

THE HIV AND URBAN FOOD SECURITY NEXUS

Jonathan Crush, Bruce Frayne, Scott Drimie and Mary Caesar

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JONATHAN CRUSH, BRUCE FRAYNE,
SCOTT DRIMIE AND MARY CAESAR

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I INTRODUCTION

Sub-Saharan Africa is home to 70% of the global total of people living with HIV. One third of the total live in Southern Africa where national HIV prevalence in 2007 exceeded 15% in seven countries: Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe. Thirty five percent of global HIV infections and 38% of AIDS deaths in 2007 occurred in this region.¹ Although urban HIV prevalence rates vary considerably, in almost every country for which there is data, urban rates are higher than rural.² HIV and AIDS is therefore a central urban health and development challenge.³ Within cities, infection rates and mortality are considerably higher among poor, informal, and migrant populations.⁴ Young urban women are disproportionately affected by the disease.⁵ HIV infection also leads to progressive immunodeficiency and increased susceptibility to infections such as tuberculosis (TB).⁶ As a consequence, TB rates in urban areas have soared over the last two decades.

While the AIDS epidemic is associated more with urban than rural areas in Sub-Saharan Africa, the opposite is true of food security.⁷ There is a pervasive, and misleading, idea that food insecurity is largely a rural problem affecting rural households.⁸ Considerable attention has been devoted to how the AIDS epidemic impacts on smallholder agricultural production and productivity.⁹ This has had two results, one positive, one negative. On the one hand, there is now a considerable body of knowledge on the negative impacts of the epidemic on agricultural production. On the other, our understanding of the link between HIV and urban food security is fragmentary and has to be pieced together from case study evidence.

The impact of HIV and AIDS on agricultural systems and rural household food security are generally reckoned to be devastating.¹⁰ Bryceson and Fonseca, for example, posit that “beginning in 2001, smallholder peasant households in Malawi faced two life-threatening risks: AIDS and famine.”¹¹ The concept of “new variant famine” (NVF) was coined in 2003 in an attempt to convey the full impact of HIV and AIDS on rural households.¹² The key indicators underpinning NVF include: (a) household-level labour shortages due to adult morbidity and mortality, and the related increase in numbers of dependants; (b) loss of assets and skills due to adult mortality; (c) the burden of care for sick adults and children orphaned by AIDS; and (d) the vicious cyclical interaction between malnutrition and HIV. While such indicators are not necessarily rural in focus, in practice they have tended to be interpreted through a rural household lens.¹³ Responding to criticisms of the NVF hypothesis, Naysmith



et al argue that “viewing NVF solely as a process impacting smallholder farmers ignores the wider political, economic and social rationale for food insecurity.”¹⁴ However, their subsequent empirical analysis of Swaziland focuses primarily on the agricultural production of so-called “subsistence households” on Swazi Nation Land. The applicability of the hypothesis to the food insecurity of urban households has yet to be tested, either in Swaziland or elsewhere.

A recent FAO statement on HIV and food security gives the unfortunate impression that the epidemic is no longer a significant urban problem and that impacts on food security are mainly rural in character:

In its earlier stages, the HIV epidemic was predominantly an urban problem, affecting more men than women, and those with relatively higher incomes. Now the epidemic has rapidly moved into the rural areas, hitting those who are least equipped to deal with its consequences. Today, 95% of people living with – and dying of – HIV and AIDS are in developing countries. The overwhelming majority are the rural poor, and among them women figure disproportionately. The epidemic is undoing decades of economic and social development and causing rural disintegration. For example, in sub-Saharan Africa, HIV is depleting the region of its food producers and farmers, decimating the agricultural labour force for generations to come.¹⁵

In fact, despite the rapid progression of the epidemic in rural areas, it remains a major challenge to urban food security and not just to those with “relatively higher incomes.”¹⁶ The FAO statement is consistent with our central argument that food security is largely seen by international organizations as a rural issue for which the main solution is increased smallholder agricultural production. This view is reflected by other UN Agencies, including UNAIDS, which has recently recommended a four-pronged rural, agricultural approach to mitigating the epidemic’s effects on food security: (a) initiatives to protect and improve the livelihoods of rural households (through both farm and non-farm avenues); (b) social protection policies to provide financial and nutritional assistance where appropriate; (c) focused nutrition programmes for key populations at higher risk (e.g. girls and women); and (d) improvements in the development, implementation, and accountability of policy-making in the agricultural sector.¹⁷

Research findings about the impact of the AIDS epidemic on rural food security cannot be transferred unquestioningly to the urban setting, as the implications of the epidemic for food security differ in nature, scope and

magnitude in rural and urban settings. Despite the rapid rate of urbanization in Africa, the reality is that the two spheres of “urban” and “rural” are entwined within a complex relationship, particularly in the context of the political economy of migration and mobility in Southern Africa. Because of these inter-linkages, the impact of the AIDS epidemic in rural areas is not irrelevant to assessing its impact on urban food security.¹⁸ For example, urban populations that receive informal food transfers from the countryside will be affected by any AIDS-induced fall in rural household production. If HIV and AIDS prompts migration out of rural areas, so the numbers of poor, food-insecure urban dwellers will swell.

When urban PLHIV (People Living with HIV) return to the rural areas for family care and to pass away, the food needs of the urban household decrease even as those of the rural household escalate. If migrants living in urban areas are unable, through ill-health, to work and remit, there is less income for both the rural and urban household to purchase food. In other words, the epidemic in rural areas impacts on urban food security and the epidemic in urban areas impacts on rural food security. In this context, the separation of the “rural” and the “urban” into discrete spheres is highly artificial.

2 THE VICIOUS CYCLE

Medical researchers have produced a considerable body of information and analysis on the impact of malnutrition on the course of the disease in PLHIV as well as the nutritional impact of HIV infection.¹⁹ At the individual level, the relationship is commonly conceptualized in terms of a “vicious cycle” (see Figures 1 and 2):²⁰

HIV essentially accelerates the vicious cycle of inadequate dietary intake and disease that leads to malnutrition, while malnutrition increases the risk of HIV transmission from mothers to babies and the progression of HIV infection. Nutritional deficiencies may lead to oxidative stress and immune suppression which in turn lead to increased HIV replication and hastened disease progression. Increased morbidity brings with it heightened nutrient requirements and reductions in the efficacy of absorption and utilization of nutrients.²¹

The spatial distribution of the HIV hyper-epidemic generally overlaps with the distribution of populations suffering from low dietary quality, quantity and diversity.²² Lack of access to adequate foods (a key element of food insecurity) leads to a suppressed immune system, increased risk of

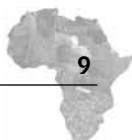
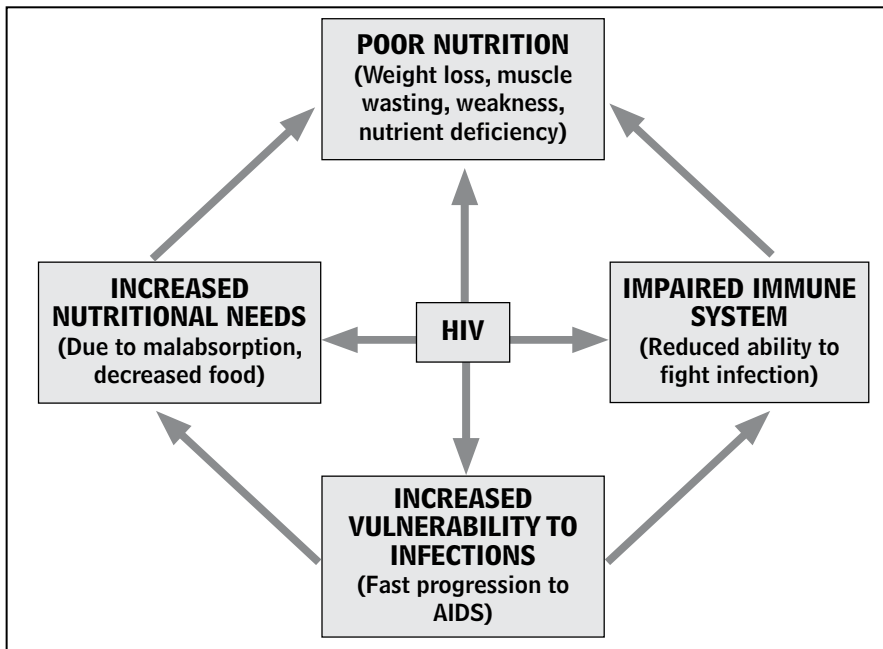
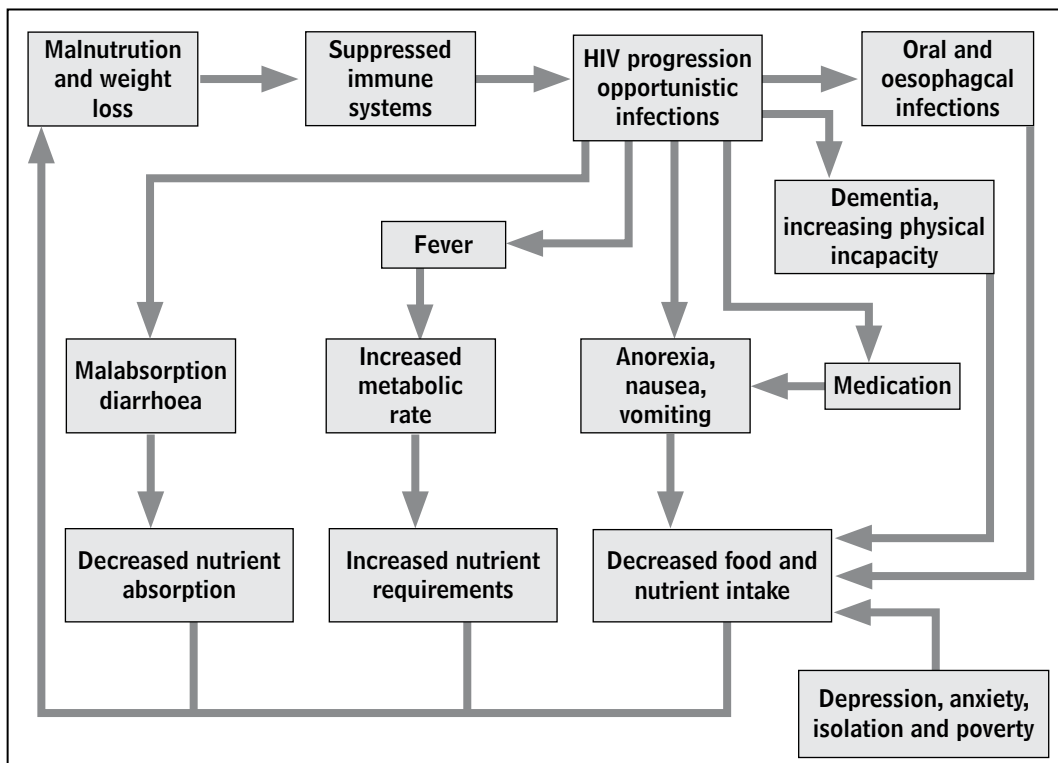


