
Swaziland Assessment

HIV/AIDS and household economy in a Highveld

Swaziland community

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Executive Summary

1. This study forms part of a four-country research programme funded by DfID. The overall goal is to develop methods of measuring and analysing poverty and modelling the impact of change at household level.

2. The aim of the Swaziland study was to test the use of individual household economy methods in an area of high HIV/AIDS prevalence; to identify the main factors affecting income levels in HIV affected and non affected households and to explore possible uses of household economy methods in programme design and monitoring.

3. The study was conducted in a Highveld, maize producing community, about 40 km from the capital city, Mbabane.

4. Household economy methods were used to describe and quantify the components of household income and expenditure, including food production and employment. The assessment covered the entire community.

5. Detailed demographic information was collected for all household members, including providers of remittance income. The presence of orphans¹ in a household was used as a proxy for HIV/AIDS². 35% of all households fall into this HIV/AIDS affected category. Orphans make up 11% of the total population.

6. Comparisons were made between the income and standard of living of households across the study population. These were based on comparisons of disposable income i.e. income remaining after the household had met its food requirements. A minimum standard of living was established, including basic needs and primary school costs; the standard was designed to be consistent with international Millennium Development Goals (MDGs). 25 households (23%) fell below the minimum standard of living.

7. An estimate was made of the impact of HIV/AIDS, changes in agricultural production and other shocks on household economy and living standards.

8. Overall, total community disposable income appears to have fallen by around 8.3% due to HIV/AIDS, although the figure is higher in directly affected households. Agricultural production is characterised by low yields and low use of farm inputs. Low input use among wealthier households appears to be linked to variability of returns (due to climatic risks, pests etc). With the exception of retrenchment in the South African mining industry and loss of job security in local forestry work, the pattern of employment is relatively stable.

¹ Orphans are defined locally (and in this study) as children who have lost one or both parents.

² The cause of death was not known definitively; however, adult HIV prevalence in this area is estimated at 38% so it is reasonable to assume that a large number of 'prime age' adult deaths resulting in orphans can be attributed to HIV/AIDS. 2001 figures for Swaziland show that 15% of all children who are orphans (total = 59,000 in total, of which 35,000 (59%) have lost parents due to AIDS. These figures are projected to rise by 2010 to 22%, 87,000 and 82% respectively (UNICEF 2003, Africa's orphaned generations, New York).

9. Across the population as a whole, a higher proportion of poorer non HIV affected children are out of school than HIV affected children. This can be explained by selective targeting of orphans for assistance with school fees³.

10. Analysis of the characteristics of the poorest 25 households showed that 54% had either suffered a death within the last 5 years which was likely to be AIDS related and/or accepted an orphan from outside the household. Of the 10 households in this group that had suffered an AIDS death the simulation showed that at least 5 would previously have been in a much higher income group.

11. Irrespective of HIV status, households in the very poor group have less access to land, higher levels of unemployment and more low paid employment. However, across the group as a whole, there is no single 'cause' of poverty.

12. This study provides quantitative information that could be used to guide policy and to estimate the actual investment costs of raising living standards. Interventions that reduce household costs (e.g. school fees) and increase production (e.g. farm input subsidies) would help many poor households. However, the causes of poverty vary considerably, and individual case work is also needed to match assistance to household needs and capacities

³ Due to the current availability of targeted educational support for orphans, it is not possible to draw meaningful comparisons with enrolment rates of HIV affected children in other countries (eg 'Contrasting primary school outcomes of paternal and maternal orphans in Manicaland,Zimbabwe.' Nyamukapa C and Gregson S 2003)

HIV/AIDS and household economy in a Highveld Swaziland community

Part I

1. Introduction

1.1 This work was undertaken as part of a DfID funded programme of research on the theme: 'measuring and analysing poverty and food security.' The specific aims of the work in Swaziland were:

- (i) to refine and test the use of individual household economy methods as a means of understanding poverty and food security, in an area of high HIV/AIDS prevalence.
- (ii) to identify the main factors affecting income levels in HIV affected and non HIV affected households.
- (iii) to explore potential uses of household economy methods in programme design and monitoring, where the objectives are to reduce poverty and promote children's access to education, health and other developmental needs and rights.

1.2 The economic impact of HIV/AIDS has been the subject of much research and speculation since the early years of the epidemic.⁴ Estimating the impact of HIV/AIDS presents two main problems.

