

# AIDS, Security and Conflict Initiative



ASCI Research Report, No. 28, August 2009

## Revisiting New Variant Famine: The Case of Swaziland

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**This report is a piece of research commissioned by the AIDS, Security and Conflict Initiative; the opinions and conclusions reached are those of the author and not the AIDS, Security and Conflict Initiative.**

## ***Revisiting New Variant Famine: The Case of Swaziland***

### ***Abstract***

The ‘new variant famine’ (NVF) hypothesis posits links between HIV/AIDS and novel patterns of impoverishment, food insecurity and hunger, in southern and eastern Africa. This paper explores the relevance of the NVF hypothesis to understanding Swaziland’s recurrent food crises in the light of high HIV prevalence. Evidence shows all four markers of NVF are present in Swaziland. The national government and the international community will have to contend with this phenomenon in future planning for the wellbeing of Swazi citizens.

### ***Introduction***

The ‘new variant famine’ (NVF) hypothesis sought to explain why some populations in sub-Saharan Africa are increasingly food insecure and posited that new trajectories and manifestations of vulnerability would continue to emerge as a result of AIDS (de Waal & Whiteside, 2003: 2). New evidence has allowed the NVF hypothesis to be revised and refined. An overview of key developments in NVF’s evolution will frame the discussion. This study will advance the debate by examining the hypothesis against available evidence for Swaziland. Swaziland is one of the hyper-epidemics<sup>1</sup> of southern Africa and has the highest HIV prevalence in the world. The country has also experienced recurrent food crises since the early 2000s.

### ***NVF in brief***

NVF is rooted in observations and projections of the secondary impacts of AIDS. In the absence of AIDS, populations employ a variety of coping mechanisms to survive shocks such as crop failure. These strategies lie on a spectrum, from reallocating discretionary expenditure and the sacrifice of less essential goods to disposing of essential assets such as livestock and farming equipment. The speed with which normalcy is reestablished is partially determined by how far along this spectrum people are forced to extend themselves. NVF posits that high-AIDS burdened populations have difficulty recovering from transitory shocks because they are forced to call on extreme coping mechanisms faster and for longer than non-AIDS-affected populations. Prompt recovery is impaired by AIDS, and thus, these individuals, and in turn households and communities, descend more rapidly into chronic destitution.

The hypothesis does not suggest HIV/AIDS is the sole cause of increasing food insecurity in southern and eastern Africa. Rather, NVF complements other theories of famine, highlighting how a high-disease burden can foster food insecurity by exacerbating existing social, economic and (primarily) political problems within a society. NVF examines the processes of increasing vulnerability that lead to destitution, malnutrition and death. The hypothesis also posited that the HIV/AIDS-related impacts of famine would be *new*, manifesting unfamiliar patterns of destitution, hunger and excess mortality. NVF should be read as a call for further studies based on contextual analysis.

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<sup>1</sup> Hyper-epidemics have a generalized HIV prevalence of 15 percent or above.

The original hypothesis established four base indicators or markers to examine NVF (de Waal & Whiteside, 2003):

1-*Household-level labour shortages due to adult morbidity and mortality, and the related increase in numbers of dependents;*

2-*Loss of assets and skills due to adult mortality;*

3-*The burden of care for sick adults and children orphaned by AIDS;*

4-*The vicious interaction between malnutrition and HIV.*

This paper will interrogate these four markers with evidence from Swaziland

### ***The evolution of NVF***

The word ‘famine’ is contentious, as it typically invokes images of emaciated, immobile individuals on the brink of death - a perception popularized by media images from the Horn of Africa in the 1980s. Itano’s assessment of southern Africa’s 2001/2002 food crises sees ‘famine’ in terms of childhood malnutrition and mortality (Itano, 2003).

Critics of the NVF hypothesis saw it as part of a trend “to make more and more dramatized statements about HIV and its effects” (Scott & Harland, 2003 as cited in Bolton 2003:3). Some suggest that NVF is an exaggeration of the possible links between HIV/AIDS and food insecurity (Bolton, 2003). Bolton interpreted the hypothesis as a crisis resulting primarily from the impact of HIV/AIDS on the agricultural sector. Discussing Zambia during the southern African food crises of 2001/2002, **others** conclude by arguing that “the impact of AIDS on smallholder agriculture is still relatively mild and the NVF scenario may be unhelpful in distracting attention from the real situation, which is serious enough without such distortion” (Scott & Harland, 2003 as cited in Bolton 2003: 3). Drimie finds the word ‘famine’ problematic because it connotes short-term events that may be rectified by temporary responses (Drimie, 2004).