FIGURE 1: Vicious Cycle of HIV and Malnutrition



Source: Visser, *Nutritional Prophylaxis*

FIGURE 2: Vicious Cycle of Nutrition, Disease and HIV



Source: Adapted from *Nutrition and HIV/AIDS: A Training Manual*, p. 103

mother to child transmission and decreased resistance to HIV. Infection with HIV reduces the efficacy of nutrient absorption and utilization by the body. As Ivers et al note, “malabsorption of fats and carbohydrates is common, the former adversely affecting the absorption and utilization of fat-soluble vitamins, compromising immunity and worsening nutrient deficiencies. Infections and nutritional deficiencies cause an increase in pro-oxidants, resulting in oxidative stress, which may indirectly accelerate HIV replication.”²³ Micronutrients take on “special importance in populations with marginal intakes.”²⁴ However, it has been difficult to show causal associations between “specific deficiencies and adverse clinical outcomes in HIV-infected persons, and data linking replacement or supplementation of specific micronutrients have been sparse and inconsistent.”²⁵

Individuals with HIV are also more likely to suffer loss of appetite, reducing dietary intake just when requirements are higher. PLHIV have higher nutritional requirements than normal, particularly with regard to protein (up to 50% increased), and energy (a 10–30% higher energy requirement than a healthy adult without HIV).²⁶ Children with HIV have an energy requirement that is 50–100% higher than normal. Although there is no direct evidence that malnutrition per se increases susceptibility to HIV infection, there is certainly evidence that poor nutrition leads to more rapid HIV progression, and the more rapid onset of the opportunistic infections and diseases that commonly accompany immune-suppression (such as tuberculosis, pneumonia, cancer and so on).²⁷ These infections increase nutritional requirements still further.

Adequate dietary intake is essential for maximizing the full benefits of antiretroviral therapy (ART). There is evidence that ART without adequate nutrition results in lower survival rates.²⁸ Adequate nutrition for PLHIV is critical as it improves health and economic productivity, allowing them to resist opportunistic disease, remain in productive employment and contribute to household income and food security. A recent study in Lusaka, for example, found that adherence to ART by food-insecure patients was significantly improved by food supplementation (in the form of monthly rations from the World Food Programme).²⁹ Speculating on the reasons, the authors suggest that the incentive of food parcels for the household encouraged patients to go to the distribution points at hospitals and clinics where they also received their ART. In other words, there is no guarantee that the same results would be achieved if food parcels and ART were available in different places. Regardless, the results do suggest that food insecurity is a major barrier to ART adherence. Reasons include the fact that ARVs increase appetite and lead to intolerable hunger in the absence of food; that the side effects of ARVs

are exacerbated in the absence of food; and that competing demands between food and treatment costs lead people to default from treatment, or give up food to get medications.³⁰

For all its strengths, and its contribution to the development of evidence-based nutritional programmes for PLHIV, the nutrition literature generally does not stray too far from the health status of the individual.³¹ The relationship between nutrition and HIV is generally not viewed as place-specific nor is there much differentiation between rural and urban PLHIV. Certainly, there is an assumption that rural PLHIV are generally more malnourished and experience the cycle with particular intensity and viciousness. However, even if true, this does not mean that the urban poor will somehow experience these effects any less intensely, simply by virtue of being in urban areas. What the biomedical literature generally does not consider is the fact that the determinants of food insecurity and malnutrition are different, and far more complex, in urban than rural areas.

The degree and extent to which urban-based PLHIV are locked into the vicious circle depends on a whole host of general and city-specific economic, social, and political factors that are impervious to biomedical testing. As Panagides et al point out, “inequities in health, nutrition and food security are the product of the underlying social, economic and political structures and tensions in a society. These inequities exacerbate the effects of HIV and AIDS and food insecurity to the point of eroding a community’s physical, human and economic capital, and consequently its capacity to respond and recover from these conditions.” They go on to argue that health sector responses to the immediate causes of HIV and AIDS and undernutrition need to be “reframed” within a comprehensive approach to understanding and addressing wider structural and systemic factors that fuel food insecurity and vulnerability to HIV. The following sections of the report are a contribution to this reframing process.

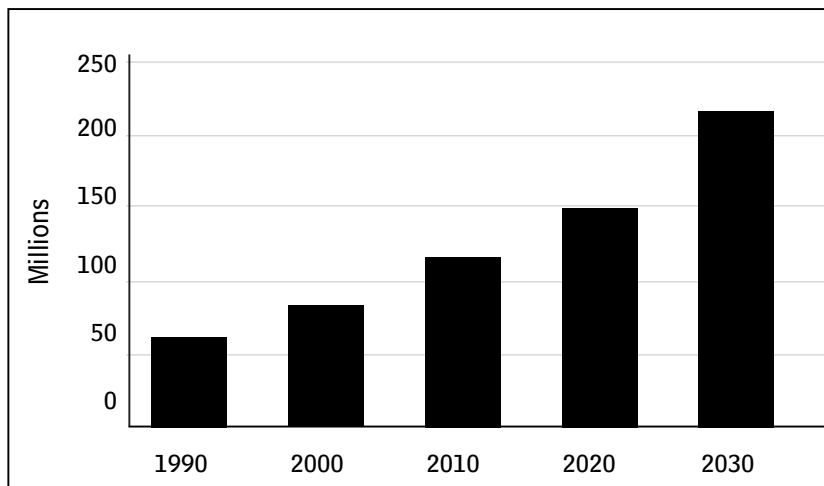
3 HIV AND RAPID URBANIZATION

The relationship between urban food security and HIV and AIDS is a complex one mainly because both issues are multilayered and, as a result, intersect in multiple ways. In the late 1980s, HIV prevalence rates in Southern African cities were extremely low. Not only have they grown dramatically in the intervening two decades, but the urbanization process itself has been extremely dynamic. Most analysts have overlooked the fact that the rapid growth of the HIV epidemic coincided with a rapid increase in urbanization in the region. Part of the reason for the “spectacular”

growth of the epidemic in Southern Africa lies in the massive movement of people to the cities and the rapidly growing numbers of people exposed to high-risk urban environments. This is, in other words, a rapidly-urbanizing region, a dynamic process that has fuelled the HIV epidemic.

In 1990, the urban population of Southern Africa was 53 million people, a number that rose to 77 million in 2000 and is estimated to be around 110 million at the present time (Figure 3).³² The UN projects that by 2030, the urbanized population of the region will exceed 200 million. Of these 60 million will be in the DRC, 38 million in South Africa, 25 million in Tanzania, 22 million in Angola and 17 million in Mozambique (Figure 4). Southern Africa has the highest rate of urbanization in the world and is expected to be two-thirds urbanized by 2050. In every country, urban population growth rates are much higher than rural growth rates.

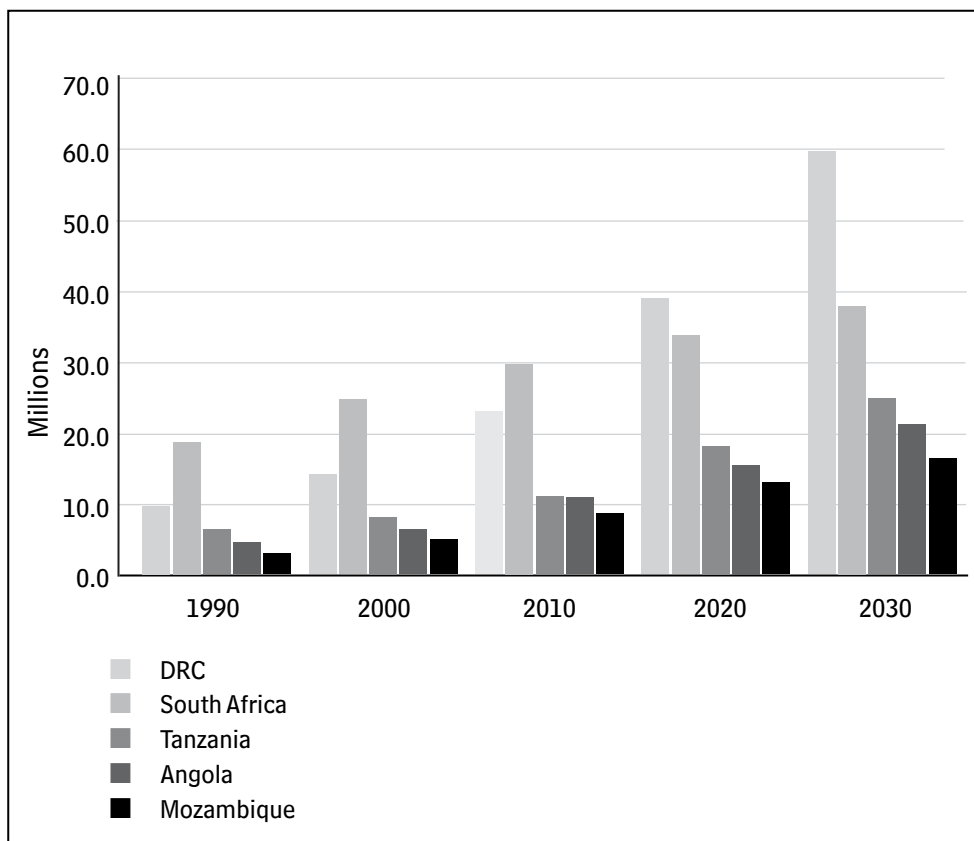
FIGURE 3: Growth of Urban Population in Southern Africa, 1990-2030



Source: State of African Cities, 2008-9

The extent and impact of the epidemic in Southern African cities has yet to be fully documented despite some initial work on this issue by UNAIDS.³³ HIV prevalence data derived from ante-natal sites in the region suggests considerable variation between urban centres. With the exception of Namibia and Swaziland, HIV prevalence is higher in the major urban centres of most countries in the Southern African Development Community (SADC) than outside them (Table 1). Nine of the world's top ten cities with PLHIV are in SADC (Nairobi is the other) (Table 2). Combined, they total 3.75 million people. The Gauteng urban conurbation has the highest number (1.5 million), followed by Durban

FIGURE 4: Growth of Urban Population in Selected SADC Countries, 1990-2030



Source: *State of African Cities, 2008-9*

(730,000), Cape Town (315,000), Harare (260,000), Maputo (220,000) and Lusaka (185,000). Nearly 28% of PLHIV in Eastern and Southern Africa (and 15% of PLHIV globally) live in 14 major African cities (Johannesburg, Pretoria, Durban, Cape Town, Harare, Maputo, Dar Es Salaam, Lusaka, Nairobi, Port Elizabeth, Addis Ababa, Pietermaritzburg, Kampala, Luanda, Pretoria, Harare, Kampala, Bloemfontein, East London, Maputo and Bulawayo).