1.3 The first problem relates to the fact that in much of Africa the epidemic of HIV/AIDS has developed during a period of rapid economic change. In the case of Swaziland, it coincides with a process of economic restructuring and liberalisation, which has (i) increased the cost of farm inputs (ii) much permanent direct employment has given way to labour subcontracting, with a loss of job security and a fall in income; (iii) jobs have been retrenched in South Africa. Additionally, over the past three years the area has been affected by drought. The economic impact of HIV/AIDS can be estimated only if these effects are disentangled from the effects of the epidemic.

1.4 The second problem involves the short-term effects of HIV/AIDS on household income, which in some cases can result in net gains as well as losses⁵. For

⁴ See, for example Barnett T, Effects of HIV/AIDS on farming systems and rural livelihoods in Uganda, Tanzania and Zambia (FAO 1994)

example, household income and standard of living does not necessarily fall following an AIDS related death, as the costs of the unemployed and underemployed may exceed the value of their income. A household may be able to adapt to the loss of an income earner, e.g. by changing its pattern of labour use, or by amalgamating with other households, leading to a change in its economic potential.

1.5 In principle, these difficulties of measuring the impact of HIV/AIDS on household economy can be overcome by using controlled longitudinal studies. However, there are extreme difficulties in establishing adequate controls in areas of high HIV prevalence, where the HIV status of most individuals is not known. Moreover, longitudinal studies are costly and technically demanding, and few attempts have been made to organise them.⁶

1.6 In this study, household economy methods, originally developed at SC UK for famine prediction⁷, have been used. These methods employ quantitative economic models, based on detailed descriptions of individual households, to simulate the impact of a change or 'shock' on the ability of households to achieve a defined standard of living. Potentially, this approach overcomes some of the practical difficulties of measuring and estimating the impact of HIV/AIDS⁸. The chief reason for applying these methods is to explore whether they can be used to generate information of direct operational value i.e. which allow the user insight into the relationship between HIV/AIDS and household economy in terms which lead to better programming decisions.

1.7 The main partner in this study, SC Swaziland, was particularly interested in possible interventions that would protect children from both immediate and long-term deprivation, including loss of access to education, adequate nutrition and other basic needs.

⁵ In the longer term the outcome is likely to be more variable. Logically an affected household might be 1. more vulnerable to other shocks (i.e. as their income would be less diversified) and continue to decline economically. 2. Might be able to adapt to changed circumstances e.g. if remaining household members found alternative employment. On the survey one household was found in which a bereaved woman had set up a clothing business and maintained household income. This will be taken up in a future paper.

⁶ For example, Booysen, F Poverty dynamics and HIV/AIDS related morbidity and mortality in South Africa, Conference on 'Empirical evidence for the Demographic and Socio-Economic impacts of AIDS, University of Natal, March 2003: Yamano T and Jayne TS, 'Measuring the impacts of prime age adult death on rural households in Kenya', World Development September 2002

⁷ See Annexe 1 (Household Economy approaches)

⁸ Methodological questions are discussed in Annexe 1

1.8 In this first attempt to apply household methods to HIV/AIDS, the analysis has been conducted using retrospective information on mortality, covering approximately a 5 –year period. From the perspective of measurement a better design would be to conduct at least two surveys separated by an appropriate period⁹. As no information was available on HIV infection or specific causes of death, the study used the criterion of households in which deaths had occurred leaving dependent orphans, as a proxy for HIV. It seems likely that most of these deaths were HIV related as the age range in which most of these deaths occurred (chiefly young adults) is one in which non-HIV mortality is likely to be low. Although some of this mortality would have been non-HIV related, for brevity the term HIV/AIDS mortality has been used in the paper.

2. Background and context

2.1 Swaziland is the second smallest country in Africa (17,364 sq. km). Nevertheless, it has a wide variety of geographic features and four distinct agro-ecological zones.¹⁰ Swaziland's economy grew rapidly during the 1980s, due mainly to foreign direct investment (FDI) during the period of international sanctions against South Africa. FDI fell rapidly in the 1990s resulting in a steady increase in unemployment and growing budget deficits (UN Common Country Assessment, 1997). By 2002 the average unemployment rate was around 40% and the budget deficit around 5.5% GDP (FAO 2002). The rise in unemployment has also been affected by a fall in migrant labour opportunities, particularly in the South African mining sector. Thus, by 2001, the quota of mining jobs available for Swazis had fallen from 11,500 in 1997 to 650 in 2001 (FAO 2001).¹¹

2.2 In 1996, the government of Swaziland produced an Economic and Social Reform Agenda (ESRA), and a programme of economic liberalisation was introduced in 1997. Among the policy measures implemented in the late 1990s, the removal of agricultural input subsidies is probably the most relevant to the present study. Following the removal of fertiliser subsidies in 1999, national fertiliser use in non-commercial crop production fell from around 16,000 tonnes (the figure for 1998/9), to 12,700 tonnes in 2000/1 (FAO 2002). Use of hybrid maize seeds also fell

⁹ This will be discussed further in a separate paper on methodology.