Although AIDS has long been linked with hampering subsistence agricultural production in sub-Saharan Africa (Barnett & Blaikie, 1992), viewing NVF solely as a process impacting smallholder farmers ignores the wider political, economic and social rationale for food insecurity. Indeed, many have argued that food insecurity in southern Africa is explained by political processes, namely economic liberalization, food aid policies and international agro-business, rather than by the high prevalence of HIV/AIDS (Cromwell & Chintedza, 2005; Jayne, Villarreal, Pingali, & Hemrich, 2004; Wiggins, 2005) as cited in (Gibbs, 2008); (Zerbe, 2004).

Other studies have called for a more comprehensive perspective. Ansell *et al.*, argue that “the effect of AIDS on food security are not confined to the household level and that a NVF analysis should also consider processes operating within and beyond the household including social relationships, relations of age and gender, colonial inheritance and contemporary national and international political economy” (Ansell, Robson, Hadju, van Blerk, & Chipeta, forthcoming: 2). Gibbs (2008) calls for greater consideration of gender inequalities when examining the differential impacts of food insecurity and HIV/AIDS in Malawi.

Responding to these critiques, de Waal argues that NVF does not replace other explanations for the occurrence of famine and does not exculpate governments or the international community from ultimate responsibility for food crises (de Waal, 2004, 2007a, 2007b).

A high HIV prevalence does not relegate a country's populace to being food insecure or primed to experience a new variant famine. An adequate national response is key to preventing famine. The case of Malawi is instructive. Malawi, like Swaziland, is categorized as a hyper-epidemic. In 2001-2002 the country experienced a famine with an estimated mortality of between 47,000-85,000 (Devereux & Tiba, 2007). HIV/AIDS was an exacerbating factor but it was not the sole reason for the famine. The famine was the result of erratic weather followed by "multiple exchange entitlement failure[s]" (Devereux, 2009; Devereux & Tiba, 2007). Prompt responses were hindered by domestic inaction (and inability) and tenuous government-donor relations. All of these factors were compounded by a high disease burden.

Since then the Malawian government has led a recovery of the agricultural sector, subsidizing fertilizers and other agricultural inputs (Devereux, 2009). Domestic investments have meant greater national self-sufficiency with fewer people requiring external assistance. Long-term trends are positive. Malawi's Global Hunger Index score (discussed below) has decreased from 32.2 in 1990 to 21.8 in 2008 (Von Grebmer, Fritschel, Nestorova, Olofinbiyi, Pandya-Lorch, & Yohannes, 2008). While still considered alarmingly high by the GHI<sup>2</sup>, Malawi has made significant progress in recent years. A concerted and comprehensive domestic response from the Swazi government could have a dramatically positive effect.

A general overview of Swaziland's socio-economic and political circumstances will provide a platform to interrogate the four markers of NVF.

### ***The context: An overview***

The first case of AIDS was diagnosed in Swaziland in 1986. The first survey of antenatal clinics (ANC) in 1992 found 3.8 percent of females infected. Through the mid-1990s ANC prevalence rose rapidly, peaking at approximately 42 percent in 2004 (Ministry of Health and Social Welfare, 2006). The 2007 Swaziland Demographic Health Survey (SDHS) reported that 31 percent of women aged 15-49 were infected. This number increases to 49 percent in the 25-29 age cohort. Overall prevalence in males is estimated at 20 percent, rising to 45 percent among men aged 35-39 (Central Statistical Office (CSO) [Swaziland], 2008). 26 percent of the Swazi population age 15-49 is living with HIV (Central Statistical Office (CSO) [Swaziland], 2008: 221). While there is an increased risk of HIV infection for those in urban centres, the fluid nature of internal economic migration combined with relatively small physical distances between communities has facilitated a generalized epidemic.

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<sup>2</sup> The GHI label five categories to determine levels of severity by country. In order from least worst to worst, categories range from 'low', 'moderate', 'serious', 'alarming' to 'extremely alarming'.