According to conventional models of the spatial diffusion of HIV, an “urban epidemic” spread to the rural areas of the sub-continent when migrants became infected in the cities and returned to infect their rural partners. As Lurie argues, this model may have been appropriate to the very earliest stages of the epidemic but fails to account for the fact that patterns of spread quickly changed to include rural-rural transmission.³⁴

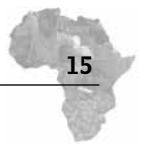
TABLE 1: Antenatal HIV Prevalence in SADC Countries, 2008		
Country	Major Urban Centres (%)	Outside Major Urban Centres (%)
Angola	3.8	2.2
Botswana	38.9	32.6
Lesotho	37.2	22.6
Malawi	18.6	14.6
Mozambique	20.9	14.9
Namibia	15.1	18.5
South Africa	29.6	29.0
Swaziland	40.3	42.5
Zambia	25.9	14.4
Zimbabwe	15.6	7.8

Source: WHO/UNICEF/UNAIDS, "Epidemiological Fact Sheet on HIV and AIDS, 2008"

TABLE 2: Major Countries and Cities with PLHIV			
Countries	No. of PLHIV	Cities	No. of PLHIV
South Africa	5,400,000	Gauteng	1,550,000
Mozambique	1,400,000	Durban	730,000
Tanzania	1,300,000	Cape Town	315,000
Zimbabwe	1,200,000	Harare	260,000
Zambia	980,000	Maputo	220,000
Malawi	840,000	Lusaka	185,000
Botswana	280,000	Dar es Salaam	180,000
Lesotho	260,000	Port Elizabeth	155,000
Angola	180,000	East London	105,000
Swaziland	170,000	Bulawayo	90,000

Source: Van Renterghem and Jackson, "AIDS and the City"

The model also neglects the dense web of exchanges between town and countryside and the hyper-mobility of people within and across national boundaries in a rapidly-urbanizing region.



Most new arrivals to the city from the countryside tend to congregate in overcrowded peri-urban, informal settlements. In Sub-Saharan Africa, over 60% of the urban population live in such settlements. In some Southern African countries, the rates are even higher: for example, Mozambique (at 94%), Tanzania (84%), Malawi (83%), and Namibia (66%).³⁵ And it is precisely these areas that have the highest prevalence of HIV and constitute high-risk spaces for the uninfected. Recent research by the Human Sciences Research Council shows that in South Africa, HIV prevalence in informal settlements is double that of urban formal areas; 25.6% compared to 13.9% for adults aged 15–49 years.³⁶ As Banati notes, “the urban informal context is a distinct high-risk environment, characterised by high unemployment, disillusionment, poor housing, female disempowerment, reduced access to healthcare, low economy and a lack of social cohesion.”³⁷ As “focal determinants” of HIV, informal settlements “amplify individual risk factors.”³⁸

The so-called sexual behaviour “paradox” is sometimes advanced to explain the greater vulnerability to HIV infection in the city.³⁹ According to Kalipeni et al, “high rates of sexually transmitted diseases (STDs) in urban areas, rapid urbanization amidst deeply ingrained polygamous behaviour, and the partial erosion of traditional cultures in the urban setting, including those for regulating sexual relations and practices” lead to high-risk sexual behaviours.⁴⁰ This dualistic framework is problematic for it suggests that there is such a thing as a “traditional culture” to be eroded. Patterns of sexual networking and behaviour do differ in town and countryside. This has been clearly demonstrated in numerous studies of the South African mining industry.⁴¹ Where single-sex labour migration is regularized and formalized, as on the mines, migrant communities and an associated migrant culture have developed.⁴² Sex and sexuality are integral components of such cultures, including commercial or ‘transactional’ sex and heterosexual as well as homosexual relations. There is a tendency to transpose the well-known mining industry migrant labour experience onto all urban areas. However, the majority of urban areas are not mining towns at all. None of the major cities of the Southern African region with the highest rates of HIV prevalence are based on mining.

A sexual behaviour framework may shed light on some aspects of high-risk behaviour but does not fully address the political, social and economic factors that shape urban spaces, lifestyles and livelihood struggles in poor areas of the city.⁴³ In order to better understand the complex relationships between urbanization and HIV and AIDS, a framework is needed which takes into account, firstly, the physical and social factors that shape urban spaces and the organization of urban life; and secondly, the multiple ways in which individuals, households and communities experience and

respond to urban spaces.⁴⁴ Some of the more specific issues related to these two broad themes include:

- The relationships and patterns of support between urban households and between rural and urban households;
- Strategies employed by individuals, households and communities within and between cities: for example, the ways in which people use private as well as public spaces and resources to both cope with HIV and AIDS and ensure food security.⁴⁵
- The varied economic systems that operate within individual cities in townships, informal settlements and middle class suburbs and how these sub-systems connect with the overall political economy of the city.⁴⁶
- The nature of sexual relationships and sexual networks: for example, the way in which gender inequality operates both in the private and public domain to push women and young girls into high risk behaviours.
- Urban systems and policies towards food security and HIV and AIDS as well as institutional arrangements within the state bureaucracy.

Poverty, unemployment, lack of secure income and income inequality have been identified as key determinants of vulnerability to HIV infection in urban areas.⁴⁷ Vulnerability is intensified by inadequate access to appropriate services, inability to afford prevention or access to health care, power imbalances, loss of self esteem (e.g. where men are unable to fulfill gender roles as breadwinners), frustration and disillusionment, and a preoccupation with immediate survival needs. Where daily survival is continuously negotiated, it is unrealistic to expect people to take seriously the as-yet invisible threat of ill health and death at some time in the future. In the context of disempowerment, men see physical and sexual power as a means to assert themselves and their masculinity through gender-based violence.⁴⁸ In such circumstances, sexual bargaining or sexual networking becomes an essential, yet hazardous, livelihood strategy.

The social environment of the city also plays a role in the transmission and progression of the disease. The urban demographic is generally younger than the rural. The average urban dweller is sexually active earlier and marries later, often putting them at greater risk due to more sexual partners. The risk of infection is highest among young urban women.⁴⁹ Urbanization is further characterized by a decline in community social control measures and a loss of elder authority. Within the urban environment, the influence of the extended family declines and the nuclear household becomes the dominant social structure. This shift leads to a



decline in social support structures, which in turn increases vulnerability to contracting HIV through high-risk behaviour in the absence of resilience offered by social support structures.⁵⁰ In addition to these social and economic factors, the spatial structure of urban areas plays a role in the HIV vulnerability of urban dwellers. The high housing density associated with urban poverty creates social conditions that facilitate the spread of HIV. These areas are associated with poor access to basic services, such as clean water, electricity and healthcare, all of which have been demonstrated to play a role in producing vulnerability to disease.⁵¹ Urban poverty, particularly in informal areas, creates the social and environmental context that promotes the spread of HIV infection and precipitates the progression of the disease to AIDS.⁵²

A significant proportion of the population of Southern African cities are temporary migrants in search of employment or other forms of livelihood. Links between HIV and migration are close and complex.⁵³ Migration is tied to the rapid spread and high prevalence of HIV in urban settings in various ways.⁵⁴ There is a higher rate of infection in ‘migrant communities’, which are often socially, economically and politically marginalized.⁵⁵ This is a result of migrants’ multi-local social networks, which create opportunity for mobile sexual networking and concurrent partners. Migration per se can encourage or make people vulnerable to high-risk sexual behaviour and can often make migrants difficult to reach through interventions, whether for preventive education, condom provision, HIV testing, or post-infection treatment and care. In linking human mobility and the epidemiology of AIDS, it is important to note that different forms of migration lead to different social and geographical forms of migrant ‘community’ and thus to different causes and cultures of risk.

Other forms of mobility disrupt or prevent the formation of stable, place-based communities. People who have multiple ‘homes’, or who spend a lot of their time away from or between homes, lead lives of contingent encounters and short-term relationships, whether economic, social or sexual.⁵⁶ This encourages high-risk sexual behaviour, including obtaining sex on a commercial basis. But migration and mobility do not automatically increase vulnerability. Construction workers in Johannesburg are paid so poorly that they do not have the resources to engage in risky commercial sex.⁵⁷ Domestic workers in the same city are to some extent “insulated” from gender-based violence although their working and living conditions are often very poor.⁵⁸ And informal traders are at risk from gender-based violence but use various strategies, including travelling in groups, to reduce risk.⁵⁹

4 LINKING HIV AND URBAN FOOD INSECURITY

The following depiction suggests that the relationship between food security and HIV and AIDS is reciprocal in nature:

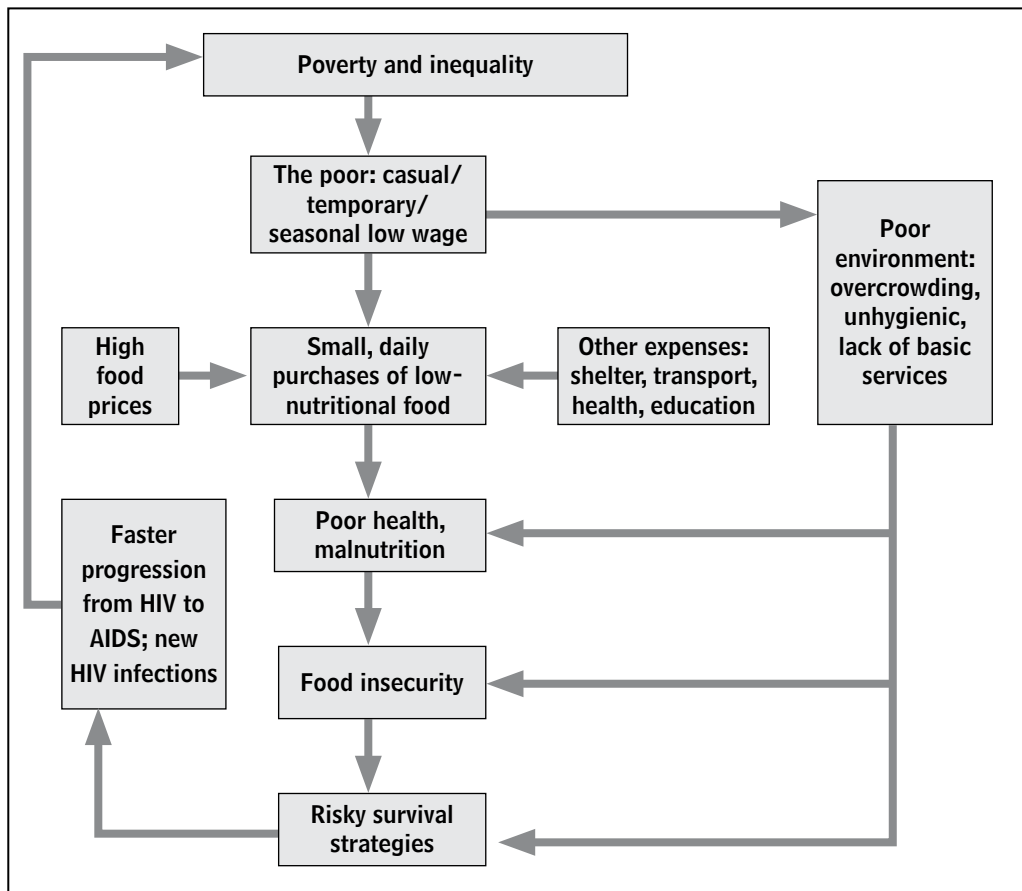
The pandemic is being driven by the very factors that cause malnutrition: poverty and inequality. The hunger currently experienced by millions across the region increases the likelihood of HIV infection, as people are driven to adopt risky coping strategies in order to survive. These include travelling to search for food and additional sources of income, migrating, engaging in hazardous work, and, most lethally, women exchanging sex for money or food. These actions facilitate the spread of HIV, putting individuals – especially women and children – at high risk of infection. For those already infected with the virus, malnutrition exhausts the immune system, which makes people more susceptible to malaria, tuberculosis, and other opportunistic diseases, and leads to faster progression from HIV to AIDS. People weakened by HIV/AIDS find it harder to access food, because they are often not strong enough to work or to walk long distances to the market.⁶⁰

