Working Paper

Chatham House Procurement for Development Forum:
The Impact of HIV/AIDS on the Food Supply Chain

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May 4th, 2010
THE IMPACT OF HIV/AIDS ON THE FOOD SUPPLY CHAIN

In 2009, there were 33.4 million people living with HIV worldwide. Of those infected, over 22 million (67%) live in Sub-Saharan Africa, a region which also accounts for over 14 million (72%) of AIDS-related deaths. The most obvious effect of this crisis has been illness and death, but the pandemic is affecting all aspects of life, including family life, education, income, community relationships and social support services etc. In effect, it is rolling back years of development progress, reducing average life expectancies in the worst affected areas by about 20 years, while adding to food insecurity, rural poverty and destitution. Beyond the human tragedy of the pandemic, the impact on the agricultural workforce is threatening to undermine industry productivity and profitability, unless action is taken to prevent and mitigate HIV/AIDS in the food supply chain.

![Impact of HIV/AIDS in Sub-Saharan Africa](image)

Figure 1: Impact of HIV/AIDS on Adults and Children in Sub-Saharan Africa

1.0 Impact on Households and Livelihoods

Sub-Saharan Africa has the highest rates of HIV infection worldwide, with the majority of people being infected during their prime working years (15-49 yrs). For AIDS victims, the deterioration caused by the disease prevents them from working,
first intermittently and then completely, culminating in death within an average of 18-24 months. At a broad level, the disease causes declines in capital accumulation and demand, along with labour shortages. At the household level, there are two key consequences when the family heads drop out of the labour force and cease being economically active: 1) reduction of income or disposable cash and 2) reduction of household labour quality and quantity. The former is usually associated with the loss of male head of household, many of whom work for pay as an agricultural field worker or at a food processing facility in rural communities. The latter is generally linked to the female head, as women tend to assume traditional roles of care-giver and provider of domestic food through subsistence production.

1.1 Loss of income
In the first instance where illness or death leads to loss of income, the ability to purchase necessary goods and services to maintain the household is affected. Necessities include food and various other household needs, as well as agricultural inputs such as new seeds or plants, fertilizer, pesticides and hired labour. Actual loss can be dramatic, as indicated by a study of AIDS-affected households in which two thirds of families where the father had died reported an 80% decrease in monthly disposable income. Any remaining income is further diverted to pay for medical treatment and funeral costs. In rural areas, these costs are considerable, with medical costs adding up to 78% of household income the first year and 167% the second year; and a single funeral costing up to a third of annual cash income. To cover costs, assets such as livestock may be sold off and savings drained, inevitably resulting in a downward spiral of debt and poverty unless there is a remarriage or other form of external support is received.

1.2 Loss of labour
Similar to the loss of income, the loss of labour also initiates a decline in household welfare. As morbidity and mortality affect the female head, there are fewer hours spent in household plots and agricultural productivity declines as land under
cultivation can drop by as much as half.\textsuperscript{11} Demands on other domestic activities like collecting water further limit the time available to agricultural production activities. Therefore, as labour becomes more stretched and less food is produced, food insecurity increases through one or more of the following:\textsuperscript{12}

- reduced acreage of land under cultivation and delay in operations resulting in a decline in crop yields;
- reduced range and diversity of crops grown (limiting diet and increasing exposure to risk in production);
- shift to less physically demanding (or less labour intensive) crops;
- decline in livestock production (selling off of these assets to cover expenses or to lack of available male labour);
- shift from cash oriented to subsistence crops to assure domestic food supplies (often resulting in production of maize and cassava that are high in carbohydrates but low in protein); and,
- loss of agricultural knowledge (including inter-generational information transfer) and management skills required to run the household farm.