¹⁰ The Highveld, Middleveld, Lowveld, and Lumbombo Plateau

¹¹ According to a recent UNDP poverty assessment 66% of Swazis live in absolute poverty and in some rural areas, poverty is as high as 80%. There is also a widening gap in the distribution of income, with

substantially, from 4,000 tonnes in 1995/6 to 1,153 tonnes in 2001/2. Prior to ESRA, seeds were provided free to farmers by government, but are now supplied at market prices, through the private sector and co-operative societies (FAO 2003).

2.3 Swaziland's currency, the Lilangeni, is pegged to the South African Rand. During FY 2001/2, its value fell by over 38% against the dollar. In January 2002 the Lilangeni fell to a low of US\$1=Elangeni (E) 11.6. Average inflation in 2001 was 7.5% (FAO 2002).

3. The study community 'Hhohho I' ¹²

3.1 The study was carried out in a rural community in Hhohho province, which is situated in the Highveld region of Swaziland. According to a recent survey Hhohho province has an adult HIV prevalence rate of 36.7% (Anti natal clinics survey 2002). This is one of the highest rates recorded globally, although slightly lower than the Swazi national average (38.6%).¹³

3.2 The study site was selected by SC Swaziland, which works with the Orphans and Vulnerable Children (OVC) committee. This committee was set up to assist children, including those in households affected by HIV/AIDS.

3.3 Geographical Location

3.3.1 Hhohho I is situated in the North West of Swaziland, near the border with South Africa in the Highveld agro-ecological region. It is administratively within the Hhohho region and is 35-40 km. from Mbabane, the capital city.

3.3.2 The area is hilly and lies at an altitude of 900 to 1,400 metres, with patches of arable land and rocky portions. The tops of the hills are covered by commercially managed forestry land (Pinus species), owned by SAPPI ¹⁴the largest paper pulping company in southern Africa. The slopes include outcrops of wattle, owned by individual homesteads.

10% of Swazis holding 60% of national income, and 90% holding the remaining 40%. (www.wv.org.za/countries/Swaziland)

¹² Based on information provided by Henry Narangui. Hhohho I is an assumed name

¹³ HIV prevalence is highest in the town of Manzini (41.2%)

¹⁴ South African Paper and Pulp Industry

3.3.3 The area is characterised by very cold temperatures particularly in the months of July to August (the winter season). The area receives an average rainfall of about 700-1200 mm per annum.

3.4 Demography and Pattern of Settlement

3.4.1 The study area has around 120 homesteads, although not all homesteads are permanent residences¹⁵. The land available to each household for cultivation, grazing and/or forestry occupies about 0.5 – 5 Ha. As homesteads are on or close to cultivable land the pattern of settlement is very dispersed and the community covers a large area (approximately 3km by 3km).

3.4.2 Many rural households in this area include three generations of family members. Typically, grandparents maintain the homestead, while young adults (male and female) work outside the community, either in South Africa, or in other parts of Swaziland.

3.4.3 Orphans were defined by the OVC committee to include children who have lost one or both parents. Vulnerable children include children whose parents are incapacitated.

3.4.4 In common with other Swazi communities, household demography in the study area has been affected by excess mortality, chiefly in the 25-50 year age range. In households where parents in this 'middle generation' die, children generally remain with their grandparents. Grandparent headed households may also take in orphaned grandchildren whose families had left the community.¹⁶ Remittances may still be received from other members of the extended household. Orphaned children without grandparents either remain on their parents' land in child/adolescent headed households or (it is assumed) the household disintegrates. Very little is known about the fate of children in these circumstances.

3.5 Land Tenure and Inheritance

3.5.1 Hhohho I is sited in an area of Swazi National Land (SNL). The local Chief is responsible for the allocation of land to both residents and migrants from other

¹⁵ Non resident households generally have salaried work and only visit periodically.