In other words, in the context of rapid urbanization and rising poverty, the epidemic has heightened food insecurity, created newly-vulnerable populations and reduced the capacity of poor households to secure sustainable livelihoods. The confluence of poverty and HIV and AIDS in the same vulnerable urban households underpins a “vicious cycle” of food insecurity.⁶¹

In the “income impact” model (Figure 5), rapid urbanization produces a pool of urban poor who survive primarily by means of low paid temporary or casual employment, informal sector activity and social grants. Their ability to access the food they need is undermined by unpredictable income, high food prices and other basic livelihood expenses. Households make small daily purchases of food with low nutritional value leading to poor health, undernourishment and malnutrition and food insecurity. All are compounded by the unhygienic, overcrowded and service-deficient informal urban or “slum” environment. They live in a constant state of chronic food insecurity which leads to faster progression of the disease for those who are HIV positive. Some household members may resort to risky survival strategies such as commercial sex or casual exchange of sex

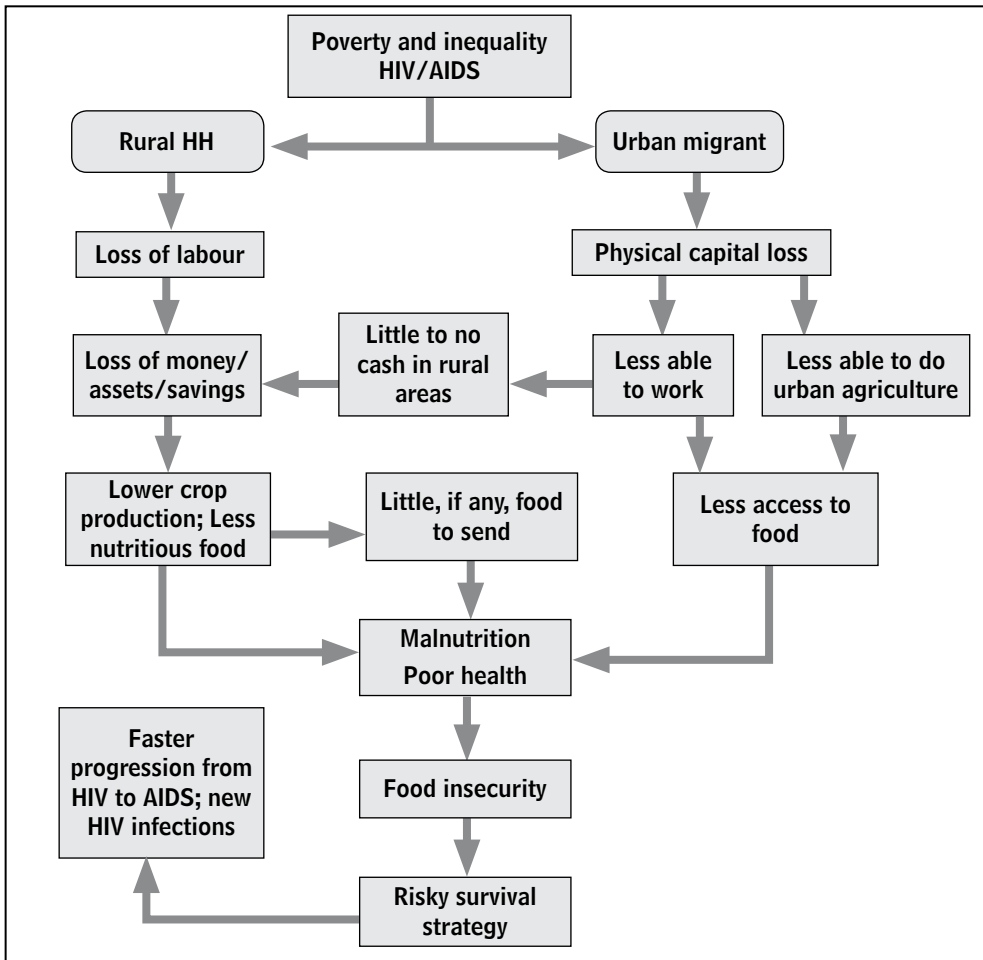
for food. Although there is often agency in such activities, these lead to greater vulnerability to HIV infection and an increase in new infections.

FIGURE 5: Income Impact Model



Source: Crush, Frayne and Grant, *Linking Migration, HIV/AIDS and Urban Food Security*.

A second “production-oriented” model focuses on the ways in which rural and urban production and urban incomes interact (Figure 6). For the poor urban migrant in a cash intensive environment, HIV and AIDS has the potential to propel them into a downward spiral. As the disease progresses, the migrant loses the capacity to work for cash, which means they are increasingly unable to meet their own basic needs, including food. Often, food consumption may be reduced as cash and savings diminish. The ability of the migrant to engage in urban agriculture is limited due to their loss of energy and poor health. With less cash for survival, the migrant is forced to stop remittances altogether or to reduce amounts sent to the rural extended family, placing that family at risk. If

FIGURE 6: Production-Oriented Model

Source: Crush, Frayne and Grant, *Linking Migration, HIV/AIDS and Urban Food Security*.

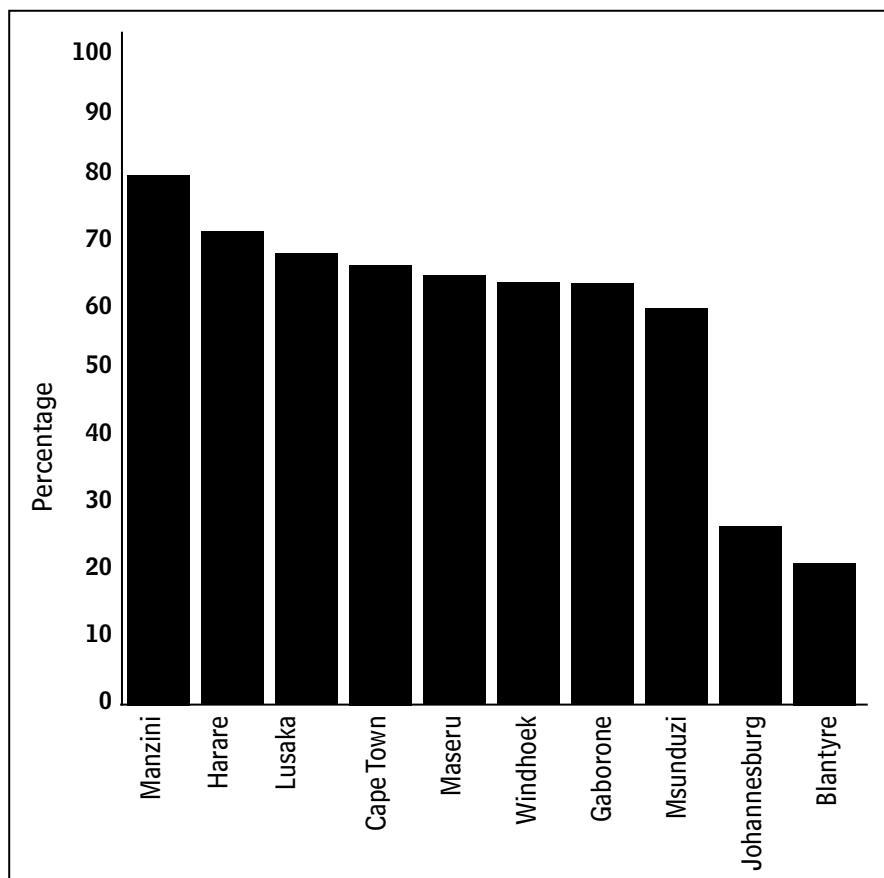
food transfers from the rural household have been reduced, or if food has inferior nutritional quality, the migrant has less access to nutritious food just when their body needs decent nutrition.

These conditions exacerbate conditions of malnutrition and poor health and lead to food insecurity. The urban household is forced to use up savings, sell valuable assets, or borrow money at high interest rates. Dependency on rural and urban based extended family members increases, without the ability to reciprocate. In the context of food insecurity and deprivation, household members are highly likely to engage in risky survival strategies, further exacerbating the HIV/AIDS cycle. As the migrant is further debilitated by AIDS, they are forced to leave the city and return home to the rural areas for continuous care. This relieves

pressure on the urban household but places a further burden on the rural, not only with respect to the burden of care and increased food needs but also with the loss of urban remittances. These models certainly oversimplify a complex set of relationships but they provide a useful starting point for the development of a systematic research programme on urban food security and HIV and AIDS.

One of the key dimensions of urban food insecurity is the poor quality of urban diets and associated widespread undernutrition. AFSUN’s 2008-9 baseline household survey of 11 Southern Africa cities showed extremely high levels of food insecurity in the poorer areas of these cities. In the data set as a whole, 57% of poor urban households were severely food insecure (in terms of access to sufficient food).⁶² In eight of the cities, the proportion of severely food insecure households was above the regional average. These included Manzini (79%), Harare (72%), Lusaka (69%) Cape Town (68%), Maseru (65%) Windhoek (63%), Gaborone (63%) and Msunduzi (60%) (Figure 4). Food insecure households (severe and

FIGURE 7: Proportion of Food Insecure Households in Poor Urban Areas



Source: AFSUN Baseline Survey

mildly food insecure) go without adequate food for an average of four months of the year. Dietary diversity is also extremely poor, particularly in food insecure households.⁶³ The poorer areas of the cities where the survey was undertaken are also those which, in general, have the highest HIV prevalence. This raises the question of the relationship between urban food insecurity and HIV and AIDS from a nutrition perspective.