Macro-demographic trends need to be viewed in light of the substantial increase of AIDS-related deaths. Examining mortality from death notices in Swaziland found an increase of deaths in the 16-40 age cohorts – AIDS-related illnesses were assumed to be responsible (Desmond, King, Tomlinson, Sithungo, Veenstra, & Whiteside, 2004). These deaths are occurring in the most economically productive and socially reproductive members of Swazi society. Life expectancy has fallen from a high of 60 years in 1998 to roughly 40 years in 2007 (the third lowest in the world) (United Nations Development Programme, 2007). When mortality rates are viewed against the emergency thresholds of humanitarian organizations, Swaziland is considered to be experiencing a humanitarian disaster (Naysmith, Whiteside, & Whalley, 2008; Whiteside & Whalley, 2007) The demographic structure of Swaziland is being recast by HIV/AIDS.

The 2007 preliminary Population and Housing Census compiled past projections and actual figures of Swaziland's population from 1986-2007. In line with population modeling and the figures from 1986, the Government then projected that the population of Swaziland would rise from 712, 131 to 965, 859 in 1997 and to more than 1.2 million in 2006. The 2007 Census, however, estimates that there are 1,018,449 Swazis (Central Statistical Office, 2007). This speaks to a shrinking population - a phenomenon that does not fit traditional demographic projections for developing countries.

Roughly 80 percent of Swazis are reliant on smallholder agriculture, with approximately 86 percent of Swazi National Land (SNL)<sup>3</sup> dedicated to the cultivation of maize. While the total area planted has remained relatively constant, agricultural production has been in decline over the past four years (Swaziland National Vulnerability Assessment Committee, 2008). Although 2008 saw better yields than the previous harvest, falling maize yields have characterized Swazi agriculture for the past decade. In 2008 there was a domestic food deficit of 30,259 metric tones. This translated to nearly 287,000 people who could not meet basic food requirements (Swaziland National Vulnerability Assessment Committee, 2008), a decrease from the approximately 400,000 people who required food aid in 2007 (Food and Agriculture Organization & World Food Programme, 2007). Exhausted coping strategies are routinely buttressed by international food aid.

Subsistence producers in Swaziland are described as chronically food insecure (Swaziland Vulnerability Assessment Committee, 2004). While rising commodity prices, erratic rainfall distribution and increasing costs of fertilizer and agricultural inputs hinder total yields, HIV infection and AIDS-related illness are determining factors for the amount of food a household has access to and produces. Food insecurity in Swaziland has increased with the rise of HIV prevalence. A more engaged, holistic response from the national government would go a long way to bolster food security.

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<sup>3</sup> Swaziland has a dual land tenure system. Swazi Nation Land (SNL), approximately 60 percent of total land area, is held by the King and allocated to households through chiefdoms. The majority of Swazis derive their livelihoods from SNL. The remainder of Swazi land, Title Deed Land (TDL), is freehold and privately owned.

In 1999 Amartya Sen argued famines do not occur in multi-party democracies. The fact that citizens can hold governments accountable for their actions and inactions, Sen defends, has ultimately fostered an ‘anti-famine contract’ between governments and citizens (for a discussion of ‘anti-famine contracts’ see, de Waal, 1997; Sen, 1999). Devereux contests Sen’s claim with reference to recent famines in Niger (2004-2005), Malawi (2001-2002) and Ethiopia (1999-2000), all emerging multi-party democracies. However, Devereux concludes that these states are not yet mature democracies and have not solidified a robust ‘anti-famine contract’ (Devereux, 2009). India, a country with a long history of famine, is a good example of how democratic institutions can protect food security (Banik, 2007).

Swaziland’s government is headed by a hereditary monarchy that has been widely criticized for its autocratic character. Democratic institutions in the country are immature and not accountable. Opposition to the state is regularly suppressed. The lack of domestic accountability is partially responsible for the plight of the Swazi citizenry. There is no question that a more democratic government is a necessary step to developing an ‘anti-famine contract’ in Swaziland.

The above discussion provides a snapshot of Swaziland. When we consider the longer trends in the country’s indicators of health and food security, the contemporary issues impacting Swazis gain context. From 1990-1992 roughly 14 percent of Swazis were considered undernourished. By 2002-2004 the proportion of Swazis believed to be undernourished rose to 22 percent. From 1990 to 2006, under 5 mortality rates in Swaziland rose by 5.5 percent (Von Grebmer et al., 2008). These trends speak to chronic food insecurity and an increasing disease burden.

