



Household Vulnerability Index for Quantifying Impact of HIV and AIDS on Rural Livelihoods

Swaziland Report

by

Moses Sithole



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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ALH	Acute Levels Households
CBC	Community Based Care-givers
CLH	Coping Levels Households
CSO	Central Statistical Office
ELH	Emergency Levels Households
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network
HIV	Human Immuno-deficiency Virus
HVI	Household Vulnerability Index
MOAC	Ministry of Agriculture and Cooperatives
OVC	Orphaned and Vulnerable Children
SADC	Southern African Development Community
SL	Sustainable Livelihoods
SHIES	Swaziland Household Income and Expenditure Survey
UN	United Nations
UNAIDS	United Nation AIDS
SwaziVAC	Swaziland Vulnerability Action Committee

EXECUTIVE SUMMARY

The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is currently engaged in a process of developing a Household Vulnerability Index (HVI) in the Southern African Development Community (SADC) region. This is an analytical tool that will be used to determine the different degrees and levels of households vulnerability introduced by the HIV and AIDS pandemic on household agriculture and food security. Upon successful development, the HVI tool will be useful for vulnerability assessments in general as well as introduce the quantitative inclusion of the impact of the pandemic in vulnerability assessments. As a contribution to policy interventions, the HVI tool will assist policy makers to arrive at informed decisions about specific developmental programmes to consider in an effort to move households from acute vulnerability to coping levels at a given period.

In 2006 FANRPAN commissioned a study to further develop the HVI, and Swaziland was chosen as one of the pilot study sites. When the HVI was informally introduced to stakeholders in the relevant government ministries and departments and civic organizations, it received an overwhelming acceptability. The results of the pilot study will soon be tabled at a workshop organized for these stakeholders to make comments. It is expected that the HVI will continue to be widely accepted, and this will further strengthen the case for the index to be regionally accepted in Southern Africa as a measure of household vulnerability due to such causes as HIV and AIDS.

The model was tested in two areas, Luyengo and Gege. The HVI tool appears to be a reliable tool of analysis that can be applied to assess differences in levels of vulnerability between households and communities. In both areas, the majority of the households were in the coping vulnerability level, followed by the acute vulnerability level in all the dimensions. Gege tended to perform better than Luyengo in that its proportion of coping level households was higher than the corresponding proportion in Luyengo, while its proportion of acute level households was lower than the corresponding proportion in Luyengo. This was the case for most dimensions as well as for the total HVI.

CHAPTER 1: BACKGROUND TO THE STUDY

1.1 Introduction

HIV and AIDS have increased the humanitarian crisis being faced in the Southern African region. Save the Children, (2002) notes that the pandemic is threatening the lives of some 16 million people in the region. UNAIDS (2002) report that of the 25.3 million infected people in the world, 70% of the total is in sub-Saharan Africa. It also notes that of the entire infected population of adults in Africa, 20% come from only nine southern African countries – Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Such kind of situation in the region is alarming and has called for greater efforts in trying to understand how the disease affects the livelihoods of the African communities and hence inform policy on actions that need to be taken to reverse the impact of the pandemic especially on agriculture and food security. This has seen a number of studies undertaken by key players in the fight against HIV and AIDS, focusing mainly on the impact of HIV and AIDS on agriculture and food security.

FANRPAN in collaboration with SADC and EU also undertook a regional study in 2004 that focused on the *Impact of HIV and AIDS on Agriculture and Food Security* in seven SADC countries i.e., Lesotho, Botswana, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Although these studies have been able to establish common ground on how HIV and AIDS impact households' agriculture and food security many of them have assessed this impact qualitatively, and often, following a chosen theme. None of the studies have been able to put a quantitative measure to household vulnerability in the presence of HIV and AIDS, which FANRPAN believe is pivotal to effective intervention in the HIV and AIDS crisis. Thomas (2003) noted that to be able to address vulnerability, we need to be able to measure it, so that we can identify areas of highest priority.

In theory, it should be easy to see that a household with better material wealth should be better equipped to cope with HIV and AIDS, yet the level of coping depends on the quantity and quality of such wealth, level of knowledge about the disease; and other complex societal variables. As a follow up to the FANRPAN study in 2004, this study will carry out an advanced analysis of previous and new data to develop a consistent and comparable methodology of quantifying vulnerability. This entails that one needs to investigate the different *dimensions* through which households are prone to impacts. In theory, it is possible to quantify such vulnerability per household by applying appropriate weights and scales to each of the impact areas and deriving an index that can then make it possible to compare households' vulnerability. Such an index could also be useful for comparing households, regions, and communities

1.2 Objectives of this study

This study sought to develop:

- a) A refined method for constructing a vulnerability index- the HVI. The index will shed new light on the different degrees and levels of household vulnerability introduced by the HIV and AIDS pandemic on household agriculture and food security.
- b) A method of applying the HVI model in Swaziland
- c) HVI for the study data will be a usable indicator for monitoring how assisted households graduate or deteriorate from one level of vulnerability to another. It will also shed light on what would be required to move households from acute vulnerability to coping levels.

