment of the consequences for small and medium-sized businesses.

Keywords:

HIV/AIDS, generic drugs, compulsory licenses, parallel imports, TRIPS.

¹ Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS).

I. Introduction

HIV/AIDS is an epidemic of enormous proportions. The HIV/AIDS infections are unequally distributed throughout the world and vary within regions. The disease is mostly prevalent in Africa, with sub-Saharan African region being the worst affected. The disease has severely retarded development in the region.

One of the most striking characteristics of the HIV/AIDS epidemic in sub-Saharan Africa is that women and girls are more infected and affected than men. This is a unique African tragedy. More than elsewhere in the world, women and girls bear the brunt of the AIDS crisis both in terms of number infected by HIV and the provision of care and support for the sick and dying as well as nurturing the millions orphaned by AIDS. Other characteristics of great concern about HIV/AIDS are its prevalence, which is far higher than anywhere else in the world, the continuing increase in the absolute number of people living with HIV/AIDS, and the impact of the epidemic in terms of numbers of adult deaths, number of children orphaned and the *multiplier effect* of the loss of human capital on society and economy.

The statistics on the pandemic are sobering. *Globally, 35.3 million* people were living with HIV at the end of 2012. *Sub-Saharan Africa* remains most severely affected, with nearly *1 in every 20 adults (4.9 per cent)* living with HIV and accounting for *69 per cent* of the people living with HIV worldwide. *In 2011, 92 per cent of pregnant women living with HIV resided in sub-Saharan Africa. Women in sub-Saharan Africa remain disproportionately impacted by the HIV epidemic, accounting for 58 per cent of all people living with HIV in the region in 2011. In sub-Saharan Africa, 3.1% of young women aged 15–24 are living with HIV (versus 1.3% of young men). More than 90 per cent of the children who acquired HIV infection in 2011 live in sub-Saharan Africa.* For *Southern Africa*, HIV provoked a drop in life expectancy by more than *10 years*; in *Botswana*, between *1985-1990* and *2000-2005*, HIV resulted in a drop in life expectancy by a whole *15 years*, from *64 years* to slightly below *49 years*².

Over the second half of the twentieth century and the new millennium, the world has seen enormous health improvements. However, developing countries have benefited unequally from health gains, with many, especially in Africa, continuing to experience high mortality particularly due to HIV/AIDS.

Ill health due to HIV/AIDS has led to a drastic decrease in life expectancy, reversing investments in human capital. This reinforces poverty as human capabilities deteriorate, productivity falls, household incomes decline and food insecurity worsens. These factors add an intolerable burden to already overstretched health systems and place African governance at risk. *HIV/AIDS is not only worsening the health status of African populations but is also damaging Africa's overall development potential. HIV/AIDS is*

² UNAIDS Report on the global AIDS epidemic 2012, 2013; UNAIDS Global Fact Sheet 2013; UNAIDS Regional Fact Sheet, Sub-Saharan Africa 2012; UNAIDS (2013). "Special report- Celebrating 50 Years of African Unity", African Union Summit, May 2013; UNECA ICPD Regional Review Report: Harnessing the Demographic Dividend: the Future We Want for Africa, 2013.

no longer viewed solely as a health problem but as part of a broader development crisis. This paper discusses the micro and macroeconomic impact of HIV/AIDS in Africa, and demonstrates how it negatively affects growth and development. The paper suggests recommendations to African leaders regarding the win-win policies that could be pursued to both enhance growth and development and combat HIV/AIDS.