The loss of female head also tends to result in disintegration and dispersion of families, with surviving children to be fostered by grandparents, other older female relatives, or sent to live with another part of the extended family.\textsuperscript{13} These children are less likely to enroll (or stay enrolled) in school and more likely to enter the labour force, help with subsistence farming or provide care for other sick family members. This further comprises their future and jeopardizes the contribution they make to the society and to the economy as a whole.

1.3 Impact on community

When agricultural work is neglected or abandoned by multiple households, the prospect of food shortages and hunger extend to the community level. Traditionally, emergency situations like food and labour shortages were managed successfully through extended family networks and community organizations and institutions by sharing the load of farm and/or household labour. In the worst affected areas, however, HIV/AIDS has overwhelmed network capacity and the support systems are


no longer functioning as they once did. The loss of prominent community members, such as school teachers, further weakens the networks that would have otherwise protected the most vulnerable; namely, women and children.

Unfortunately, HIV/AIDS acts to exacerbate gender disparity, leading to the disproportionate impoverishment of women. When men die before their wives, their widows become the head of household. However, assets such as land title—held traditionally by men—are left subject to repossession by the husband’s family. Women are frequently excluded from traditional forms of credit and as ‘AIDS widows’, the stigma of the disease also excludes them from social support systems as well. Bereft of land, income and credit, women remove their children from school to assume household responsibilities or to assist in income generation. This jeopardizes prospects for the future, leading to a downward spiral of increasing dependency ratios, poorer nutrition and health, increasing expenditure of resources (time and money) on health problems, more food shortages, and decreasing household welfare.

2.0 Impact on Business and the Economy

Looking outside the human element, HIV/AIDS has profound financial, economic and social costs for industry too. Those most vulnerable are businesses with heavy dependence on human labour ranging from the large-scale commercial operations down to the small-holder farms. In general, the impact on business will be contingent on the degree to which the business is flexible in its sourcing partners and workforce, which is largely influenced by ownership (or liability) of supply chain operations. Impact will also depend on the type of business involved—whether retailer, manufacturer, or producer (small/large holder, outgrower etc.)—and the degree to which the business has committed to investing in operating in affected areas.

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13 UNAIDS, 2005. In a study of two districts in Zimbabwe, 65% of families that had lost a female head had disintegrated and dispersed.
15 ODI, 2005. Teachers are commonly identified as a ‘high-risk’ group due to age and high proportion of female teachers. 1 in 7 teachers in Malawi were likely to die of AIDS-related illness.
Possible costs of HIV/AIDS are shown above (Figure 2), arising primarily from absenteeism or loss of working hours and employee recruitment, re-training and retention rates. In fact, time off needed to meet family obligations such as caregiving and attending funerals can account for as much as 50% overall increase in costs. The lost working hours also reduces productivity and creates additional problems in manpower planning, particularly when there is a short growing season and peak production period. If operating capacity is compromised, and quality and quantity standards are no longer met, the business may lose contracts with buyers. In turn, if the product is destined for domestic markets, there is a risk that the consumer base is being eroded as mortality rates from AIDS-related illnesses increase. Foreign or domestic private investors may also be discouraged if the severity of the pandemic is perceived significant enough to reduce rates of return or profits, thus creating an unfavourable environment for investment.

19 Adapted from FAO, 1999.
22 ODI, 2007b.
2.1 Retailers

At the top of the supply chain, food retailers are comparatively isolated from the impact of HIV/AIDS because they often source through intermediaries and therefore have no direct link (or liability) to producers. Although many engage in development issues via CSR initiatives and ethical sourcing programs, such as GlobalGAP, SMETA and BSCI, the principle codes of conduct and monitoring standards that inform these programs contain no explicit reference to HIV/AIDS. With no direct accountability in the supply chain, there is even less incentive to invest where short-term sourcing contracts exist. Instead, it is often easier and more cost effective for retailers to change sourcing partners, particularly when labour shortages manifest as higher pricing, and/or lower quality or quantity of product. However, as the pandemic continues to spread and the operations of more and more supply chain partners are affected, retailers will face increasing pressure to act and contribute to HIV/AIDS programs along with the rest of the supply chain.