The practical outputs of the study are that all the households sampled will be categorized into at least one of three levels of vulnerability based on the index: Coping level households (CLH); Acute level households (ALH) and Emergency level households (ELH). Based on the different vulnerability levels, specific relief or development packages will be recommended to policy makers for assisting the affected households overcome both their internal and external vulnerability. A tracking system will then be recommended to monitor how supported households graduate or deteriorate from one level of vulnerability to another.

1.3 Structure of the report

This report contains five chapters. Chapter one presents the background of the study and the concept of household vulnerability in the SADC region. Chapter two reviews literature of studies on HIV and AIDS conducted in Swaziland. Chapter three reviews a study in which the HVI model was applied in Swaziland. Chapter four presents results of field testing the improved version of HVI tool in Swaziland. Chapter five presents the study conclusion and recommendations.

1.4 Understanding Vulnerability in Swaziland

The major sources of vulnerability in Swaziland include declining agricultural production due to erratic rains or prolonged drought, HIV and AIDS, and high levels of unemployment (MOAC 2005, MOAC 2006). Compared to other SADC countries, Swaziland lags behind in the documentation of livelihoods, hunger and vulnerability. Nationally representative studies on hunger, vulnerability and social protection are very few and far between and, significantly, the last comprehensive national nutritional status survey was in 1983. Recent nutritional surveys tend to be location specific, usually the operational area of a specific project or organization. Most of what is known about the poverty and vulnerability in Swaziland is generated by the CSO and from individual isolated studies. It is possible to trace trends in poverty levels through the Household Income and Expenditure Survey (HIES) that is

normally conducted every five years. Swaziland is characterized by a highly skewed income distribution. Over the last two HIES there has been no change in income inequality (CSO 1995, CSO 2004). The gap between the haves and the have-nots is still high. The proportion of the poor, however, has risen from 66% to 69% (CSO 2004). This is consistent with the ever increasing number of those who are assessed to be in need of food aid. The HIES also found that poverty levels tended to be higher for rural population, households with older heads, those living on Swazi nation land, those practicing subsistence agriculture, and female headed households.

Swaziland has an unemployment rate of 40% (World Fact Book, 2005 est.) and the situation is exacerbated by the fact that most of the farmers in the country are subsistence farmers with very little hope of improvement in the near future. The little that they produce does not last through to the next season and as result, they resort to purchase as a survival strategy. The closure of major manufacturing companies in urban areas, retrenchments from South African mines and limited domestic employment opportunities are the main factors in the high unemployment rates. The majority of rural people depend on cash income for survival, especially when prolonged dry spells and erratic rains are experienced.

In Swaziland, rural residence, age, land tenure and gender are related to poverty status. Within these broad categories documents classify the following as vulnerable groups: orphaned and vulnerable children (OVC), the elderly, people living with disabilities, and widowed women. The elderly and OVC are classified as vulnerable in almost all documents. This could be attributed to the impact of increasing HIV prevalence rates. HIES confirmed that households with a higher dependency ratio had a higher poverty levels. The disappearance of productive age groups has led to increasing vulnerability to income variability and shocks.

Traditionally women and the youth are not entitled to land on their own. Women can only access land through a husband or a male relative, while the youth can only access land when they are old enough and are establishing their own homesteads. Increasingly women and youth are becoming more vulnerable since they lack access to some of the factors of production such as land, irrigation infrastructure and finance. The Land Policy was expected to improve access to land, especially for women. However, it remains one of the policies that are never finalized or passed due to lack of political will.

Prevalence rates of HIV and AIDS have risen from 4% in 1992 to more than 42% in 2004. HIV and AIDS has a profound impact on rural livelihoods and household resource management, including a negative impact on agricultural production. Knowledge and evidence gaps on vulnerability include identification of types of vulnerability and those affected, weak monitoring and evaluation systems and the impacts of food aid. Social protection approaches in Swaziland are based either on improving food and nutrition status, through food aid or the provision of farm inputs, or on cash transfers.

CHAPTER 2: REVIEW OF LITERATURE

2.1 Prevalence of HIV and AIDS in Swaziland

According to a UNAIDS (2006) overview of the Global AIDS epidemic, Swaziland is presently the country with the highest HIV and AIDS prevalence rate in the world for adults between 5-49 years (33.4%). Even more shocking is the fact that Swaziland had the sharpest increase in prevalence rates from 2003 to 2005 when compared to other countries. Between 2003 and 2005, statistics in Swaziland increased from 32.4%-33.4%. The first sentinel site surveillance surveys were conducted in 1992 and found that 3.9% of pregnant women were infected with HIV. By 2004, the estimates of infection had increased to 42.6% in just 12 years before declining in 2006 to 39.2%. According to Whiteside (2006), the incidence of HIV and AIDS in Swaziland, has increased the severity of the food security crises by depleting the ability of communities to participate in labour intensive food production.