II. Impact of HIV/AIDS in Africa

The debilitating effects of HIV/AIDS on its victims are immense. It causes considerable pain and weakness and results in reduction in the working abilities of its victims. The adverse impact of the disease on household production and Gross Domestic Product (GDP) can be substantial. The ubiquity of HIV/AIDS in some regions leads not only to high prevention and treatment costs and loss of labor, but also to modifications of economic behavior, with potentially serious consequences for growth and development. At the national level, apart from the negative effect of lost productivity on the major sectors of the economy, *HIV/AIDS has negative effects on the growth of tourism, investments and trade especially in regions with high prevalence of this disease. HIV/AIDS therefore is not only a public health problem but also a developmental problem.*

HIV/AIDS imposes a great burden on the society as it has adverse effects on the physical, mental and social well being of the people as well as on the economic and social development of the nation. All of these burdens can be subsumed under *three broad categories.*

First, is the direct health burden of HIV/AIDS, by which its victims suffer physical and psychological pains, and which result in either *morbidity* or *mortality*.

Second, because of the health burden that it imposes on its victims, healthy people may not be eager to deal with HIV/AIDS victims, thereby inhibiting the flow of knowledge, skills and the cross-fertilization of ideas. This is *the social burden of HIV/AIDS.*

Third, because of the real health and social burdens of HIV/AIDS, economic activities are impaired. This represents *the economic burden of HIV/AIDS.*

In terms of HIV/AIDS morbidity

Firstly, once a person knows that he/she has HIV, he/she loses interest in work and focuses his/her attention and efforts on how to cope with the disease. In this process he/she goes for diagnosis and/or treatment which costs money. These expenses represent an *economic burden* to the individual.

Secondly, the victims of HIV/AIDS may have to lose valuable time searching for diagnosis and treatment, losing productivity in man hours. This has implications for outputs.

Thirdly, family members that take care of the victims may also have to abandon their work with implications for total productivity in the economy.

In terms of HIV/AIDS mortality

The costs of burial of a deceased HIV/AIDS victim constitute an *indirect financial burden*. Beyond the above-mentioned burdens, other costs arise in the form of pain, grief and bereavement. These costs are often difficult to quantify. Related to this is the fact that during this grieving period, relatives and friends would normally not engage in economic activities as a result of which national output is affected.

HIV/AIDS is one of the major contributors to the burden of ill health in Africa. The 2011 UNDP Human Development Report (HDR) identified AIDS as the factor inflicting the single greatest reversal in human development history³. *In many African countries, HIV/AIDS is erasing decades of progress in Human Development Index. HIV/AIDS is no longer simply a health problem; it represents in fact a development crisis.*

The relationship between illness and income is complex. Effects are felt both *directly* (through the immediate impact of ill health on productive activities) and *indirectly*, via the effects of illness on fertility, morbidity, mortality and intellectual capacity, and hence on the labor force size, composition and quality, and on the capacity of countries to compete in the global economy.

HIV/AIDS is now one of the world's major killers of children and youth. Youth and adult mortality has a significant effect on national economies, both through the direct loss of productivity among those of working age and by altering fertility, incentives for risk-taking behavior, and investment in human and physical capital. The greatest burden of this disease falls on productive youth and adults who, once infected, are weakened and often unable to work. The burden of taking care of sick individuals usually falls on other family members especially women and, in addition to putting them at greater risk of infection, it will lower their productivity. Besides loss of productivity, the monetary cost of treatment is also significant.

Youth and adult deaths place an especially high economic burden on societies. The loss of working-age people represents a loss of human capital and has a profound effect on household economic well being. Once a worker dies the total human capital investment in him/her and the rest of his/her productive work life is lost. Youth and adult mortality has a deterrent effect on the acquisition of human capital. Individuals may be less willing to seek higher education or make investments that pay off in the longer term, especially those that cannot be transferred to future generations in the same way as financial investments, if there is a greater risk that they may not be around to enjoy the returns of that investment. *Greater youth and adult mortality implies a lower rate of return to human capital investments, which in turn is a determinant of growth and development.*

³ United Nations Development Programme (UNDP), 2011

a. Impact of HIV/AIDS at the micro level

At the household level:

HIV/AIDS can impose heavy cost burdens, undermine assets and livelihoods and be a cause of impoverishment. In many African countries this is exacerbated by households' poor access to health services, and the high costs (both direct and indirect) of seeking treatment.