2.2 Manufacturers and processors

At the next level in the supply chain, industrial operations like manufacturing and processing are directly affected by HIV/AIDS in two respects: through the procurement of goods from other suppliers and through their own workforce. Similar to the retailers, manufacturers and processors sourcing product from affected areas may have problems with product quality and quantity due to labour shortages at the field level. Depending on the severity of supply problems, factory operations could be significantly impaired if there is insufficient product that fulfils buyer requirements.

Productivity is also affected by the impact of HIV/AIDS on factory employees. In comparison to agricultural field workers, factory jobs are often at a higher skill level and the workers are contracted to longer term or more permanent positions (due to greater mechanisation and year-round operations). When HIV/AIDS affects these workers, recruitment costs are greater due to time needed to hire and train for the more skilled positions. If there are insufficient numbers of technical and skilled workers available, less capable people are hired to fill the positions, thereby reducing productivity even more. Additional pressure comes from the increasing operational costs arising from payout for employment benefits, such as health care (Figure 2). Even though drivers to invest in HIV/AIDS programs at this level are stronger than for

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23 Three major compliance programs used in the UK and Europe include: Global Partnership for Good Agriculture Practices (GlobalGAP); Sedex Members Ethical Trading Audit (SMETA), which uses the ETI base code; and the Business Social Compliance Initiative (BSCI).
the retailers, the extent of investment will likely depend on the impact of mortality and morbidity on the productivity and operational costs of the factory.

2.3 Producers: Large-scale farms, outgrowers and small-holders

At the production level, or bottom of the supply chain, employment tends to be of a more seasonal and unskilled nature, giving employers the benefit of a large pool of workers that are relatively low cost to recruit and train. Although this may imply a greater degree of flexibility, and less inclination for investment in prevention and mitigation, the dramatic decline in available workforce is quickly changing this scenario. The projected loss of agriculture workforce by 2020 in the hardest hit areas is profound as illustrated in Figure 3. Impacts range from a loss of 13% of the labour force in Cameroon up to 26% in Namibia.25

![Projected Agricultural Labour Force Loss due to HIV/AIDS in the Most Affected Countries of Africa by 2020](image)

**Figure 3: Loss of Agricultural Labour Force due to HIV/AIDS by 2020**26

While producers of all types are facing increasing operational costs, total costs for different production units may vary considerably. For instance, the larger agro-estates, processors and manufacturers that are already providing worker housing and covering various medical benefits, have increasingly prohibitive operation costs as a

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24 ODI, 2007b.
26 Taken from ILO, 2004.
result of worker coverage. For small holders, the primary concern may be the payback of loans as worker shortages prevent full harvest and result in low quantity outputs. For all producers, there is always the concern that if production and processing capacity requirements are not met, they will lose their customers, resulting in a further decline in profits.

3.0 Multi-Stakeholder Solutions

The HIV/AIDS pandemic is a complex health and development problem that requires a multi-stakeholder approach to address both prevention and mitigation strategies. While businesses, research institutions, NGOs and others will play a vital role in the campaign, government will have to lead efforts and provide support through related policies and programs. To be effective, these interventions should occur at the community level.\textsuperscript{27}

3.1 Governments & Donors

To encourage investment and engagement in HIV/AIDS prevention and mitigation strategies, governments and donors need to provide a foundation for development, which includes the support needed for program implementation. If not already in place, a national strategy targeting the pandemic can further direct and link together the various activities of stakeholders such as businesses, research institutions, NGOs etc. for a more holistic and coherent response. In addition, to ensure that developments are long-term, government should also work to address the broader social, economic and environmental factors that contribute to the transmission and impact of HIV/AIDS. Key priority areas in this regard include food security, legal reform, income generation and development of support services.