Swaziland is currently (2007) undertaking a Demographic and Health Survey (DHS) to ascertain the current level of HIV and AIDS prevalence in the country. The DHS will do a random and confidential testing of adult males and females that will allow for more detailed analyses of the relationships between infection, health and nutrition.

2.2 Overview of the Impact of HIV and AIDS in Swaziland

In the last five years, there have been several studies on the Impact of HIV and AIDS in Swaziland. Some of these included were conducted by Mwanga (2002), Mushala (2003), Mwanga (2004) and Masuku et. al. (2006), to mention a few.

Mwanga (2002) carried out a study on the Impact of HIV and Aids on Agriculture and Private Sector in Swaziland. The study focused on the Demographic, Social and Economic Impact on Subsistence Agriculture, Commercial Agriculture, Ministry of Agriculture and cooperatives and Business. The study reported that Swaziland had one of the highest HIV and AIDS prevalence in the world. It showed that households and communities would be most affected by the negative impact of HIV and AIDS compared to any other sector. There would be an increase in problems of maintaining food supplies, in both quantity and quality, with the unfolding of the mortality and morbidity due to the disease. Higher adult mortality and morbidity and additional expenditures on health has led to a decline in family incomes. Also, children were dropping out of school because of increasing poverty and orphaning. The farming systems were vulnerable to the negative economic impact because of the reliance on remittances in the presence of drought.

Mwanga (2002) also noted that the Ministry of Agriculture and Cooperatives (MOAC) had responded to the impact of HIV and AIDS by attempting to prevent new infections amongst its employees. However, the response did not cover the key areas of agriculture and rural development, which are crucial to food security and quality of livelihood among rural households. There was no evidence that the increased absenteeism due to illness from HIV

and AIDS had negatively affected productivity and profitability in the private sector, which had responded by focusing on HIV and AIDS related cost avoidance strategies. These costs had been inevitably passed on to the rural households and the public.

Recommendations from the study reported by Mwangi (2002) included the following:

- Policy makers, the international community and agencies involved in the fight against HIV and AIDS should recognize that households and the community are the first to be attended to in response to the epidemic;
- There should be appropriate interventions to meet agricultural objectives while, simultaneously, addressing the epidemic;
- The private sector should invest in comprehensive management of the disease to increase quantity and quality among the workforce.

While agriculture in Swaziland can be categorized into commercial and subsistence agriculture, Mushala (2003) focused on subsistence agriculture sector, as it comprises a majority of the population whose vulnerability to the impact of HIV and AIDS is very high. Mushala (2003) noted that, according to UNAIDS (2002), the factors that point to the vulnerability of Swaziland subsistence farming systems to impact of HIV and AIDS include:

- As the younger household members die of HIV and AIDS, agricultural production is reduced, since they are the major source of labour on the farm.
- Many of the households depend on remittances for farm inputs, and hence as the remitting household members die of HIV and AIDS, the reduced income will lead to reduction in production on the farm.
- Hired labour, which depends on remittances and sale of produce, is adversely affected by the increased morbidity and mortality of productive household members.
- The erratic rainfall of Swaziland makes good yields of the maize staple crop rely heavily on fertilizer and other inputs. Hence, the reduced income due to morbidity and mortality of productive household members leads poor maize productivity.
- Increased number of orphans means parents and senior household members have died, leaving the orphans with no farming skills and experience, and hence reduced or no farm production, which leads to lack of income and source of nutrition.

Mwangi (2004) conducted a systematic review of the economic impact of the HIV and AIDS on Swaziland. The review revealed the following:

- HIV and AIDS had quadrupled the vulnerability of affected households to environmental shocks. This was evident from the fact that there was an increased burden of orphans due to HIV and AIDS, reduced labour and income as adults died of AIDS, worsening of food insecurity and poverty due to low productivity as a result of HIV and AIDS in affected households.
- At the workplace, absenteeism had increased by twenty-fold. Deaths of employees had increased, and HIV and AIDS related deaths accounted for over 60% of total deaths. Tuberculosis was the main cause of prolonged absence from work.

Organisations and institutions that had implemented workplace HIV responses had been less affected.

- The micro-sector was the worst affected and it was recommended that policy makers should ensure that this sector is protected from the negative impacts of HIV and AIDS.

Masuku et al. (2006) reported the findings of a study that was conducted to determine the impact of HIV and AIDS on labour availability, agricultural production and productivity, asset ownership and food security. The study was also conducted to identify coping strategies that are used by affected households to sustain their livelihoods. The findings were as follows:

- There was an increase in household HIV and AIDS related illnesses and deaths and women were the worst affected.
- While the effects of HIV and AIDS generally did not significantly reduce the extent of land utilization, it was observed that affected households utilized less land compared to less affected households.
- The worst affected component was the livestock component, as households resorted to selling their livestock for sustenance and to pay their medical bills. Crop production had also diminished due to decreased land utilization, unaffordable inputs, diversion of household labour to caring for the sick, and illness and death of skilled people.
- The high prevalence of HIV and AIDS had undermined government's efforts to alleviate poverty, as remitting household members fell sick or died from the disease.