The effects of HIV/AIDS are felt on *two key parameters*.

First, household labor *quality and quantity* are reduced, initially as the infected person is less productive, and subsequently with their death. This problem is exacerbated when there is more than one infected person in a household, which is not unusual given the nature of transmission.

Second, household time is diverted to care for the sick person. Household medical expenses tend to be much higher for AIDS than for other causes of death. Funeral expenses are also a substantial expense. Such diversion of expenditure can be at the expense of food consumption where resources are very limited. *Shortage of labor may lead farming households to change the mix of crops, shifting from cash to subsistence crops, or reduce the area under cultivation*. In the longer term, households may dissolve or be reconstituted as children are fostered, orphaned or die, and spouses remarry or migrate. Where the death was of a woman, children had lower school enrolment rates and were more likely to undertake activities normally done by women, such as cooking⁴.

At the level of the firm:

HIV/AIDS affects firms by *increasing costs* and *reducing productivity*.

Rising costs result from:

- Greater insurance costs and higher health care costs
- Increased absenteeism due to illness or caring for infected family member(s)
- Opportunity costs of supervisors' time while dealing with productivity losses
- Higher recruitment and training costs for new employees

Declining productivity results from:

- Increased absenteeism
- High vacancy rates until replacement workers are hired
- Time lost due to need to train replacement workers

⁴ Casale, Marisa and Whiteside Alan (2006). "The Impact of HIV/AIDS on Poverty, Inequality and Economic Growth", Working Paper No. 3, IDRC Working Paper on Globalization, Growth and Poverty. Ottawa: International Development Research Centre.

- Accidents due to ill workers and inexperienced replacement workers
- High staff turnover resulting in a loss of knowledge, intellectual capital and skills
- Depressed morale due to loss of loved ones, deterioration of labor relations, and fear of discrimination

Some private firms have reacted to the HIV/AIDS epidemic. For example, the *Debswana Diamond Company* in *Botswana* distributes antiretroviral (ARV) drugs to their affected employees because it is more costly for the company to train new employees than to provide AVRs to their employees⁵. But in general the private sector has been very slow to respond to the epidemic.

The provision of AVRs to infected employees may only be feasible for multinational companies whose large profit-margins allow for re-arranging costs and benefits over time. Such arrangements are more difficult for smaller outfits, particularly Small and Medium Enterprises (SMEs). *The survival of traditional SMEs in Africa is threatened in the medium and long run as the HIV/AIDS epidemic grows.*

b. Impact of HIV/AIDS at the macro level

The combination of the effects on *households* and *firms* discussed earlier leads to the impact at the *macro level*. The epidemic has a complex impact on growth and development since the majority of HIV related deaths are amongst people of working age. In *the medium term*, the size and composition of the labor force are affected mainly through increased mortality rates, whereas in *the long term*, declining birth rates also contribute to the loss of workers. The epidemic also creates unprecedented numbers of full and partial orphans, disrupting traditional channels of community support and organization.

Aside from the impact of higher mortality rates, surviving workers are less productive as they spend more time away from work either caring for the sick or coping with their own infection. As experienced workers are eliminated from the labor force, new staff must be recruited and trained. These effects are likely to be especially important in *the education sector* as *education is a strong determinant of the productivity of future generations*. The impact of HIV/AIDS on the education sector is alarming. The epidemic is eroding the returns on investment in Africa's education at all levels, imposing high human costs, particularly among teachers, administrators and managers. On the *supply* side, fewer teachers are available if the death rate of school teachers exceeds the annual capacity of teacher training colleges. The risk faced by teachers threatens the human capital stock of a nation. Teachers with ill health are absent from school. These absences cumulatively add up to long periods of time lost, consequently affecting children's education and causing overcrowding in classes, lowering the quality and efficiency of an education system that is already burdened with students with special needs, such as orphans

⁵ Medupe, Fredah, Collins, Kathleen (2004). "Treatment for HIV/AIDS in the Workplace: A Case Study of a Mine in Botswana", University of Cape Town- Centre for Social Science Research, CSSR Working Paper No. 88, December 2004, P.2.

experiencing psychological trauma after caring for sick parents. The *demand* for education is likely to become weaker, especially amongst vulnerable groups, as people become less certain about their future.