The research literature on the relationship between HIV and food security has been dominated by the view that food insecurity is primarily a rural phenomenon. By comparison, studies of the relationship between HIV and urban food insecurity are much less common. This situation persists despite the fact that HIV prevalence remains higher in urban than rural areas. The largely unanswered question is what impact the epidemic has had on the food security of urban populations and whether, in turn, food insecurity makes people more or less vulnerable to HIV and AIDS. Some case studies of HIV and food insecurity have been undertaken in urban settings. This case study evidence, reviewed below, is valuable in opening up new lines of enquiry, in formulating hypotheses about the links between HIV and AIDS and food security and in suggesting policy directions and planning interventions. These studies also draw attention to the broader social, economic and development-related impacts of HIV in poor urban communities.⁶⁴ However, much more systematic research across the region is necessary on all of these issues since AFSUN has demonstrated that food insecurity varies considerably from city to city, and community to community, across the region.

One key issue that arises from the case study literature concerns the impact of HIV and AIDS on household food security. Several studies have explored different facets of this question. A study in urban Zambia, conducted with the collaboration of the Planned Parenthood Association of Zambia and the District Social Welfare, aimed to determine the socioeconomic impact of adult morbidity and mortality on households in urban Zambia.⁶⁵ A structured questionnaire was conducted among 177 residents of Zambia Compound and 168 residents of Kafue Estates. The data revealed that poverty intensified the impact of adult mortality and morbidity in the two suburban sites, particularly in Zambia Compound, where constraints on capital and work opportunities prevented household from diversifying their incomes. Moreover, access to health and adequate sanitation was extremely poor in Zambia Compound. The study recommended programmes intensifying AIDS awareness, strengthening existing community-based initiatives, and providing adequate support and care for orphans and children through community-based interventions.



A second study from the Centre for Social Research at the University of Malawi interviewed PLHIV, chronically ill patients and guardians and urban community members on the impact of HIV and AIDS on labour market participation and household food security.⁶⁶ Among the working cohort, HIV and AIDS-related illnesses resulted in direct household income loss through complete withdrawal from work (over 50% of those interviewed) or through reducing the amount of time worked. Overall, there was a household income loss of approximately 60%. The direct result was increased household food insecurity with 56% indicating that they had stopped sourcing food for their household altogether since they became ill. The study concludes that HIV and AIDS is both a cause and a consequence of food insecurity and poverty in the urban context.

A third study from urban Uganda found that HIV/AIDS had made a “devastating contribution” to household food insecurity among affected households.⁶⁷ Income loss and increased medical costs produced various coping mechanisms including eating less preferred foods (95%), reducing portion sizes served to household members (83%), borrowing money or food (77%), skipping meals by all household members (62%) and not eating for the whole day (21%). In other words, while HIV and AIDS increases the need for more food and better diets for PLHIV, it simultaneously deprives the household of the means to meet those needs. Several other case studies have demonstrated the shock to household income, poverty levels and (by extension) food security from HIV-related illness and death.⁶⁸

A fourth study of Zimbabwe’s fourth largest city, Mutare, was conducted during a time of high unemployment (60% at the time of the survey), hyper-inflation, severe food shortages and the disruptions to livelihoods caused by the Mugabe state’s assault on urban informality (Operation Murambatsvina).⁶⁹ The latter destroyed illegal housing in informal urban areas, which led to an increased number of merged households and a greater number of dependents without increasing the number of people in employment. Against this backdrop, households with PLHIV faced severe problems of ensuring food security. The study revealed that the food and nutritional needs of PLHIV who were chronically ill were often prioritised, leaving other household members without access to food. Households resorted to desperate measures to secure food for their families, and especially for their ill relatives, selling assets to augment other income and engaging in a range of “illegal” income-generating activity. Yet disposal of assets only led to deeper poverty for the household. Most households taking care of PLHIV therefore “lived below the poverty datum line and experienced an ever-increasing gap between what was earned and what was spent.”

Finally, the World Food Program (WFP), working with the Lesotho Vulnerability Assessment Committee (LVAC), recently brought out a report exploring the relationship between urban food security and HIV in that country in the context of poverty, high unemployment and one of the world's worst national HIV epidemics.⁷⁰ The urban survey, conducted by the national VAC (a joint UN agency, NGO and government taskforce) found that 45% of urban households had taken in at least one orphan (the figure was 56% in Thaba-Tseka, a remote town in eastern Lesotho) and 20% of households were looking after chronically ill relatives. In addition, 30% of urban households in Mohale's Hoek - the largest proportion in the country - were highly food insecure. The survey noted that HIV adversely affected a household's food security: caring for a chronically ill family member or orphans could put a considerable financial strain on a household that might already be struggling to cope with the loss of a breadwinner.

Another general issue that needs to be better understood is the relationship between food insecurity and high-risk sexual behaviour.⁷¹ This linkage is often assumed but not demonstrated. However, a recent study in Botswana and Swaziland hypothesized that food insecurity increases sexual risk-taking -- especially among disempowered women living in poverty who are often dependent on others for food and other resources. The study sample included 710 urban women and 618 urban men. Women were significantly more likely to report food insufficiency than men in both countries. The study concluded that "food insufficiency was associated with multiple risky sexual practices for women." Women who lacked sufficient food to eat had 80% increased odds of selling sex for money or resources, 70% increased odds of engaging in unprotected sex and 50% increased odds of intergenerational sex. Food insufficiency was a consistent correlate of sexual risk-taking for women, but not for men. These findings "highlight the strong interplay between gender inequality, food insufficiency, and sexual risk-taking in sub-Saharan Africa." The study concludes that interventions that use targeted food supplementation and food production strategies could help address the gender and economic disparities that drive unsafe sexual behaviours, and should be seen as a way to reduce HIV transmission behaviour in food insecure populations.

A research issue prompted by the large and growing number of AIDS orphans in Southern Africa is how this phenomenon impacts on household food security. A recent food security survey in Windhoek identified a number of households in which AIDS orphans were living.⁷² The number of orphans in Namibia as a whole (and in Windhoek) has been

growing rapidly as the epidemic takes its toll. In 1991, there were an estimated 27,500 orphans of whom less than 1% were AIDS orphans. By 2000, the overall number of orphans had grown to 68,000 of whom nearly half (33,000) were AIDS orphans. By 2010, the numbers were projected to climb to 206,000 and 161,000 (78%). In Windhoek itself, there were 8,000 orphans in 2001 of whom 4,500 were AIDS orphans. By 2020, these figures were projected to increase to 24,500 and 19,000 respectively. Forty four percent of the households with orphans reported being food insecure (defined as “the inability to access food on a daily basis”) compared with 31% for the sample as a whole. However, all of the children said that there was not enough to eat. They reported that they were usually hungry in the morning and went to school without breakfast, or at night they went to bed without supper or with only porridge. Many orphans were living with elderly grandparents who themselves had limited incomes. The growth in the numbers of AIDS orphans was clearly having a major negative impact on the food security of care-giving households.

A further general issue concerns the links between urban food security, HIV and AIDS and in-migration to the city.⁷³ A recent report on Johannesburg draws systematic contrasts between the situation of internal migrants (who live mainly in informal settlements) and international migrants (who live mainly in the inner-city).⁷⁴ Internal migrants were significantly more likely to be unemployed (59% versus 44%) but more likely to access social grants (with 35% receiving a Child Support Grant compared to less than 1% of international migrants). Migrants in both areas did not receive agricultural produce or cash from “home” but regularly remitted cash and goods, including food. International migrants remitted in greater numbers (60% versus 38% of internal migrants) and were more likely to remit food (30% versus 6%), most probably a function of the fact that many international migrants were from Zimbabwe where food shortages were acute at the time of the study. Anecdotal evidence indicates that since June 2008 Zimbabwean migrants have resumed remitting cash rather than food with improvements in food accessibility (via shops) in Zimbabwe. Residents of the informal settlement were more likely to have experienced food shortage in the previous 12 months (68% versus 56%). The differential impact of the epidemic on the food security of the two groups was also important. Residents of the informal settlement were significantly more likely to report that they felt at risk of HIV infection than those located in the inner city. Almost 70% of respondents in informal settlements also reported experiencing food shortage in the past 12 months compared to only 55% in the urban formal areas. Similarly, approximately 65% of urban informal respondents

had a “deficient dietary score”, depicting the nutritional inadequacy of their diet, as opposed to 60% of urban formal respondents that had a “sufficient dietary score.”

This study was further developed in a paper that argues that urban contexts in South Africa present multiple challenges to those responsible for ensuring the good health of urban populations.⁷⁵ These include urban growth, migration, informal settlements, intra-urban inequalities and – in some cases – high HIV prevalence. The paper explores the complexities of the urban context by comparing the social determinants of urban health between migrant groups residing in the inner-city and a peripheral urban informal settlement. It argues that any attempt to improve the health of urban populations in the context of migration and HIV requires acknowledgement that ‘place matters’ and that the context of HIV presents an additional challenge to urban health policy makers and programmers as they must engage with the continuum of HIV related needs, including prevention, testing, support and access to treatment. This also requires that urban health officials ensure that PLHIV are able to access adequate water, sanitation, housing and refuse removal. Place matters when considering the impact of HIV/AIDS on households that are concentrated in peripheral informal settlements, where access to basic services, healthcare and ART is inadequate.

The final issue which has emerged in the case study literature concerns the links between urban agriculture and HIV and AIDS.⁷⁶ MDPEA has suggested that urban food production can contribute to mitigating the effects of the epidemic: “HIV/AIDS-affected families frequently turn to urban agriculture not only to provide food, but also to save cash resources by reducing food and medicine expenditures (by growing their own food and medicinal herbs). It also provides them with an accessible opportunity to earn some income by selling the surplus produce.”⁷⁷ While this seems perfectly logical, and worth advocating for, the evidence for increased urban agriculture as a response to HIV and AIDS at the household level is fragmentary. The examples from Zimbabwe cited by MDPEA are all community or NGO-led initiatives which, while important in their own right, do not relieve the need for much further research to assess the possibilities and constraints on urban agriculture meeting the food and income needs of HIV-affected households.⁷⁸ AFSUN’s regional survey found that only 20% of households in poor urban communities were growing any of their own food and only 3% derived income from urban cultivation.⁷⁹ Since not all of these households were directly affected by HIV, it would seem that urban agriculture as a response to HIV is probably not that widespread.