The recommendations Masuku et. al. (2006) included the following:

- There should be policy interventions, such as agricultural policy, food aid policy and rural development policy, aimed, among other things, at mitigating the negative effects of HIV and AIDS by sustaining households' agricultural production and food security.
- Government's community-based programmes should include the revival and support of labour-saving cultural practices, such as communal labour to support labour-constrained households.

2.3 Review of HIV and AIDS and rural livelihoods

The Swaziland Vulnerability Assessment Committee (SwaziVAC, 2006) used five proxy indicators to assess the impact of HIV and AIDS on rural households. The proxies were:

- (i) chronic illness of household member;
- (ii) deaths among adults 15-49 years;
- (iii) deaths among adults aged 15-49 years after a chronic illness;
- (iv) death or chronic illness reported as a shock by the household; and
- (v) Presence of orphans in the household.

Analyzing the relationship between HIV and AIDS proxy indicators and vulnerability indicators yielded the following findings:

- There is no relationship between the proxy indicators and socio-economic status of the household
- There is a statistically significant relationship between all proxies and a higher level of coping, especially for chronic illness of household member and presence of orphans in the household.
- Households with a recent death of a member or a member (15-49 years) who is chronically ill have lower dietary diversity and thus are less food secure.
- Households with the recent death of a member or with a chronically ill member are more likely to be hosting orphans.
- For all proxy measures of an HIV and AIDS affected household, children were significantly more likely to have dropped out of school than those without. Children from households hosting orphans were three times more likely to drop out of school than those without.
- There appeared to be no significant relationship between child nutritional outcomes and proxy indicators of HIV and AIDS from this survey.

CHAPTER 3: APPLICATION OF THE HVI MODEL IN SWAZILAND

3.1 Initial Use of the HVI Model in Swaziland

The HVI model was first used in Swaziland to assess household vulnerability due to HIV and AIDS as part of a study commissioned by FANRPAN to assess the impact of HIV and AIDS on Agriculture and Food Security in Southern Africa. In Swaziland, the study was entitled “The Impact of HIV and AIDS on Agriculture and Food Security in Swaziland”. The Swaziland study yielded the report by Masuku (2006). As a result of the various country studies, a regional book was compiled and a section on HVI for the different countries was included.

3.2 Initial Testing of the Model using 2004 Survey data

The HVI model used six of the eight impact dimensions identified under the theoretical justification of the HVI noted in the 2004 assessment on the impact of HIV and AIDS on Agriculture and Food Security in Southern Africa. These dimensions were human capital, financial capital, physical capital, natural capital, production and consumption.

In each dimension, there were impact areas that were weighted according to the extent to which they influenced the dimension. The weights aggregated to 25, and each variable tracked in each impact area assumed a value of zero or one for a given household. Thus, for the purpose of calculating the HVI, a household could obtain a score between 0 and 25 and this was expressed as a percentage to give the HVI.

Households were classified as being in Vulnerability Level 1 (Coping Level Households (CLH)) or Vulnerability Level 2 (Acute Level Households (ALH)) or Vulnerability Level 3 (Emergency Level Households (ELH)) as follows:

- Vulnerability Level 1, CLH was assigned values within the interval [0,49];
- Vulnerability Level 2, ALH was assigned values within the interval (50,74];
- Vulnerability Level 3, ELH was assigned values within the interval (75,100].

Here, the vulnerability levels were defined as follows:

- Vulnerability level 1 = Coping Level Households (CLH) – a household in a vulnerable situation but still able to cope;
- Vulnerability level 2 = Acute Level Households (ALH) – a household that has been hit so hard that it badly needs assistance to the degree of an acute health care unit in a hospital. With some rapid-response type of assistance the family could still be resuscitated;

- Vulnerability level 3 = Emergency Level Households (ELH) – the equivalent of an intensive care situation – almost a point of no return – but could be resuscitated only with the best possible expertise.

The study found that, for most of the dimensions, the majority of the households were in the coping vulnerability level (CLH), while the remaining households were either in the acute state (ALH) or emergency level (ELH). In each case, the proportion of CLH households tended to be more than the ELH ones, although for a few dimensions the reverse was true. For instance, the ELH households were the majority, followed by CLH ones in the consumption dimension. The total HVI classified households similarly to the way most dimensions did, that is, CLH households accounted for the majority, followed by ALH, which, in turn, was followed by ELH households.

The study recommended that the ALH and ELH households should receive the needed assistance. Also, the CLH households needed some form of assistance to prevent them from slipping into the ALH and ELH states. The study also recommended that the impact areas should guide policy for the households in the acute level of vulnerability. The factors (variables) that placed some HIV and AIDS affected households in the emergency level of vulnerability needed to be addressed as a matter of urgency.