Since 2006 the International Food Policy Research Institute (IFPRI) has published an annual Global Hunger Index (GHI). The 2008 GHI looks at food security over time, providing a “picture of the past, not [necessarily] the present” (Von Grebmer et al., 2008). According to the GHI, Swaziland has become increasingly food insecure with more people requiring food aid now than in 1990. The 2008 GHI found that Swaziland was the third “worst performing” country in the world and the second “worst performing” country in Africa in terms of percentage change in GHI since 1990 (Von Grebmer et al., 2008: 13). In 1990 Swaziland’s GHI was 13.4 percent. In 2008, the country’s GHI was 17.7 percent – an increase of 32.3 percent. More Swazis are unable to meet basic food needs. Only the Democratic Republic of the Congo and North Korea are reported to have a greater increase in the number of food insecure people from 1990 (Von Grebmer et al., 2008). A May 2009 report by the Famine Early Warning Systems Network (FEWSNET) posited that Swazi producers would not be able to meet the needs of the domestic market for the remainder of the year (FEWSNET, 2009). Imports and food aid will be needed to make up the deficit. If past trends are indicative of tomorrow’s needs, Swazis will require external assistance well into the future.

Swaziland’s geographical position is similar to that of the three other African countries – Malawi, Ethiopia and Niger - that have experienced famine in the first quarter of the twenty-first century. These cases are unpacked by Devereux in *Why does famine persist*

*in Africa* (2009). These three countries, like Swaziland, are more prone to famine because they all exhibit major vulnerability factors. They are all

landlocked and extremely poor, with levels of malnutrition and premature mortality so high that a ‘permanent emergency’ has become ‘normalised’. On the supply side, rural livelihoods are dominated by subsistence-oriented rain-fed agriculture, but national food deficits are frequent and smallholder families face chronically low food production due to protracted public and private under-investment in agriculture, compounded by repeated harvest shocks due mainly to erratic weather (Devereux, 2009:34)

Swaziland’s shocking demographic and health indicators illustrate the macro-level impacts of AIDS-exacerbated food insecurity. These impacts are manifestations of numerous micro-level incidents occurring at the individual, household and community level. The confluence of these myriad processes are discussed throughout the remainder of this paper.

***1) “Household-level labour shortages due to adult morbidity and mortality, and the related increase in numbers of dependents”***

AIDS-related mortality and morbidity are shaping Swaziland’s demographic and macro and micro economic structures. The most economically productive and socially reproductive age cohorts are the most likely to be HIV positive. 45 percent of deaths in Swaziland are attributed to AIDS-related illnesses among 16-35 year olds and nearly 60 percent of all hospital visits are HIV/AIDS-related (Swaziland National Vulnerability Assessment Committee, 2006). The illness or death of able-bodied individuals in Swaziland has led to household-level labour shortages. This has stretched the coping strategies of families and communities.

Traditionally, many Swazi men have worked in urban centres and South African mines and industries, sending remittances home to their families. If they begin to show AIDS symptoms they often return home to seek assistance (Dyson, 2003; Hlanze, Gama, & Mondlane, 2005). Thus, urban sickness translates to an increasing burden on rural communities.

Subsistence agriculture is labour intensive and the allocation of work is differentiated by gender. Men may plough but women are largely responsible for planting, weeding and harvesting. Women are also the primary care givers for the sick. When a family member falls ill, agricultural work may be reduced, as many females are spending more time caring for the sick and less time in economically productive work. If there is a death in the family, “women are expected to be indoors (*fukama*) for days before burial and only leave after burial to cultivate fields” (Hlanze et al., 2005: 25).

Caring for sick relatives has led to declining agricultural yields. A government report found that Swazi households with an AIDS-related death had a 54 percent reduction in maize production and a 34 percent reduction in the amount of land cultivated for food (Ministry of Agriculture and Cooperatives, 2002). Female-headed households have a marked decrease in income and food production when compared with male counterparts –this is largely attributed to increased illness in the household and community (Terry &

Ryder, 2007: 268). As a mitigation strategy, children are removed from school to assist at home (Hlanze et al., 2005). In Swaziland food insecurity has been hastened by sickness and death.

A women's death results in increasing vulnerability of children and decreasing coping strategies for the family. Women's work is stigmatized by men, and when a woman falls ill, men are unlikely to take over what is traditionally viewed as women's work. Thus, essential jobs such as planting by hand and weeding crops may not be completed, leading to decreased agricultural yields. The entrenched allocation of gender roles has implications for how much food a family is able to access and produce. Echoing Gibbs (2008), any analysis of NVF requires greater consideration for the way that gender dynamics shape food security, children's vulnerability and a household's ability to deal with shocks.