5. CONCLUSION

This report began with the assertion that we know far more about the rural impacts of HIV and AIDS on food security than the urban impacts, despite the fact that rates of HIV are generally higher in urban areas. This is another consequence of the global tendency to view food security primarily as an issue affecting rural populations and smallholder agriculture.⁸⁰ Our knowledge of the negative impacts of the epidemic on smallholder production is now considerable. However, these findings are of limited value to understanding the urban food security impacts of the epidemic since no urban residents depend exclusively or even predominantly on urban agriculture for their livelihoods. It is certainly feasible that if rural production declines because of the epidemic, there will be a carry-over impact in the urban areas. Where urban households receive food transfers from small farms in the countryside, for example, a decline in production might reduce transfers and increase urban food insecurity. AFSUN's 2008-9 survey of household food security in 11 SADC cities found that 28% of poor urban households had received food transfers from rural households in the previous year.⁸¹ This varied considerably from city to city. In some, such as Windhoek, Lusaka and Harare, the proportion was over 40%. Reduced food transfers because of HIV and AIDS could certainly affect the food security of large numbers of poor urban households in Namibia, Zambia and Zimbabwe at least.

The amount and regularity of household income is critical to food security in the urban context for it largely determines food accessibility. When a steady and sufficient income stream is absent, households quickly become food insecure, eating less, eating less well, sacrificing dietary diversity and relying more on foods high in sugar and carbohydrates. The result in many of the poorer urban neighbourhoods of Southern Africa is an epidemic of undernutrition. Rapid urbanization in the last two decades has dramatically increased the absolute numbers of people in this situation. This means, in effect, that the absolute numbers of people who were in a nutritional state that made them particularly vulnerable to the ravages of HIV was growing rapidly even as the virus itself began its inexorable spread. Certainly, the rapid spread and devastating impact of HIV has been exacerbated by hypermobility, mass urbanization and undernutrition. Neither mobility nor urbanization are likely to slow in the coming years. This leaves to an obvious conclusion: food insecurity and HIV and AIDS are locked in a vicious circle whose worst impacts can be mitigated by ART and improved access to a rich, varied and adequate diet for all. In this context, more assessment and evaluation of the urban impacts and effectiveness of national nutrition programmes (e.g. the South African

Integrated Nutrition Programme, Nutrition Supplementation Intervention, and Protein Energy Malnutrition Scheme) and social protection programmes (e.g. child grants, disability grants, pensions, food banks) on HIV-affected households and communities is required.⁸²

A consortium of international organizations led by the World Bank recently argued that adequate nutrition is necessary to maintain the immune system, manage opportunistic infections, optimize response to medical treatment, sustain healthy levels of physical activity, and support optimal quality of life for PLHIV.⁸³ They also note that nutrition interventions can help to optimize the benefits of antiretroviral drugs (ARVs) and may increase compliance with treatment regimens, both of which are essential to prolonging the lives of PLHIV and to preventing the transmission of HIV from mother to child. Their lengthy list of “what we can do” elaborates a whole suite of nutrition-based interventions. Nutrition support is proposed for PLHIV, HIV-positive pregnant and lactating women, infants and young children born to HIV-positive women, HIV-positive infants and young children and PLHIV on ART. The manual also proposes that in emergency situations, the nutritional needs of HIV-positive individuals should be prioritised. The recommendations are sound and comprehensive and should be seriously considered as priority interventions for Southern African cities.

While the implementation of these proposals would bring great relief to PLHIV, the manual does not address the broader social and economic inequities that put so many people at risk. Nor does it say very much about the needs of those whose nutrition and food security is negatively impacted by HIV and AIDS, though they themselves may not be infected. The manual’s answers to “what can we do” are framed purely in nutritional terms and on nutrition-based interventions that only target PLHIV. Yet, the presence of PLHIV in the household changes the food and nutrition security of the whole household and may ripple out into the community.⁸⁴ PLHIV who are no longer able to work means reduced household income and increased medical costs. In other words, HIV and AIDS not only has a negative impact on the nutritional status and requirements of the individual, but it places additional demands on other household members and can make everyone more food insecure.

Much of the health sector research on the HIV and Food Security nexus focuses somewhat narrowly on nutrition. But nutritional needs and dietary quality and diversity are only one component of food security in the urban context. A broader approach is needed which encompasses all aspects of food security – availability, accessibility, appropriateness and reliability, as well as quality – and their relationship with HIV and AIDS.

Nutritional and biomedical research on the immediate impact of HIV and AIDS on health needs to be “reframed” within an approach that identifies underlying causes of food insecurity and HIV vulnerability. These structural problems (such as rapid urbanization, poverty, unemployment, overcrowding and gender-based violence) may seem more intractable but they cannot be ignored in the search for sustainable solutions.

There is a greater need for interventions and strategies that address the food security needs of all poor households in the urban setting. In order to develop workable urban-specific, evidence-based actions, more evidence is required on a number of issues including: (a) the nutritional burden of HIV on affected and non-HIV affected households in otherwise similar socio-economic circumstances; (b) the extent to which food insecurity leads to behaviours that increase vulnerability to infection; (b) the impacts on household income, food security and nutritional status of losing an income earner through illness or death; (c) the dietary challenges and coping strategies adopted by households with PLHIV; (d) the extent to which household and community food production can reduce the nutritional burden of HIV on affected households and (e) popular perceptions of the relationship between HIV and nutrition in the urban setting. This would help to contest the nutritional misinformation and misperceptions that are one of the devastating legacies of a decade of AIDS denialism.⁸⁵

ENDNOTES

- 1 UNAIDS, 2008 *Report on the Global Aids Epidemic* (Geneva: UNAIDS, 2008), p. 32.
- 2 J. Garcia-Calleja, E. Gouws and P. Ghys, “National Population Based HIV Prevalence Surveys in Sub-Saharan Africa: Results and Implications for HIV and AIDS Estimates” *Sexually Transmitted Infections* 82 (2006): iii64–iii70.
- 3 S-L. Joseph, “Tackling Informality: Why HIV/AIDS Needs to Be a Critical Component of Urban Development Policies” *Urban Forum* 21 (2010): 85–105, V. van Renterghem and H. Jackson, “AIDS and the City: Intensifying the Response to HIV and AIDS in Urban Areas in Sub-Saharan Africa” Presentation to African Cities and HIV Initiative Meeting, Durban, 2009.
- 4 J. Crush, B. Williams, M. Lurie and E. Gouws, “Migration and HIV/AIDS in South Africa” *Development Southern Africa* 22 (2005): 293–318; P. Banati, “Risk Amplification: HIV in Migrant Communities” In J. Crush and B. Frayne, eds., *Surviving on the Move: Migration, Poverty and Development in Southern Africa* (Cape Town and Midrand: SAMP and DBSA, 2010), pp. 215–34.
- 5 D. Cohen, “Poverty and HIV/AIDS in Sub-Saharan Africa” Issues Paper No. 27, HIV and Development Programme, UNDP, New York, 2000.
- 6 E. Corbett, C. Watt, N. Walker, D. Maher, B. Williams, M. Ravigliione and C. Dye, “The Growing Burden of Tuberculosis: Global Trends and Interactions with the HIV Epidemic” *Archives of Internal Medicine* 163 (2003): 1009–21; S. Verver et al, “Transmission of Tuberculosis in a High Incidence Urban Community in South Africa” *International Journal of Epidemiology* 33(2) (2004): 351–57; B. Stanwix, “The

- Story of HIV/TB: The Terrible Twins” Working Paper No. 269, Centre for Social Science Research, University of Cape Town, 2010.
- 7 T. Dyson, “HIV/AIDS and Urbanization” *Population and Development Review* 29 (3) (1993): 427–42; 1993; O. Shisana, T. Rehle, L. Simbayi, W. Parker, K. Zuma, A. Bhana, C. Connolly, S. Jooste and V. Pillay, *South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Survey* (Cape Town: HSRC, 2005); C. Kyobutungi, A. Ziraba, A. Azeh and Y. Yé, “The Burden of Disease Profile of Residents of Nairobi’s Slums: Results from a Demographic Surveillance System” *Population Health Metrics* 6(1) (2008): 1–8; M. Montgomery, “Urban Poverty and Health in Developing Countries” *Population Reference Bureau* 64 (2) (2009): 1–16.
 - 8 J. Crush and B. Frayne, *The Invisible Crisis: Urban Food Insecurity in Southern African Cities* AFSUN Series No. 1, Cape Town, 2010.
 - 9 FAO Committee on World Food Security, “The Impact of HIV/AIDS on Food Security” 27th Session, Rome, 2001; ODI, “Achieving Food Security in Southern Africa: Policy Issues and Options” Forum for Food Security Security in Southern Africa, 2004; FAO, “Mitigating the Impact of HIV/AIDS on Food Security and Rural Poverty” FAO, New York, 2005; M. Jooma, “Southern Africa Assessment: Food Security and HIV/AIDS” *Africa Security Review* 14 (2005): 59–66; L. Haddad and S. Gillespie, “Effective Food and Nutrition Policy Responses to HIV/AIDS: What We Know and What We Need to Know” *Journal of International Development* 13 (2005): 487–511; J. Edström and F. Samuels, “HIV, Nutrition, Food and Livelihoods in Sub-Saharan Africa” Report for UK-DFID, London, 2007; S. Gillespie, “Poverty, Food Insecurity, HIV Vulnerability, and the Impacts of AIDS in Sub-Saharan Africa” Paper prepared for the Joint Learning Initiative on Children and AIDS (JLICA), 2008.
 - 10 P. Kwaramba, “The Socio-Economic Impact of HIV/AIDS on Communal Agricultural Production Systems in Zimbabwe” Report for Friederich Ebert Stiftung, Harare, 1997; C. Baylies, “The Impact of AIDS on Rural Households in Africa: A Shock Like Any Other?” *Development and Change* 33 (2002): 611–32; M. Loevinsohn and S. Gillespie, “HIV/AIDS, Food Security and Rural Livelihoods: Understanding and Responding” RENEWAL Working Paper No. 2, IFPRI, Washington, 2003; L. Murphy, P. Harvey and E. Silvestre, “How Do We Know What We Know About the Impact of AIDS on Food and Livelihood Insecurity? A Review of Empirical Research from Rural Sub-Saharan Africa” *Human Organization* 64(3) (2005): 265–75; S. Gillespie, ed., *AIDS, Poverty, and Hunger: Challenges and Responses* (Washington: IFPRI, 2006).
 - 11 D. Bryceson and J. Fonseca, “An Enduring or Dying Peasantry: Interactive Impact of Famine and HIV/AIDS in Rural Malawi” In Gillespie, *AIDS, Poverty and Hunger*, pp. 97–108.
 - 12 A. de Waal and A. Whiteside, “‘New Variant Famine’: AIDS and Food Crisis in Southern Africa” *The Lancet* 362 (2003): 1234–37; A. de Waal, “Aids, Aid and Famine: New Variant Famine in Southern Africa” *Index on Censorship* 32 (2004): 176–81; A. de Waal, “AIDS, Hunger and Destitution: Theory and Evidence for the ‘New Variant Famines’ Hypothesis in Africa” In S. Devereux (ed), *The New Famines: Why Famines Persist in an Era of Globalisation* (London: Routledge, 2007).
 - 13 A. Gibbs, “Gender, Famine and HIV/AIDS: Rethinking New Variant Famine in Malawi” *African Journal of AIDS Research* 7(1) (2008): 9–17; N. Ansell, E. Robson, F. Hadju, L. van Blerk and L. Chipeta, “The New Variant Famine Hypothesis: Moving Beyond the Household in Exploring Links between AIDS and Food Insecurity in Southern Africa” *Progress in Development Studies* 9(3) (2009): 187–207.