CHAPTER 4: FIELD TESTING OF THE HVI MODEL

4.1 Study Area

Two areas, from the Middleveld (Luyengo) and the Highveld agro-ecological zone (Gege) respectively, were included in the study. The two areas are in two different food economy zones. Luyengo is in the Middleveld maize and cattle economy zone, while Gege is in the cattle and maize economy zone. These two areas are different in terms of rainfall. Gege, being in the Highveld, receives more rainfall than Luyengo, which is in the Middleveld. In the former, food and crop production is 80 to 100% above normal, while in Luyengo it is 40 to 60% above normal. The areas were selected this way to see if the methodology would differentiate them in terms of impacts of HIV and AIDS.

4.2 Sampling Procedure

The field testing was conducted in the two areas studied as mentioned above. The study sites were chosen after due considerations of the geographical and socioeconomic differences that exist between them. Fifteen households were randomly selected in each area, and this led to a total sample size of 30 households. This way, the stratified random sampling procedure was used in the study. Though small the sample size was sufficient to just test if the new HVI model could be applied in the Swaziland context.

4.3 Findings

The different values of Household Vulnerability Index (HVI) reflect different degrees of vulnerability. As in the initial testing of the study (section 3.2), the same three levels of vulnerability were used in the current study. The different degrees of vulnerability were assigned values of the computed HVI in a given interval as follows:

- Vulnerability level 1, CLH – HVI values within an interval 49% and below;
- Vulnerability level 2, ALH – HVI values within an interval between 50% and 74%;
- Vulnerability level 3, ELH – HVI values within an interval above 74%.

Five impact dimensions, as identified in the conceptual framework of vulnerability to HIV and AIDS impact were assessed in the study. These are the five livelihood assets that determine the livelihood strategies adopted by a household to survive. These include natural capital, human capital, physical capital, financial capital, and social capital assets.

In each dimension, not all the variables were tracked by the study. Those tracked are summarized in Table 4.1. The table also shows the interval of HVI values for each level of vulnerability (CLH, ALH and ELH), calculated in accordance with the percentage ranges given above.

Table 4.1: Variables tracked by the study in each dimension and HVI intervals for each level of vulnerability

Dimension	Impact Score	Impact Area	Impact weight on dimension	Variables	CLH	ALH	ELH
Natural Capital	10	Environmental Degradation	0.5	Use of forest products	$X \leq 5$	$5 < X \leq 8.4$	$X > 8.4$
		Changes in natural capital assets	0.5	% Land Utilization			
Human Capital	35	Changes in household demographic structure and labour availability	0.5	Dependency Ratio			
		Gender differences	0.35	Female/child head	$X \leq 17.5$	$17.5 < X \leq 29.4$	$X > 29.4$
		Mobility of household members	0.15	No. mobile members due to sickness and deaths			
Physical Capital	20	Changes in optimal production decisions	0.2	% cropping area			
		Changes in household physical asset base	0.4	Plough ownership	$X \leq 10$	$10 < X \leq 16.8$	$X > 16.8$
		Changes in household investment choices	0.3	Livestock sales			
		Changes in agricultural extension services	0.1	Access ext. services			
Financial Capital	20	Changes in financial assets	0.3	Access credit loans			
		Changes in income and expenditure patterns	0.4	% exp. on health	$X \leq 10$	$10 < X \leq 16.8$	$X > 16.8$
		Changes in participation in market	0.1	Crop marketing			
		Changes in food availability, accessibility and utilization and nutrition status	0.2	Nutrition diversity			
Social Capital	15	Social support networks	0.5	No. of support from NGOs/CBOs			
		Access to HIV and AIDS/ Agric. Info.	0.5	Sources and quality of info. on HIV and AIDS	$X \leq 7.5$	$7.5 < X \leq 12.6$	$X > 12.6$

X = HVI

4.3.1 Vulnerability of households with respect to Natural Capital

The vulnerability levels and the households that fell within each level for the natural capital dimension are shown in Figure 4.1. In this dimension, for each of the two study areas (Gege and Luyengo), the majority of the households were in the Coping Level while the rest (smaller proportions) were ALH, an acute level. The latter (ALH) have been so impacted by HIV and AIDS that they badly need assistance but could still be resuscitated with some rapid-response type assistance. No households fell in the emergency level (ELH). Although insignificant under the Chi-square test ($P > 0.05$), Gege seemed to perform better than Luyengo with a higher proportion of CLH and a lower proportion of ALH.