When the most productive members of a society die, there are fewer people to grow food and there are more people - the elderly, children and the sick – who require care and support. This amplifies the burden of care and affectively increases the dependency ratio of households, and in turn, a country. The dependency ratio is a measure of the number of people that are not self-sufficient (dependents) and the number of people that are economically productive. The dependency ratio will be discussed in more detail under the third marker of NVF - *Increase in the burden of care for sick adults and children orphaned by AIDS*.

## **2) “Loss of assets and skills due to adult mortality”**

During social crises, securing livelihoods is dependent upon the ability to utilize available assets and call on coping skills. Populations that are forced to over-extend themselves by selling essential assets to meet immediate needs will have more difficulty returning to a state of normalcy once the short-term or seasonal shock has abated. In Swaziland, high-levels of adult mortality have forced affected-households to exhaust coping mechanisms, leading to a loss of essential assets and skills.

The loss of assets is more pronounced when a male dies. Swazi Nation Land is apportioned by local chiefs to male Swazi heads of household. When the male head of a household dies, “the land is reallocated by the chief and where Swazi Nation Land is concerned, women and children are not allocated land” (Hlanze et al., 2005: 20). Property grabbing, a practice where relatives assume the property of the deceased man's family, impacts the livelihoods of women and children exclusively. Over half of ever-widowed women in Swaziland reported that they had been dispossessed of their property (Central Statistical Office (CSO) [Swaziland], 2008: 217). The 2006 Constitution has, on paper, increased women's right to ‘own’ land, however, gender inequality is still markedly evident in Swazi society.

Subsistence farmers have had to liquidate essential farming equipment and sell livestock to meet immediate needs of chronically sick family members (Food and Agricultural Organization, 2008; Hlanze et al., 2005; International Federation of Red Cross and Red Crescent Societies, 2006 ; Swaziland National Vulnerability Assessment Committee and SADC FANR Vulnerability Assessment Committee, 2004). Traditionally, the sale of cattle only occurs in times of desperation. Indicative of need, as one Swazi farmer noted,

“our livestock are finished because of chronic illnesses because we have to take the sick for treatment” (Hlanze et al., 2005: 18). In households where at least one member is HIV/AIDS positive, there is a 29 percent reduction in the number of cattle kept (Ministry of Agriculture and Cooperatives, 2002). Livelihood stocks are depleted when there is death in a Swazi family, as a cow is slaughtered for the funerals; AIDS-related mortality has increased the frequency of this practice. This leaves smaller herds for the remaining members of the family, exacerbating their vulnerability and limiting their future coping mechanisms. The loss of livestock has been compounded by recurrent droughts.

HIV/AIDS morbidity and mortality are exhausting financial assets (Food and Agricultural Organization, 2008; Hlanze et al., 2005; International Federation of Red Cross and Red Crescent Societies, 2006 ). With fewer males working away from home there are fewer remittances, leading to a decrease in agricultural inputs and agricultural yields. Meeting the needs of sick family members is extremely expensive and has led to increasing financial debt in many Swazi communities (Hlanze et al., 2005: 20).

For a small-scale farmer the ability to make preparations for the next year’s harvest is an indication of wellbeing. Hope, it may be argued, is an essential asset necessary for livelihood stability. HIV/AIDS depreciates one’s outlook, demanding immediate needs be met over future desires (Barnett, 2008). Due to a lack of food, and in a marked sign of desperation, it was found that some Swazi families were consuming seeds that were being kept for the following planting season (Hlanze et al., 2005: 17).

The death of productive adults in Swaziland has meant that indigenous knowledge and skill-sets are being lost, thus diminishing the coping strategies available to younger generations. Livelihood strategies are taught “through observation and experience in working with elders” (Hlanze et al., 2005: 17). Mothers, for example, teach their daughters about wild edible plants that can be harvested for food in times of insecurity. However, as women shoulder the burden of HIV infection and are in charge of caring for others, this essential livelihood strategy is not prioritized and is not being taught to young girls (Hlanze et al., 2005: 15-17). Males are traditionally in charge of employing technology in farming and responsible for marketing excess maize. When a male breadwinner dies, sons do not inherit their father’s knowledge and families resort to ploughing, planting and harvesting land by hand. The result is less land cultivated and lower yields (Hlanze et al., 2005: 16-17).