¹⁶ Source: OVC committee key informants.

regions of the Kingdom. Population increase and migration from other areas are reported to have led to a steady reduction in the size of homesteads over the past 50 years.

3.5.2 Traditionally, land is not transferable without approval by the Chief. However, land can be passed on from parents to their descendants and in cases where children are orphaned, the traditional system allows relatives to 'take care' of the land. The elder relative has the role of overseeing any redistribution, and should ensure official approval by the Master of the High Court. However, this process is not widely understood or adhered to.

3.5.3 Traditional systems allow widows to inherit their husband's land. The traditional system protects the orphans and should ensure that they inherit their parents' land. Girls are allowed to inherit land and can marry and settle on their parents' land. However, if a household has no sons, and girls move to their husband's land, relatives can re-distribute the property among themselves after approval by the Master of the High Court.

3.5.4 In Hhohho I, the Chief has allocated about 2-3 hectares to the Orphans and Vulnerable Children (OVC) Committee (part of 'NERCHA', a national HIV/AIDS project), to use for crop production to feed the orphans. However, the allocated land has not been used. We understand that this was due to lack of money for fencing and other agricultural inputs (fertilisers, lime, hire of tractor for ploughing, etc).

3.6 Infrastructure (roads, telecommunications, electricity)

3.6.1 The area has a good road network of both tarmac and well-maintained murrum roads and a twice-daily bus service to Mbabane. However, there are no electricity connections in the community. Cellphone network coverage is patchy.

3.7 Access to Social Services (education, water, health)

3.7.1 There is one primary school in the community and two primary schools at a distance of about 10-15 km. Some students (mainly in secondary schools) access education in South Africa. Save the Children Swaziland is sponsoring education (primary and secondary) for about 45 orphans in Hhohho I. where it is providing

household and therefore (given stated assumptions about non-food costs) the ability of the household to acquire sufficient food. For example, at the simplest level, a household that made 50% of its income from maize cultivation in a baseline year, would, if maize production fell by 50%, suffer a fall of 25% in its income. If the household had maize stocks equivalent to 10% of its annual requirement, this would reduce the deficit to 15%.

In practice, households may produce some of their own food, exchange this for other food items and cash and have multiple employment and other income sources, and the 'shock' may involve multiple changes e.g. to prices and production levels. The basic calculations become very intricate but remain the same.

This approach has proved to be very effective . In all cases where we have some measures of actual outcome (a total of 14 examples) this has been consistent with prediction. The method has been widely used (e.g. by Operation Lifeline Sudan (OLS) in southern Sudan, for the prediction of the recent famine in Malawi), and has been adopted by USAID/FEWSNET and others. The operational effectiveness of the model lies largely in its structure (i.e. the simulation of the actual steps which households can take to preserve their livelihoods); the detail and 'completeness' of the data set, and the relative simplicity of the mathematics.

Methods used in this study

In this study the same basic model has been used. The differences are:

- That all households in the community were included and data was collected on each household separately.
- The data set was extended to include a detailed description of household membership and relationships and for households with orphans their origin and (because of its importance as an actual and potential income source) maize production.
- The output is in terms of the household disposable income/ adult equivalent.

In this case, the 'shock' (HIV/AIDS), unlike production failure or a price change, has been of varying intensity and spread over many years. The estimate of impact therefore relates to only part of the epidemic (a period of approximately 5 years), in which deaths leaving orphans occurred. The assumptions on which this calculation is based are discussed in the text (section 6).

Example

The calculation of the impact of an (assumed) AIDS death on a single household is carried out as follows. Taking for example a household of 4.2 adult equivalents with 2 primary school age orphans, which produced all the food it required for consumption and had a total cash income from all sources, of E3,000, where the death was of a person earning E5,000/year.

The recorded disposable income/adult equivalent in the reference year would be $E3,000/4.2 = E714/\text{year}$

If the death had not occurred, the household would have

$4.2 + 1 = 5.2$ adult equivalents.

A cash income of E3,000 + E5,000 = E8,000/year.

However household food production would now be insufficient to meet household needs. If the adult requirement is 949,000kcal/year, the maize flour equivalent would be, at E3/kg, E780/year.

The disposable income/ adult equivalent if there had not been an HIV death would be $E8,000 - E780/4.2 = E1719$.

In estimating the household standard of living, household costs would be increased for one additional adult household member.

This calculation is repeated for all households in the data set.

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