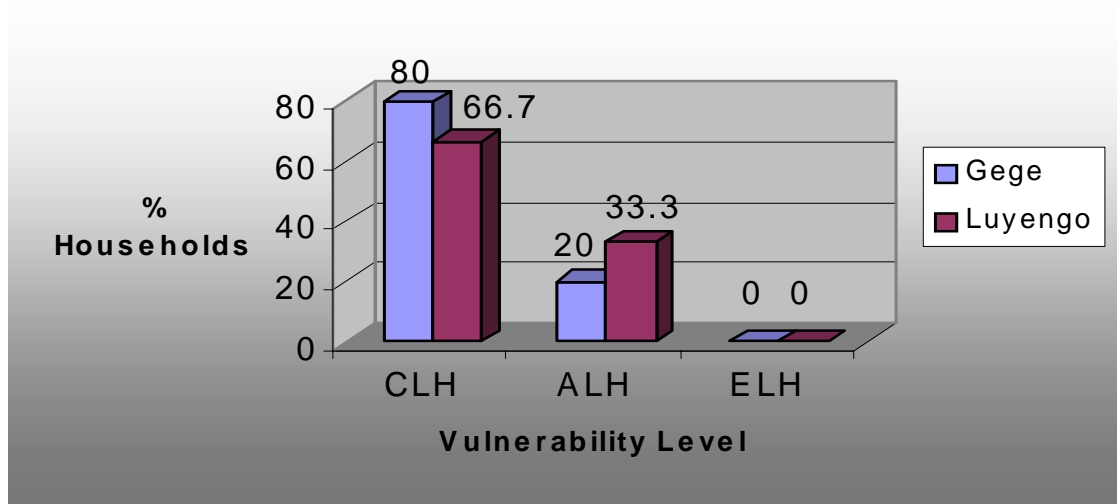


Figure 4.1: Household Vulnerability Level for Natural Capital Dimension

4.3.2 Vulnerability of households with respect to Human Capital

In terms of the human capital dimension, the majority of households fell within the coping level (CLH), and the rest were ALH, with no ELH (Figure 4.2). There was no significant difference ($P > 0.05$) in performance between the two areas but Luyengo showed a slightly better performance than Gege. This is because the people living in Luyengo do so mainly to be closer to work, and they are those in the productive age (15 to 64 years). The Manzini region where Luyengo is located has higher activity in terms of employment, and people from the Shiselweni where Gege is located tend to migrate to the Manzini region to seek employment. Once in the unproductive age (over 64 years), they tend to return to the Shiselweni region.

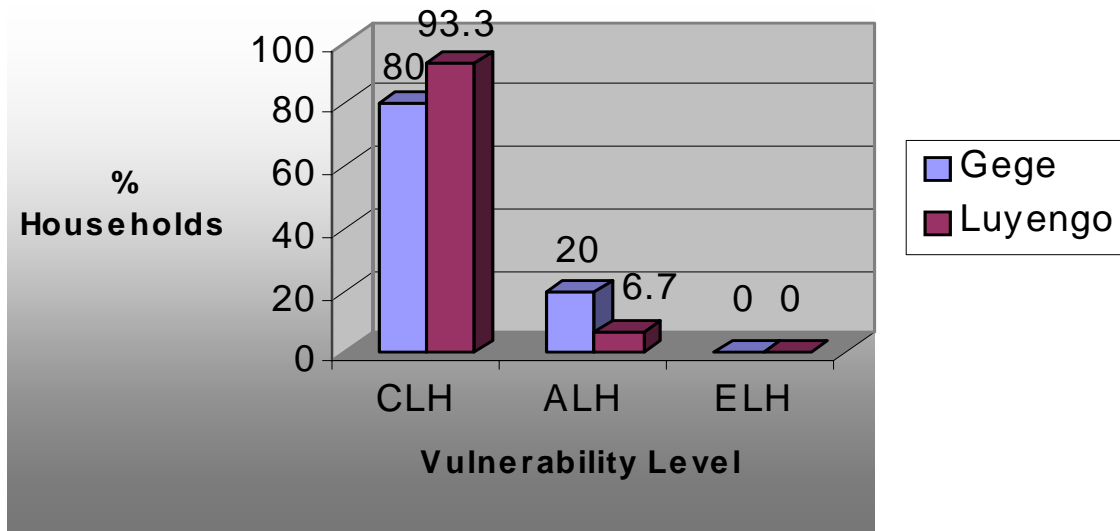


Figure 4.2: Household Vulnerability Level for Human Capital Dimension

It should be noted, however, that, though the proportions of ALH were not insignificant and they badly needed assistance.

4.3.3 Vulnerability of households with respect to Physical Capital

While the majority of the households needed assistance but could still cope (CLH) with respect to the physical capital dimension in Gege, the reverse was true in the case of Luyengo. The latter area (Luyengo) had a higher proportion of its households in the acute level than the proportion in the coping level. This difference between the two areas was statistically significant ($P < 0.05$). Indeed, Luyengo households tend to hire tractors from the Ministry of Agriculture and Cooperatives (MOAC) than use ox-drawn ploughs. In Gege, there is a higher competition for government tractors because the available number is smaller. Similarly, the MOAC directs its extension services more to rural areas like Gege than to semi-urban areas like Luyengo. The affected households (ALH and ELH) need assistance, especially in Luyengo.