\textit{Key priority areas for governments and donors:}\textsuperscript{28}

- \textbf{Legal reforms}: To protect vulnerable groups, especially HIV/AIDS widows and orphans, enactment/enforcement of a number of areas such as land tenure, inheritance, access to assistance and inputs may be required.

- \textbf{Women}: Improvement in women's social and economic status is needed to protect them, their families and children from the pandemic. Examples include

\textsuperscript{27} Piot, P. et al., 2001.
\textsuperscript{28} Priority areas taken from FAO, 1999.
support activities on legal advice for AIDS widows or education/training for girls removed from school to take care of sick family members.

- **Income**: Support of income-generating micro-enterprise programs can provide the much needed disposable household income to vulnerable groups (female-headed households, orphans and elderly farmers). These are primarily non-traditional livestock activities, such as beekeeping, small animal husbandry, poultry keeping, etc.

- **Agriculture research**: Data and information on the human and agricultural impact needs to better identify innovations that improve food security in households, particularly those appropriate for dry, arid climates and households where labour and other productive resources have been decimated by HIV/AIDS-induced morbidity and mortality. This may include increasing access to labour saving technologies (e.g. light weight ploughs, fuel efficient stoves, grinding mills) and reducing labour requirements of cropping systems, e.g. through improved seed varieties, zero or minimum tillage techniques and post harvest storage.

### 3.2 Role of Business

Among the first businesses to address HIV/AIDS via the workplace were those within the extractives industries working in areas with high prevalence of infection. In some cases, up to 1/3 of total employees were infected but due to the investment in infrastructure and the relative permanence of the operating area, it was more cost effective to invest in programs than deal with the costs associated with mortality and morbidity. Although similar comprehensive prevention and mitigation programs may not be as financially feasible for companies in the food and agriculture sector, there are a number of practical ways to support HIV/AIDS programs and to combat the increasing spread and impact.

**Examples of HIV/AIDS prevention and mitigation strategies:**

- **HIV/AIDS policy (workplace)**: HIV/AIDS policies to be developed with NGOs, management and employees, and integrated into code of conduct and supplier contracts throughout the supply chain, including base codes used by major social compliance initiatives like ETI, BSCI, SA8000 etc.

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29 Piot et al, 2001. A study of miners in southern Africa found that as many as one-third of employees in their late 20s and 30s were infected.

Implementation (and verification) of the policy will help alleviate the stigma of HIV/AIDS and avoid fear, low morale, overwork, and low productivity.

- **HIV awareness campaigns (workplace and community):** Activities to include peer education, STD prevention, and distribution of literature (pamphlets, posters and brochures). These campaigns should extend beyond the immediate workforce and into the surrounding communities as these are critical zones of transmission and also provide a pool of available labour.

- **HIV testing (workplace):** Conducting testing on-site or providing free transportation to a clinic during work hours can greatly improve survival rates through early diagnosis. Testing policy must be such that it is only for current employees (to require it of potential employees is unethical and discriminatory) and all results must be shared only with the employee in question.

- **Anti-retroviral therapy (employees and immediate families):** In 2003, only 2% of adults and children requiring drugs were receiving them but as of 2008, 44% (nearly 3 million people) were receiving such services.\(^{31}\) Progress has been dramatic but there are millions more that need treatment. More comprehensive medical coverage and workplace flexibility can improve worker welfare and alleviate strain at the household level.

The key for sustainable business is to implement effective management strategies that reduce operational costs incurred by HIV/AIDS throughout the supply chain. Since all businesses have a vested interest in securing a stable and healthy workforce for the future, strategies should look beyond the workforce level into the surrounding communities. To realize the return on investment, businesses can cost share on community initiatives with other stakeholders and restructure sourcing policies to favour longer term contracts, thereby building trust and encouraging other investors to participate. In turn, the welfare of the workforce and surrounding communities will be protected along with the interests of the commercial agricultural sector and other viable economic interests in the sector.

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