- 14 S. Naysmith, A. de Waal and A. Whiteside, "Revisiting New Variant Famine: The Case of Swaziland" *Food Security* 1 (2009): 251-60.
- 15 FAO, "HIV/AIDS and Food Security" at <http://www.fao.org/hiv/aids>
- 16 J. Crush, B. Frayne and M. Grant, *Linking Migration, HIV/AIDS and Urban Food Security in Southern and Eastern Africa*, African Migration and Development Series No. 3, SAMP/Renewal, Cape Town, 2007.
- 17 UNAIDS, *Report on the Global Aids Epidemic* (Geneva: UNAIDS, 2008), p. 174.
- 18 S. Drimie, "The Impact of HIV/AIDS on Rural Households and Land Issues in Southern and Eastern Africa" Report for FAO Sub-Regional Office for Southern and Eastern Africa, 2002.
- 19 See E. Piwoz and E. Preble, "HIVAIDS and Nutrition: A Review of the Literature and Recommendations for Nutritional Care and Support in Sub-Saharan Africa" USAID, Washington, 2000; M. Chopra, "Equity Issues in HIV/AIDS, Nutrition and Food Security in Southern Africa" Discussion Paper No. 11, Regional Network for Equity in Health in Southern Africa (EQUINET), Harare, 2003; G. Anabwani and P. Navariob, "Nutrition and HIV/AIDS in Sub-Saharan Africa: An Overview" *Nutrition* 21(1) (2005): 96-9; K. Sztam and M. Ndirangu, "HIV and Nutrition" In A. Bendich and R. Deckelbaum, eds., *Preventative Nutrition* (Totowa NJ: Humana Press, 2005), pp. 611-40; S. Gillespie and S. Kadiyala, *HIV/AIDS and Food and Nutrition Security: From Evidence to Action* (Washington: IFPRI, 2005); Edström and Samuels, "HIV, Nutrition, Food and Livelihoods in Sub-Saharan Africa"; World Bank, *HIV/AIDS, Nutrition and Food Security* (Washington: World Bank, 2007); D. Panagides, R. Graciano, P. Atekyereza, L. Gerberg and M. Chopra, "A Review of Nutrition and Food Security Approaches in HIV and AIDS Programmes in Eastern and Southern Africa" Discussion Paper No. 48, EQUINET, Harare, 2007; S. Gillespie, "Poverty, Food Insecurity, HIV Vulnerability and the Impacts of AIDS in Sub-Saharan Africa" *IDS Bulletin* 39(5) (2008).
- 20 Haddad and Gillespie, "Effective Food and Nutrition Policy Responses"; M. Visser, "Nutritional Prophylaxis" In Karim and Karim, *HIV/AIDS in South Africa*, pp. 463-76; C. Enwonwu, "Complex Interactions Between Malnutrition, Infection and Immunity: Relevance to HIV/AIDS Infection" *Nigerian Journal of Clinical and Biomedical Research* 1(1) (2006): 6-14;
- 21 Haddad and Gillespie, "Effective Food and Nutrition Policy Responses", p. 495.
- 22 L. Ivers, K. Cullen, K. Freedburg, S. Block, J. Coates and P. Webb, "HIV/AIDS, Undernutrition and Food Insecurity" *Clinical Infectious Diseases* 49(7) 2009: 1096-1102; S. Gillespie and S. Drimie, "Hyperendemic AIDS, Food Insecurity and Vulnerability in Southern Africa: A Cultural Evolution" Working Paper for RENEWAL-IFPRI, Washington DC, 2009.
- 23 Ivers et al, "HIV/AIDS, Undernutrition and Food Insecurity" p. 3.
- 24 Visser, "Nutritional Prophylaxis" p. 468.
- 25 B. Marston and K. De Cock, "Multivitamins, Nutrition, and Antiretroviral Therapy for HIV Disease in Africa" *New England Journal of Medicine* 351(1) (2004): 78-80; Z. Hattingh, C. Walsh, F. Veldman and C. Bester, "Micronutrient Intake of HIV-Infected Women in Mangaung, Free State" *South African Journal of Clinical Nutrition* 20(1) (2007): 28-36.
- 26 WHO, "Nutrient Requirements of People Living with HIV/AIDS" Report of a Technical Consultation, World Health Organization, Geneva, 2003.
- 27 M. van Lettow, W. Fawzi and R. Semba, "Triple Trouble: The Role of Malnutrition in Tuberculosis and Human Immunodeficiency Virus Co-Infection" *Nutrition Reviews* 61 (2003): 81-90; R. Annan, "The Impact of Different

- Dietary Patterns on Nutritional Status and Metabolic Integrity in Asymptomatic People Living with HIV Infection in South Africa” PhD Thesis, University of Southampton, Southampton, 2009.
- 28 D. Raiten, S. Grinspoon and S. Arpadi, “Nutritional Considerations in the Use of ART in Resource-Limited Settings” WHO Consultation on Nutrition and HIV/AIDS in Africa, Durban, 2005; N. Paton, S. Sangeetha, A. Earnest and R. Bellamy, “The Impact of Malnutrition on Survival and the CD4 Count Response in HIV-Infected Patients Starting Antiretroviral Therapy” *HIV Medicine* 7(5) (2006): 323–30; H. Friis, “Micronutrient Intervention and HIV Infection: A Review of Current Evidence” *Tropical Medicine & International Health* 11(12) (2006):1–9.
 - 29 R. Cantrell et al, “A Pilot Study of Food Supplementation to Improve Adherence to Antiretroviral Therapy Among Food-Insecure Adults in Lusaka, Zambia” *Journal of Acquired Immune Deficiency Syndromes* 49(2) (2008): 190–95.
 - 30 S. Weiser et al, “Food Insecurity as a Barrier to Sustained Antiretroviral Therapy Adherence in Uganda” *PLoS ONE* 5(4) (2010): 1–8; see also S. Weiser et al, “Barriers to Antiretroviral Adherence for Patients Living with HIV Infection and AIDS in Botswana” *Journal of Acquired Immune Deficiency Syndromes* 34 (2003): 281–8.
 - 31 *Nutrition and HIV/AIDS: A Training Manual* (Kampala: RCQHC, FANTA and LINKAGES, 2006)
 - 32 UN-HABITAT, *The State of African Cities 2008: A Framework for Addressing Urban Challenges in Africa* (Nairobi, 2008). This report has very little to say about the “urban challenge” of HIV and AIDS and virtually nothing about its implications for urban food security.
 - 33 H. Van Renterghem and H. Jackson, “AIDS and the City: Intensifying the Response to HIV and AIDS in Urban Areas in Sub-Saharan Africa” *UNAIDS RST/ESA*, Sunninghill, 2009.
 - 34 M. Lurie, “Population Movement and the Spread of HIV in Southern Africa” In S. Abdool Karim and Q. Abdool Karim, eds., *HIV/AIDS in South Africa* (Cambridge: Cambridge University Press, 2005), pp. 298–312.
 - 35 UN-HABITAT, *State of the World’s Cities 2008/2009: Harmonious Cities* (London, 2009).
 - 36 Ibid.
 - 37 Banati, “Risk Amplification: HIV in Migrant Communities” p. 232.
 - 38 Ibid.
 - 39 E. Kalipeni, S. Craddock, J.R. Oppong and J. Ghosh, eds., *HIV/AIDS in Africa: Beyond Epidemiology* (Oxford: Blackwell Publishing, 2004).
 - 40 Ibid., p. 53.
 - 41 C. Campbell, *Letting Them Die: Why HIV/AIDS Prevention Programmes Often Fail* (London: James Currey, 2003); B. Williams, D. Taljaard, C. Campbell, E. Gouws, L. Ndhlovu, J. Van Dam, M. Carael and B. Auvert, “Changing Patterns of Knowledge, Reported Behaviour and Sexually Transmitted Infections in a South African Gold Mining Community” *AIDS* 17 (2003): 2099–117; C. Campbell, “Migrancy, Masculine Identities and AIDS: The Psychosocial Context of HIV Transmission on the South African Gold Mines” In E. Kalipeni, S. Craddock, J. Oppong and J. Ghosh, *HIV & AIDS in Africa: Beyond Epidemiology* (Oxford: Blackwell, 2004), pp. 144–54.
 - 42 Campbell, “Migrancy, Masculine Identities, and AIDS.”
 - 43 S. Craddock, “Disease, Social Identity and Risk: Rethinking the Geography of AIDS” *Transactions of the Institute of British Geographers* 25(2) (2004): 153–68; M. de