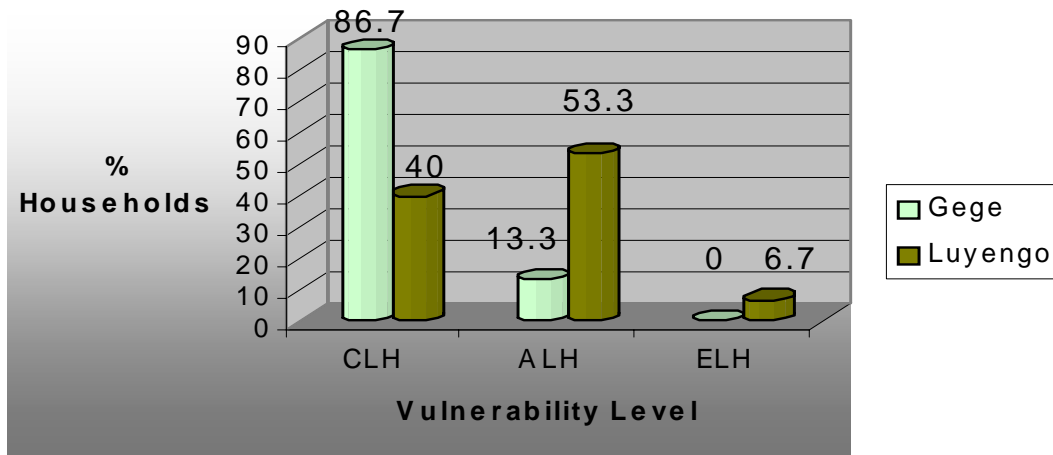


Figure 4.3: Household Vulnerability Level for Physical Capital Dimension

4.3.4 Vulnerability of households with respect to Financial Capital

With respect to the financial capital dimension, the results show that the majority of the households (93.3%) were in the coping level (Figure 4.4). There was no significant difference between Gege and Luyengo ($P > 0.05$). The differences in the death rates is minor for both areas and stands at 0.4%. Similarly, the two areas have equal access to credit loans, as financial institutions offer equivalent services to all regions in the country. Access to credit loans has a contribution of 0.3.

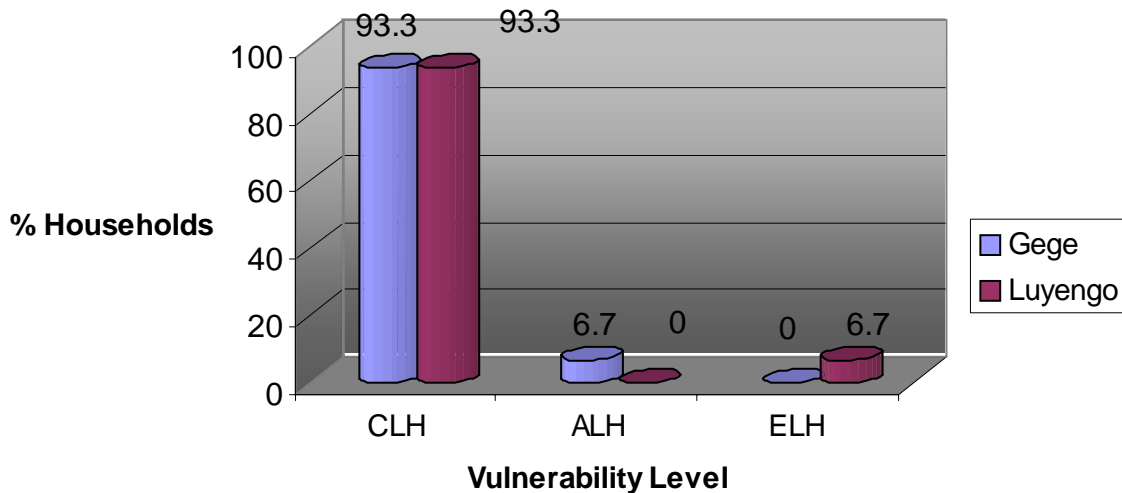


Figure 4.4: Household Vulnerability Level for Financial Capital Dimension

4.3.5 Vulnerability of households with respect to Social Capital

Figure 4.5 shows the distribution of the households in terms of their level of vulnerability with respect to the social capital dimension. The graph shows that Gege area has more households within the coping level (CLH) than those in the acute (ALH) and emergency (ELH) states. The reverse was true in the case of Luyengo and this difference in performance between the two areas was statistically significant ($P < 0.01$). NGOs/CBOs and government (MOAC) tend to focus on rural areas in terms of diversified support, and hence Gege has benefited more than Luyengo. However, the ALH and ELH households in both areas badly need assistance, especially those in Luyengo. This shows that government and NGOs/CBOs need not to focus solely on rural areas but on the peri-urban as well.