From the perspective of government expenditure, fewer resources are available for investment in non-health related sectors as they are directed towards strategies that attempt to manage the epidemic. Government revenues declines as individual productivity decreases and levels of taxable income drop. As people change their spending patterns, and have less disposable income to save and spend, tax revenues decline further.

The spread of HIV/AIDS reduces labor productivity and thereby reduces income and savings. With lower savings, the rate of investment falls, reinforcing the decline in growth and development. The loss of labor productivity occurs because a larger share of the work force becomes debilitated and dies, causing organizations to lose workers with critical skills. *The phenomenon can be likened to “running Adam Smith in reverse”. Adam Smith argued that the “expansion of the market”- typically identified as economic growth- creates opportunities for specialization and the division of labor. The spread of HIV/AIDS reverses that process as organizations experience disruption, and declining income undercuts the earlier gains achieved through specialization and the division of labor.* This raises the opportunity cost of additional training, because few of the costs incurred will be recouped in higher subsequent earnings. The same logic applies to employers who might otherwise support further training of their employees. Forbidden by law from discriminating, employers have to assume that the average productive life span of anyone they train will decline, which directly reduces the incentive to support long-term training. Without such training, capacity cannot be deepened.

HIV/AIDS is hitting Africa hardest, not only because it is more prevalent on the continent, but also because of the inadequacy of Africa’s coping mechanisms, which are marked by inadequate health systems, low education levels, volatile and low economic growth rates, high levels of poverty, and numerous wars and conflicts.

A strong health system is a vital component in any country’s response to HIV/AIDS and a key stepping-stone in development. However, public health sectors in most African countries already had difficulty providing basic services to the population before the emergence of HIV/AIDS. This was due both to inadequate resource inputs and inefficient use of available resources. The onslaught of HIV/AIDS on top of this great challenge has imposed additional pressure by further overstressing health systems. In the hardest-hit countries, the epidemic is undermining health services in a variety of ways. These range from the deaths of already scarce health-care workers to the additional numbers of people needing beds in already *understaffed* and *under-financed* hospitals and clinics. The epidemic is placing unprecedented burdens on the already scarce health-care resources. Excessive workloads, compounded in many cases by fear of infection due to the absence of standard infection-control practices in many health-care workplaces, are causing some to leave the health care profession altogether. Specific health workforce challenges of

HIV/AIDS in sub-Saharan Africa include: increased burden of work in an already stretched health system and increased safety risks and increased rates of HIV among health workers. The HIV epidemic not only reduces the stock of those with higher-level professional and managerial training and experiences, but also reduces ability to maintain the flow of those with needed skills and training. Training and educational institutions are themselves losing staff due to HIV/AIDS, reducing their capacity to meet growing demands.

III. Conclusion and Policy Recommendations

This paper clearly shows the negative micro and macroeconomic impact of HIV/AIDS in Africa. The impact of HIV/AIDS on the individuals and households, although delayed because of the time lag between infection and development of disease, is eventually felt. *At the individual level the effects are direct*, usually involving poor health status, stigmatization, loss or reduction of income, and increased cost of health care. *At the household level the effects are both direct and indirect. Direct effects* include loss of income from earnings of the afflicted person, increased caring responsibility for the person who is now sick, increased cost for medical care, and funeral expenditure. *Indirect effects* occur when the income earner and caregiver eventually dies and the children become orphans.

In the health sector some of the health workers are feeling the burden of heavy patient load, while they themselves are coping with having HIV/AIDS, thus reducing their efficiency in caring for those needing care. Additionally, the health care system itself is feeling the impact of HIV/AIDS because of overcrowding at a time when the resources are shrinking.