The sources cited above report assets are being depleted in households with one or more HIV-positive individuals. They provide a snapshot of Swaziland at a particular period and may not illustrate long-term trends in asset accumulation or depletion among Swazi households. However the four different reports span four years (2004-2008) (Food and Agricultural Organization, 2008; Hlanze et al., 2005; International Federation of Red Cross and Red Crescent Societies, 2006 ; Swaziland National Vulnerability Assessment Committee and SADC FANR Vulnerability Assessment Committee, 2004) and all state that asset depletion has led to increased vulnerability. This suggests that the liquidation of assets may be becoming a routine coping strategy utilized during desperate times. Nonetheless, more longitudinal research looking at asset depletion among AIDS effected-households is necessary to establish whether these households remain destitute once they have sold key-possessions to meet immediate demands and whether this form of destitution is passed down to the next generation.

### 3) *“Increase in the burden of care for sick adults and children orphaned by AIDS”*

High-levels of AIDS-related mortality and morbidity have translated into an increasing number of dependents in Swaziland.

HIV prevalence is highest in the 25-29 and 35-39 age cohorts for women and men respectively. In these same cohorts, female mortality is nearly double that of their male counterparts; mortality rates among women are estimated at 11.9 and 20.5 percent respectively, compared to mortality rates of 5.7 and 12.1 percent among men (Central Statistical Office (CSO) [Swaziland], 2008: 240). Increasing female mortality is shifting the burden of caring for dependents to younger and older generations. The implications of this “dependency disjuncture” (de Waal & Whiteside, 2003) require further research.

In Swaziland the majority of chronically ill persons are cared for at home. The 2007 SDHS asked households “in which someone aged 18-59 years had been chronically ill for three months in the past 12 months, or had died after a chronic illness” if they received any external assistance (deemed as medical, emotional, social or material support): 78 percent of these households received no support (Central Statistical Office (CSO) [Swaziland], 2008: 271). Households caring for an HIV-infected family member do so near exclusively on their own. Illustrated above, many households employ desperate coping strategies to meet basic needs, exhausting assets and falling further into destitution. This cyclical process of deepening impoverishment further entrenches chronically vulnerable populations.

AIDS-related morbidity and mortality has effectively increased Swaziland’s dependency ratio. Conventionally, the dependency ratio assumes that all adults are productive and that people younger than 15 and older than 64 are dependents. Employing reported figures from the 2007 preliminary Population and Housing Census and the 2007 Demographic Health Survey, the current conventional dependency ratio in Swaziland is calculated as 0.76:1.<sup>4</sup> In contexts of high unemployment and high disease burden, however, the dependency ratio is a crude instrument and many working age Swazis belong in the dependent category (conversely, a significant minority of grandparents may also be considered productive). A more appropriate calculation for determining the number of dependents is the ‘effective dependency ratio’, a measure that includes “sick adults in the denominator rather than the numerator of the dependency ratio” (de Waal & Whiteside, 2003). If we assume that 25 percent of infected working age Swazis (15-64 age cohort) are unable to work, and as a result are dependents, the effective dependency ratio is 0.89:1. This figure is an illustrative estimate based on population data from the 2007 SDHS and is not indicative of the dependency ratio or effective dependency ratio in different regions of Swaziland. Empirical data from 2004 differentiates the conventional and effective dependency ratios by region in Swaziland, providing the most recent

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<sup>4</sup> The effective dependency ratio(s) are calculated using the following figures: the total population, minus those that did not state their age (958 respondents), is estimated at 1,017,491. The working age population (15-64) is 577,529 and the non-working age population is 439,962. Among the working age population, there are an estimated 151,924 individuals that are HIV-positive according to the 2007 Demographic Health Survey.

empirically derived source for contemporary estimates. These findings suggest that more than 25 percent of infected adults are not working and are indeed dependents.

Table 1: Dependency ratio and effective dependence ratio by food economy/livelihood zone in Swaziland 2004 (Swaziland National Vulnerability Assessment Committee and SADC FANR Vulnerability Assessment Committee, 2004: 41)

Food Economy / Livelihood Zone	Dependency ratio	Effective dependency ratio (difference)
Highveld maize and cattle	0.88	1.08 (0.20)
Lomahasha trading and arable	0.88	1.21 (0.33)
Lowveld cattle and cotton	0.98	1.30 (0.32)
Lowveld cattle, cotton and maize	0.95	1.28 (0.33)
Lubombo plateau	0.96	1.15 (0.21)
Middleveld maize and cattle	0.96	1.18 (0.24)
Timber highlands	0.82	1.04 (0.22)
Peri-Urban corridor	0.67	0.79 (0.12)

The disparity between the conventional dependency ratio and the effective dependency ratio(s) highlights the epidemic's potential impact on household productivity (in the absence of large-scale treatment programmes) and the differentiated effect that AIDS has in rural and urban communities.