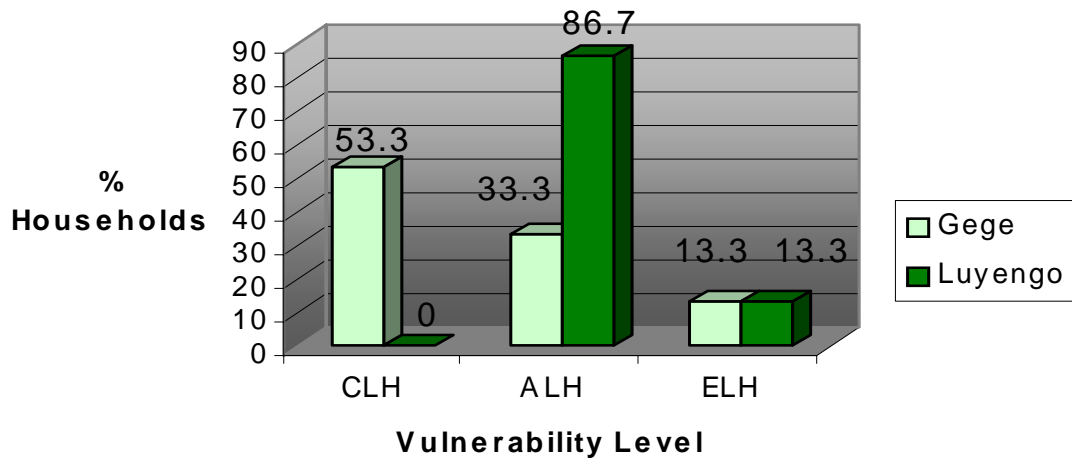


Figure 4.5: Household Vulnerability Level for Social Capital Dimension

4.3.6 Total Households Vulnerability

Figure 4.6 shows the distribution of the households in terms of their level of vulnerability when the indices from all the dimensions are aggregated to obtain the total household vulnerability index. The results show that, for both Gege and Luyengo, the majority of the households were in the coping level, while the rest (smaller proportion) were in the acute state. A significantly higher proportion of households were in the coping level in Gege than in Luyengo ($P < 0.05$). The reasons for these have already been tabled above, and they include the fact that government (MOAC) and NGOs/CBOs tend to concentrate their HIV and AIDS intervention strategies on rural areas, at least those related to agriculture.

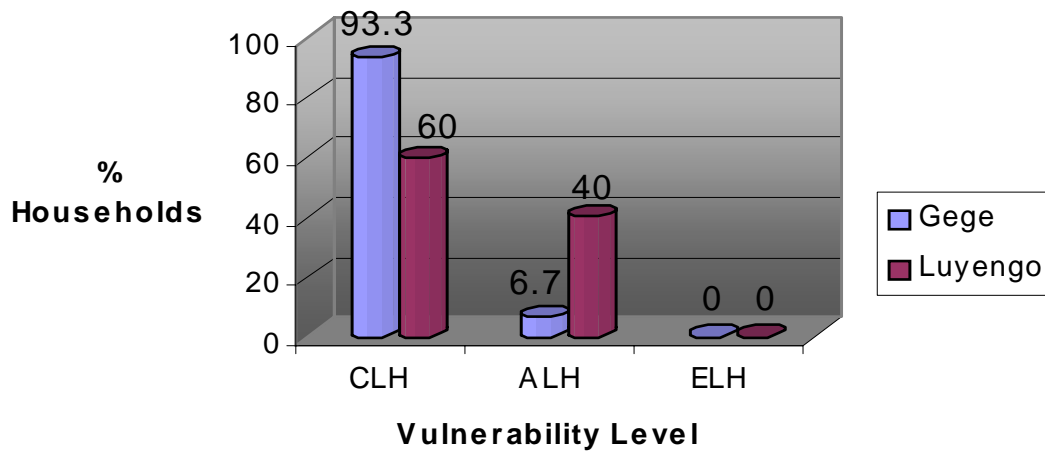


Figure 4.5: Total Household Vulnerability Index (HVI)

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

Findings from the study show that, for both districts, i.e., Gege and Luyengo, the majority of the households were in the coping level, while the rest (smaller proportion) were in the acute state. A significantly higher proportion of households were in the coping level in Gege than in Luyengo ($P < 0.05$). Percentage households classified under emergency level stood at 13.3% in both study areas. While the majority of the households needed assistance but could still cope (CLH) with respect to the physical capital dimension in Gege, the reverse was true in the case of Luyengo. The latter area (Luyengo) had a higher proportion of its households in the acute level than the proportion in the coping level. This difference between the two areas was statistically significant ($P < 0.05$).

The study concludes that the HVI proposed in this project measures household vulnerability reliably. The test run for Swaziland has proven that the HVI can correctly identify vulnerable households. In the two case studies of Gege and Luyengo, and the model also proved that it is capable of identifying most vulnerable communities. However, there is need for a wider study in Swaziland so that the model can be universally accepted in the country as a measure of household vulnerability.

5.2 Lessons Learnt

The HVI tool appears to be a reliable tool of analysis that can be applied to assess differences in levels of vulnerability between households and communities. The use of the tool will enhance vulnerability analysis and hence policies for protecting most vulnerable households in the society.

5.3 Recommendations

The following recommendations were drawn from the study:

- Having applied the HVI tool at a micro-level (using a very small sample size), there is a need to explore its strength with a much bigger sample in order to further assess its reliability in informing policy interventions at national level.
- The study also recommends that HVI tools be used together with other statistical tools to confirm the trends and patterns suggested by the resulting HVI values. For example, one could use the Chi-square test to check the dependency of the behaviour of the HVI on certain demographic characteristics, such as location of community.

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