All these impacts at *the micro level* accumulate to have an impact at *the macro level*. Although in the early period of HIV/AIDS, the impact was miniscule, over time the impact is more pronounced. This is also due to the fact that the prevalence of HIV/AIDS has increased over time and the individuals, households, labor, formal and informal sectors are affected. Reduced human capital has a major impact on domestic savings, domestic investment and eventually on economic growth as measured by slow growth or shrinkage of the GDP. Beyond these impacts, however, what is at stake is the future capacity of African countries to govern and manage their development and to function in the future. Economic growth is decreasing due to the impact of HIV/AIDS, food insecurity is growing, and children and elderly are left without breadwinners. These impacts together constitute a major challenge to Africa's development and account in large part for the low ranking of African countries in UNDP's Human Development Index.

The micro and macroeconomic impact of HIV/AIDS is multi-sectoral and complex, and therefore needs different response strategies. Governments have the primary and most important role implementing systemic changes and sustaining them in the long run. They receive revenue from the public and have a responsibility to allocate the

human, financial and physical resources necessary for prevention of new infections, treatment and care for people infected by HIV/AIDS. However, their capacity to deliver may be hampered by lack of these resources; hence the need for development partners to provide the necessary support.

Africa should intensify the focus on HIV/AIDS by developing and implementing *regional strategies* that build on harmonization of policies, strategies, prevention and treatment interventions. *One major strategy that could be implemented is bulk purchasing of drugs and manufacturing of generic drugs⁶. African countries under the coordination of the African Union should pool their resources and strengthen their capacity to manufacture the needed generic drugs. The Regional Economic Communities (RECs) such as the Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Economic Community of West African States (ECOWAS) and Southern African Development Community (SADC) should share the manufacturing of generic drugs based on their comparative advantages and trade among themselves. The African Union should also network with its members to negotiate bulk procurement of raw materials for generic production since the costs will be lower than what countries are capable of negotiating individually.*

The availability of low cost ARV drugs from firms in *Bangladesh, Brazil, China, India* and *Thailand* together with increased competition, are pushing down ARV prices to more affordable levels. Unfortunately, regulatory policies for intellectual property rights are the most complex and controversial issue relating to medical products. Protecting intellectual property rights is important in promoting research but may prevent especially countries from being able to afford cheaper *generic drugs⁷. The Trade-Related Intellectual Property Rights (TRIPS) Agreement* allows some exceptions to enable poor countries to take advantage of cheap pharmaceutical products. As a consequence of active campaign by activists who criticized the pharmaceutical industry for their determination to profit at the expense of the world's poor, in Doha it was stipulated that World Trade Organization (WTO) member countries can waive patent protection in order to produce drugs during public health emergencies (WTO, 2001). This was taken a step further in August 2003 when an agreement was made allowing countries to export generic pharmaceutical products manufactured under *compulsory licensing⁸* (WTO 2003). Still, these few exceptions are not adequate to fully address the HIV/AIDS burden in Africa. The challenge now is to build on these commitments to make pharmaceutical

6 The term "generic" is used to denote versions of products, which are under patents that are produced on the basis of a license granted voluntarily by the patent holder, compulsory license granted by the government, or after the expiry of the duration of the patent period. It is a version of a patented drug that meets bioequivalence tests and has the same pharmaceutical presentation and dosage as the original drug.

7 In January 2001, South African HIV/AIDS treatment activist Zackie Ahmat went to Thailand to buy 5,000 pills of the generic version of an anti-fungal drug patented by the US pharmaceutical giant Pfizer. He paid \$0.21 a pill. The price of the patented version in South Africa was \$13 a pill.[The Panos Institute (2002). "Patents, Pills and Public Health: Can TRIPS Deliver?", London, December 2002, P.31].