Swaziland's pronounced demographic change is graphically illustrated in the growing number of orphans and vulnerable children (OVC). In the 2007 SDHS, 23 percent of Swazi children under age 18 are considered orphans and 11 percent are considered vulnerable. The number of orphans increases when with older age cohorts: 18 percent of children under 5 are orphaned, rising to 43 percent among the 15-17 year olds (Central Statistical Office (CSO) [Swaziland], 2008: 265). Among these OVC, 4 percent had a very sick parent, 5 percent lived in a house with very sick family member and 6 percent lived in a house where at least one adult had died in the past year (Central Statistical Office (CSO) [Swaziland], 2008: 264).<sup>5</sup> It was suggested the number of dependents might increase to nearly 200,000 by 2010 (Government of Swaziland, 2006; HDA/JTK Associates, 2005).

Family structures provide a form of resilience during social distress and are integral for assisting dependents (Richter, Sherr, & Desmond, 2008). In much of Southern Africa, *family* is not restricted to biological parents and their offspring. Grandparents are considered parents of their children's children and aunts and uncles are considered "senior" or "junior" parents depending on their age in relation to the child's biological parents (Mathambo & Gibbs, 2008). In Swaziland the majority of OVC are cared for by elderly relatives (Seaman, Petty, & Narangui, 2005). This is neither adequate nor sustainable. 59 percent of orphans in Swaziland receive no assistance from external sources (Central Statistical Office (CSO) [Swaziland], 2008). With greater economic and social assistance a majority of these children can be "cared for responsibly and responsively by extended kin" (Richter et al., 2008: 36-37).

<sup>5</sup> The 2007 SDHS did not interrogate the factors that lead to orphan-hood prior to 2006. Inference may be drawn from high mortality among adults of reproductive age.

With the number of OVC set to increase, interventions must bolster these strained family support networks, ensuring the psycho-social wellbeing and socialization of future generations. We do not know the long-term socio-economic consequences of mass orphaning. There is a clear argument that failure to assist this population will perpetuate vulnerability to food insecurity.

#### **4) “*The vicious interaction between malnutrition and HIV*”**

While this sub-section of the hypothesis originally referred to the biological interaction between malnutrition and HIV, it is important to recognize the social manifestation of malnutrition that accompanies, and often precedes, the physical evidence of insufficient nutritional intake.

Food insecurity is believed associated with higher-risk behaviors that may lead to increasing HIV incidence rates – in the context of Swaziland, insufficient food *has* led to high-risk, adverse coping strategies that increase one’s vulnerability to HIV infection. The presence of desperate coping strategies shows that domestic initiatives and international food aid are not meeting the population’s needs.

When a family does not have enough food, women shoulder the burden – women, on average, eat twice a day while men and children eat three times (Hlanze et al., 2005: 26). This reinforced gender inequality is brutally articulated in the extreme coping strategies that some women employ to meet basic life-needs. Food insecurity in Swaziland is correlated with increased sexual-risk taking among females (Weiser, Leiter, Bangsberg, Butler, Percy-de-Korte, Hlanza et al., 2007). Undertaking research in Botswana and Swaziland, Weiser *et al.* found that “women who reported lacking sufficient food to eat had an 80% increased odds of selling sex for money or resources, a 70% increased odds of engaging in unprotected sex and reporting lack of sexual control, and a 50% increased odds of intergenerational sex” (Weiser et al., 2007: 1593-1594). In the absence of food, Swazi females have been forced to “forfeit long-term personal safety to survive today” (Rollins, 2007: 1577).

The relationship between malnutrition and HIV is present in the lived experience of orphans. The nutritional status of OVC in Swaziland was reported to be lower than that of non-OVC. Nutritional wellbeing for OVC depreciates with age and girls are more likely to experience malnutrition than boys (Central Statistical Office (CSO) [Swaziland], 2008: 268). Although this study did not look at nutritional status of OVC beyond the age of five, examining the sexual activity of OVC under age 15 may be instructive for understanding how these children are coping with wider social distress. The 2007 SDHS found “that sexual intercourse is more frequent among girls if they are OVCs than if they are non-OVCs” (Central Statistical Office (CSO) [Swaziland], 2008: 269). The opposite is true for young boys. While this does not solidify a correlation between food insecurity and sexual risk-taking among OVC, it does flag a future concern that demands further study.