- Brujin, "Gender Equality and Food Security: A Development Myth" *CODESRIA Bulletin* 1/2 (2006): 63-5.
- 44 J. Crush, B. Williams, E. Gouws and M. Lurie, "Migration and HIV/AIDS in South Africa" *Development Southern Africa* 22 (2005): 293-318.
- 45 M. O'Donnell, "Food Security, Livelihoods and HIV/AIDS" Report for Save the Children, 2004; M. Whiteside, D. Mullins and A. Kasiya, "Mainstreaming Economic Development and Food Security with HIV and AIDS: Experiences from Malawi" CARE Malawi, 2006.
- 46 W. Oldewage-Theron, E. Dicks and C. Napier, "Poverty, Household Food Insecurity and Nutrition: Coping Strategies in an Informal Settlement in the Vaal Triangle, South Africa" *Public Health* 120(9) (2006): 795-804;
- 47 J. Collins and B. Rau, "AIDS in the Context of Development" United Nations Research Institute for Social Development, Geneva, 2000; M. Van Donk, "HIV/AIDS and Urban Poverty in South Africa" Paper prepared for the South African Cities Network, August 2002; O. Bouare, "Internal Migration and the Spread of HIV/AIDS in South Africa" *The Social Sciences* 2(4) (2007): 405-11; Banati, "Risk Amplification."
- 48 Campbell, "Migrancy, Masculine Identities, and AIDS"; K. Dunkle, R. Jewkes, H. Brown, G. Gray, J. McIntyre and S. Harlow, "Gender-Based Violence, Relationship Power, and Risk of HIV Infection in Women attending Antenatal Clinics in South Africa" *The Lancet* 363 (2004): 1410-1; S. Kalichman, L. Simbayi, S. Jooste, C. Cherry and D. Cain, "Poverty-related Stressors and HIV/AIDS Transmission Risks in Two South African Communities" *Journal of Urban Health* 82 (2005): 237-49.
- 49 C. MacPhail, B. Williams and C. Campbell, "Relative Risk of HIV Infection among Young Men and Women in a South African Township" *International Journal of STD and AIDS* 13 (2002): 331-42; Z. Hattingh, C. Walsh and G. Joubert, "Socio-Demographic Risk Factors for HIV Infection in Women Living in Mangaung, Free State" *South African Journal of Clinical Nutrition* 22(4) (2009): 203-7.
- 50 K. Dunkle, R. Jewkes, H. Brown, G. Gray, J. McIntyre and S. Harlow, "Transactional Sex Among Women in Soweto, South Africa: Prevalence, Risk Factors and Association with HIV Infection" *Social Science and Medicine* 59 (2004): 1581-92.
- 51 WHO, "Our Cities, Our Health, Our Future. Acting on Social Determinants for Health Equity in Urban Settings", Commission on the Social Determinants of Health, Geneva, 2008; WHO, "Closing the Gap in a Generation. Health Equity Through Action on the Social Determinants of Health", Commission on Social Determinants of Health, Geneva, 2008.
- 52 O. Shisana et al, *South African National HIV Prevalence, HIV Incidence, Behaviour and Communication Survey*.
- 53 J. Crush et al, *HIV/AIDS, Population Mobility and Migration in Southern Africa: Defining a Research and Policy Agenda* (Pretoria: IOM, 2005); M. Haour-Knipe, "Dreams and Disappointments: Migration and Families in the Context of HIV and AIDS" Joint Learning Initiative on Children and AIDS (JLICA), HSRC, Pretoria, 2008; M. Lurie, "The Epidemiology of Migration and HIV/AIDS in South Africa" *Journal of Ethnic and Migration Studies* 32 (2006): 649-66.
- 54 B. Dodson and J. Crush, "Mobile Deathlihoods: Migration and HIV/AIDS in Africa," Report for UNAIDS, 2003.
- 55 Banati, "Risk Amplification."

- 56 M. Lurie, B. Williams, K. Zuma, D. Mkaya-Mwamburi and G. Garrett, "The Impact of Migration on HIV-1 Transmission: A Study of Migrant and Nonmigrant Men and their Partners" *Sexually Transmitted Diseases* 40(2) (2003): 149–156; M. Lurie, B. Williams, K. Zuma, D. Mkaya-Mwamburi, G. Garrett, M. Sweat, J. Gittelsohn and S. Abdool Karim, "Who Infects Whom? HIV Concordance and Discordance among Migrant and Nonmigrant Couples in South Africa" *AIDS* 17(15) (2003): 2245–52..
- 57 S. Peberdy, D. Taljaard and J. Crush, "Building Risk: Migrant Construction Workers and HIV/AIDS in South Africa" Unpublished SAMP Report, Cape Town, 2007.
- 58 N. Dinat and S. Peberdy, "Worlds of Work, Health and Migration: Domestic Workers in Johannesburg" *Development Southern Africa* 24(1) (2007): 187–204.
- 59 S. Peberdy, B. Cau, A. Chikanda, N. Msibi, A. Munthali, O. Ntshebi, I. Raimundo and D. Tevera, "Female Cross Border Traders and HIV/AIDS in Southern Africa" Unpublished SAMP Report, Cape Town, 2007.
- 60 "HIV/AIDS and Food Insecurity in Southern Africa" Save the Children and Oxfam, London, 2002.
- 61 Crush et al, *Linking Migration, HIV/AIDS and Urban Food Security*.
- 62 As measured by the FANTA Household Food Insecurity Access Prevalence (HFIAP) indicator; see B. Frayne et al, *The State of Urban Food Security in Southern Africa*, AFSUN Series No. 2, Cape Town, 2010, p. 29.
- 63 Ibid., p. 31.
- 64 E. Colecraft, "HIV/AIDS: Nutritional Implications and Impact on Human Development" *Proceedings of the Nutrition Society* 67 (2008): 109–13.
- 65 G. Mutangadura and D. Webb, "The Socio-Economic Impact of Adult Mortality and Morbidity on Households in Urban Zambia" *SAfAIDS News* 6(3) (1998):14–15.
- 66 M. Palamuleni, P. Kambewa and J. Kadzandira, "Impact of HIV/ AIDS on Food Security: The Case of Affected and Infected Urban Households in Malawi" Centre for Social Research, University of Malawi, 2003; see also D. Rajaraman, S. Russell and J. Heymann, "HIV/AIDS, Income Loss and Economic Survival in Botswana" *AIDS Care* 18 (2006): 656–62.
- 67 J. Bukusuba, J. Kikafunda and R. Whitehead, "Food Security Status in Households of People Living with HIV/AIDS (PLWHA) in a Ugandan Urban Setting" *British Journal of Nutrition* 98 (2007): 211–17.
- 68 F. Booyens, "Income and Poverty Dynamics in HIV/AIDS-affected Households in the Free State Province of South Africa" *South African Journal of Economics* 72 (2004): 522–45; D. Collins and M. Leibrandt, "The Financial Impact of HIV/AIDS on Poor Households in South Africa" *AIDS* 21(2007): S75–S81.
- 69 P. Gwatirisa and L. Manderson, "Food Insecurity and HIV/AIDS in Low-income Households in Urban Zimbabwe" *Human Organization* 68(1) (2009); see also Bukusuba, et al, "Food Security Status in Households of People Living with HIV/AIDS."
- 70 LVAC, "Lesotho Urban Vulnerability Assessment Survey" Lesotho Vulnerability Assessment Committee, Maseru, Lesotho, 2009
- 71 S. Weiser, K. Leiter, D. Bangsberg, L. Butler, F. Percy-de Korte, Z. Hlanze, N. Phaladze, V. Iacopino and M. Heisler, "Food Insufficiency is Associated with High-Risk Sexual Behavior among Women in Botswana and Swaziland" *PLoS Medicine* 4 (10) (2007): 1589–98.

- 72 D. Ashton, J. Mushaandja and A. Pomuti, "The Inter-Relationships and Linkages among Migration, Food Security and HIV/AIDS in Windhoek, Namibia" University Central Consulting Bureau, University of Namibia, Windhoek, 2009.
- 73 Crush et al, *Linking Migration, HIV/AIDS and Urban Food Security*.
- 74 J. Vearey, L. Núñez and I. Palmay, "Johannesburg: A Focus on Urban Livelihoods, Rural-Urban Linkages and Urban Food Security" RENEWAL and Wits Forced Migration Studies Programme, Johannesburg, 2009.
- 75 J. Vearey, I. Palmay, L. Thomas, L. Núñez and S. Drimie, "Urban Health in Johannesburg: The Importance of Place in Understanding Intra-Urban Inequalities in a Context of Migration and HIV" *Health & Place* 16(4) (2010):694-702.
- 76 See "Gardens of Hope: Urban-Microfarming as a Complementary Strategy for Mitigation of the HIV-AIDS Pandemic" *RUAF* 5 August 2005.
- 77 T. Mubvami and M. Manyati, "HIV/AIDS, Urban Agriculture and Community Mobilisation: Cases from Zimbabwe" *UA Magazine* July 2007, pp. 7-10.
- 78 See also M. Njenga, N. Karanja, K. Gathuru, S. Mbugua, N. Fedha and B. Ngoda, "The Role of Women-Led Micro-Farming Activities in Combatting HIV/AIDS in Nakuru, Kenya" In A. Hovorka, H. de Zeeuw and M. Njenga, eds., *Women Feeding Cities: Mainstreaming Gender in Urban Agriculture and Food Security* (Rugby: Practical Action, 2009); N. Karanja, F. Yeudall, S. Mbugua, M. Njenga, G. Prain, D. Cole, A. Webb, D. Sellen, C. Gore and J. Levy, "Strengthening Capacity for Sustainable Livelihoods and Food Security through Urban Agriculture among HIV and AIDS Affected Households in Nakuru, Kenya" *International Journal of Agricultural Sustainability* 8 (2010): 40-52.
- 79 Frayne et al, *State of Food Insecurity*.
- 80 Crush and Frayne, *Invisible Crisis*.
- 81 Frayne et al, *State of Food Insecurity*, p. 26.
- 82 See, for example, R. Kennedy and U. MacIntyre, "Development and Testing of the South African National Nutrition Guidelines for People Living with HIV/AIDS" *South African Journal of Clinical Nutrition* 16(1) (2003): 12-16. A forthcoming AFSUN paper will address the issue of social protection and urban food security.
- 83 *HIV/AIDS, Nutrition and Food Security: What We Can Do. A Synthesis of International Guidance* (Washington: World Bank, 2007).
- 84 Gillespie and Kadiyala, *HIV/AIDS and Food and Nutrition Security*; D. Pedi and A. Renzaho, "HIV/AIDS and Food Insecurity: Breaking the Vicious Cycle" Working Paper for World Vision, Australia, 2006; Panagides et al, "A Review of Nutrition and Food Security Approaches in HIV and AIDS Programmes in Eastern and Southern Africa"; D. Himmelgreen, N. Romero-Daza, D. Turkon, S. Watson, I. Okello-Uma and Daniel Sellen, "Addressing the HIV/AIDS-Food Insecurity Syndemic in sub-Saharan Africa" *African Journal of AIDS Research* 8(4) (2010): 401-12.
- 85 See, for example, M. Bentley, A. Corneli, E. Piwoz, A. Moses, J. Nkhoma, B. Tohill, Y. Ahmed, L. Adair, D. Jamieson and C. van der Horst, "Perceptions of the Role of Maternal Nutrition in HIV-Positive Breast-Feeding Women in Malawi" *Journal of Nutrition* 135 (2005):945-9. On AIDS denialism see N. Nattrass, *Mortal Combat: AIDS Denialism and the Struggle for Antiretrovirals in South Africa* (Scottsville: University of Kwazulu Natal Press, 2007), pp. 142-68.

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THE HIV AND URBAN FOOD SECURITY NEXUS

Considerable attention has been devoted to the impact of the HIV and AIDS epidemic on small farmers and the food security of the rural poor. Despite the rapid progression of the epidemic in rural areas, it remains an ever-growing challenge in the continent's rapidly-growing cities where prevalence rates are still higher than in rural areas. This report examines the reciprocal relationship between HIV and urban food security. Much of the research and most of the policy interventions on the HIV-Urban Food Security Nexus focus on the nutritional status of individual People Living With HIV (PLHIV). Other members of households with PLHIV also experience an increase in food insecurity as household purchasing power declines and nutritional needs increase. Urban food insecurity is a complex phenomenon and nutritional research and interventions on the vicious circle of HIV and nutrition need to be reframed within a broader socio-economic perspective that encompasses all of the various aspects of urban food security.



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