8 A license issued by a court or government to produce a generic version of a patented product, while the patent holder is compensated through royalties from sales.

products widely available at affordable prices. This can be achieved if governments, development partners, pharmaceutical companies, non-governmental organizations, and communities effectively pool their efforts.

Compulsory licenses have been used extensively in *North America* and *Asia* for a variety of purposes. *Canada* for example has the most extensive experience with the use of compulsory licenses for pharmaceutical drugs, with compensation based upon royalties, typically set at **4 per cent** of the competitor's sales price⁹. *Malaysia* for example issued a type of compulsory license to import the cheaper generic version of patented medicines for people with HIV/ AIDS; it reduced the average cost of treatment per patient per month by **81 per cent** and more than doubled the number of patients who could be treated¹⁰.

African countries- particularly least developed and smaller economies- have limited industrial capacities to manufacture HIV/AIDS drugs locally in order to ensure adequate access to these drugs. In this regard, it should be noted that nothing in the TRIPS agreement prevents members from granting compulsory licenses for foreign suppliers to provide medicines in the domestic market. Countries belonging to the Regional Economic Communities of which at least half of the current members are least developed can take advantage of this. Many of the Regional Economic Communities in Africa would satisfy this condition.

Despite a public health crisis of enormous proportions for HIV/AIDS, apparently no African country has issued a compulsory license for any medicine. Given the permissive global trade framework for compulsory licensing, one has to wonder why this is so. In the Canadian case the royalties were **4 per cent** as mentioned earlier. Whatever the rate it should be manageable, and there is no reason for the WTO to demand that the poor countries of the world to pay top dollar on medicines while millions are dying for lack of access to treatment.

"Parallel importation" for African countries¹¹, can also be a significant way of increasing access to medications, where the prices charged by patent holders for their products are unaffordable. Moreover, in situations where the local manufacture of the product is not feasible and therefore compulsory licenses may be ineffective, parallel importation may be a relevant tool to ensure access to HIV/AIDS drugs.

9 Elliott, Richard (2006). "Pledges and Pitfalls: Canada's Legislation on Compulsory Licensing of Pharmaceuticals for Export", International Journal of Intellectual Property Management, Vol. 1, Nos. 1/2, P.107.

10 Smith, Sanya Reid (2007). "Intellectual Property in Free Trade Agreements", UNDP Regional Trade Workshop, Doha and Beyond: Incorporating Human Development into Trade Negotiations, Organized by UNDP Regional Centre in Colombo and UNDP Malaysia in partnership with Third World Network, 17-18 December 2007, Penang- Malaysia, p.13.

, Global Commission on HIV and the Law (2011). Regional Dialogue Submissions, High Income Countries Regional Dialogue, Oakland, California- USA, 16-17 Sept. 2011, p.4.

11 The Bangui Agreement -signed in 1977 and revised in 1999 to bring it in line with the TRIPS Agreement- recognizes the regional principle of exhaustion of rights, limiting parallel imports to member countries only.

Parallel imports involve the import and resale in a country, without the consent of the patent holder, of a patented product that was put on the market of the exporting country by the patent holder. The practice of parallel importation is driven by the disparity between prices for goods, between markets. Parallel imports are generally exported from a low-price market for resale at a higher price in the importing country. ***The underlying concept for parallel imports is based on the principle of exhaustion of rights***¹². This principle is premised on the fact that where the patent holder has been rewarded through the first sale or distribution of the product, he/she no longer has the right to control the use or resale of the product.

Parallel imports are of particular importance for public health interests, since the pharmaceutical industry generally sets prices differently throughout the world for the same medicines. ***Parallel imports would prevent market segmentation and price discrimination by patent holders on a regional or international scale.*** Parallel importation of a patented medicine from a country where it is sold at a lower price will enable more patients in the importing country to gain access to the medicines.