## ***Discussion***

Framed by the four key indicators of NVF, this paper argues that Swaziland is experiencing a new variant famine.

Marker one described how caring for HIV/AIDS -affected individuals has taken productive adults away from formal work. Fewer adults working led to falling agricultural production amongst subsistence producers. Increasing food insecurity has been the result.

Wide-scale asset loss was described in marker two. High adult morbidity and mortality has disrupted the transfer of indigenous knowledge to younger generations. The liquidation of physical goods and livestock to pay for medical care and funerals has effectively depleted the asset bundles of households.

The wider demographic impacts from HIV/AIDS related morbidity and mortality were discussed in marker three. With the highest HIV prevalence found in the most economically productive and socially reproductive age cohorts, the ‘effective dependency ratio’ has altered traditional support networks. Increasingly, the burden of care is falling on those traditionally deemed as dependents.

The social manifestation between malnutrition and HIV was highlighted in marker four. Insufficient access to food has led to high-risk behaviors that have long driven HIV incidence rates. This brutal cycle is characterized by a growing population of destitute Swazis with little hope for the future. Without drastic interventions, this negative pattern compounds and repeats itself.

Consideration for the disproportionate impact that HIV/AIDS and food insecurity has had on Swazi women and children runs throughout this discussion. The unparalleled burden shouldered by women in Swaziland lends evidence to the argument forwarded by Gibbs, that any analysis of NVF must include a concerted focus on how gender inequalities mediate, and are exacerbated by, HIV/AIDS and food insecurity (Gibbs, 2008: 16).

Finally, this paper highlighted areas for future research. These include: examining the long-term consequences of mass orphaning, as well as the patterns of sexual activity among OVCs; interrogating why female OVCs are more sexually active than their male counterparts; exploring the implications of increasing female mortality for care givers; and, exploring the biological interactions of malnutrition and HIV.

### ***Conclusion***

This paper advances the wider debate about the changing nature of famine. The hypothesis does not provide a repackaged way of looking at old variant famines. Rather, NVF provides a framework to examine a *new* phenomena. Early theoretical discussions of famine tended to focus on the ‘food availability decline’ hypothesis (limited food production because of drought or population growth for example) (Malthus, 2001). In 1981 Amartya Sen (1981) altered the discourse of famine analysis from “aggregate supply failure (‘food availability decline’) to group-specific demand failures (‘exchange entitlement decline’) (Devereux, 2009: 26). There is increasing recognition, however, that famine is the result of myriad confounding elements. In this frame, political accountability and responsibility, or lack thereof, is central to understanding why famines persist (Devereux, 2007). NVF fits into ‘New Famine’ thinking by emphasizing the ways

that HIV/AIDS exacerbates pre-existing social, political and economic pathologies in a society (de Waal, 2007a; Devereux, 2007: 7).

In southern Africa, domestic and international political commitment will be increasingly necessary to meet the food needs of vulnerable populations. Climatic models project that temperatures in southern Africa will increase and rainfall decrease, leading to agricultural decline (Lobell, Burke, Tebaldi, Mastrandrea, Falcon, & Naylor, 2008). Maize yields in southern Africa, (southern Africa's and Swaziland's staple crop), are projected to decline by nearly 30 percent by the year 2030; wheat yields may decline by almost 15 percent (Lobell et al., 2008: 609). In the absence of adaption such a fall in agricultural production would have devastating effects across the region (Collier, Conway, & Venables, 2008), with particular hardship falling on subsistence producers and those affected by HIV/AIDS. Robust political interventions will be required to address these challenges.

The data from Swaziland shows that the country is experiencing NVF. Coupled with climatic projections, this information points to a population that will be increasingly food insecure. One intervention would be to roll-out ARV treatment to all those in need. Ensuring universal access, however, is a necessary but not a sufficient intervention.

Ultimately, Swaziland's national government is responsible for any food crisis within their territorial boundaries. Greater domestic accountability is the necessary first step. The central government should lead the national response. The international community is responsible if the national government continues to fail in meeting the needs of the Swazi population.

Swaziland is one of eight countries in southern Africa with HIV-prevalence over 15 percent. The region as a whole continues to experience drought and food insecurity. Further examinations of southern African countries, and specific populations within these countries, are needed to determine whether NVF is applicable elsewhere.

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