The Abuja Declaration of 2001 on HIV/AIDS, Tuberculosis and Other Related Infectious Diseases (ORID) states amongst others that each country will spend ***15 per cent*** of its annual national budget on public health. ***This declaration provides clear-cut commitments and monitorable benchmarks with which national actions and responses can be measured. If African leaders make a genuine effort to fulfill the promises made in this declaration, the socio-economic devastation that HIV/AIDS causes can be averted.*** So far few African countries have reached this target. Governments need to develop sustainable strategies for financing health care, including establishing dedicated taxes for health care financing as is the case in ***Zimbabwe*** where there is an ***AIDS levy*** since 2003¹³. As for ***Botswana*** it is the first African country to follow the example of ***Brazil*** and deliver free antiretroviral therapy (ART) on a national scale through the public health system. But many African countries do not have the financial capacity to replicate the example of ***Botswana***, one of the richest countries in Africa¹⁴.

African leaders agreed in the Abuja declaration of 2001 to ***‘enact and utilize appropriate legislation and international trade regulations to ensure the availability of drugs at affordable prices and technologies for the treatment, care, and prevention of HIV/AIDS, TB and ORID’*** (OAU 2001). Governments committed to producing and updating national policies in order to ensure adequate, affordable, uninterrupted, and prompt delivery of drugs. This should include scaling up the resources and systems

12 The European Union (EU) system provides for exhaustion of the Intellectual Property (IP) holders rights, Parallel imports from member countries of the Union are permitted, the European Court of Justice has constantly upheld the right to re- sell legitimately procured goods within the community in order to ensure free movement of goods among the member countries, parallel imports from countries outside the Union are prohibited.

13 SADC (2008). “The Zimbabwe National AIDS Levy Trust (The AIDS Levy)”, SADC HIV and AIDS Best Practice Series, March 2008.

14 UNAIDS (2013). “Special report- Celebrating 50 Years of African Unity”, Op. Cit.

necessary so that antiretroviral and other essential medications can be made available to the widest possible population as rapidly as possible.

African leaders should promote African Research and Development (R&D) centers. Medical research is costly and beyond the reach of many African countries on their own. The benefits of controlling HIV/AIDS spill over national borders. Therefore, it is logical to pool both financial and human resources. To do this, African countries need to promote cooperative efforts by regional and sub-regional research centers to encourage collaborative work with research institutes in developed countries. This kind of investment would promote research on HIV/AIDS. It would also create knowledge of and capacity to adopt cutting-edge medical research while building and retaining R&D capacity on the continent. ***Regional R&D centers could serve as strategic focal points for research on African traditional medicine.*** In addition, African institutions should be encouraged to engage with traditional health practitioners to promote the application of traditional medicine (after requisite testing for effectiveness) for the prevention and treatment of HIV/AIDS.

African leaders need to continue to advocate for the control of HIV/AIDS and to focus the world's attention on the impact this disease has on development. National political leadership is absolutely necessary if this epidemic that is devastating the African continent is to be contained. ***There is an urgent need to undertake a comprehensive economic impact assessment of HIV/AIDS on Africa as a whole.*** This analysis could cover among other factors, the following:

- Careful documentation of the impact of HIV/AIDS on human life in the continent.
- Development of simple and publicly available methodologies to assess the impact of HIV/AIDS on business.
- Creation of an understanding of the effects of the epidemic on nations, particularly on governments and the business and investment environment.
- Assessment of the consequences for small- and medium-sized businesses.

The assessment could then become the basis for policy development, advocacy and programme planning.

There is need to develop and agree on a uniform and harmonized surveillance system such as the Integrated Diseases Surveillance System (IDS), that can facilitate accurate quantification of the burden of HIV/AIDS. This could be established at both country and regional levels.

More funding for public health services is essential for the success of the HIV/AIDS programmes. Monitoring how much is spent on health, and on individual programmes is a good start.

Better policy implementation is also fundamentally important. African governments should strengthen the institutions that will deliver health care to their citizens so that the gap between intention and outcome is effectively bridged in the struggle to respond to the overwhelming challenges presented by the HIV/AIDS pandemic and other chronic diseases in the continent.

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