Child and Orphan Poverty in Swaziland

Jeanine Braithwaite (Lead Consultant),
Ismael Yacoubou Djima and Robert Pickmans (Consultants)

With Contributors from the Frank Batten School
of Leadership and Public Policy
University of Virginia

Corresponding Author: jeanine.braithwaite@gmail.com
August 30, 2013

Photo Credit: Jeanine Braithwaite

Abstract

This report quantifies child and orphan poverty in the Kingdom of Swaziland during 2001 and 2010. Poverty is understood as consumption (monetary) poverty and not as multidimensional deprivation. Child and orphan poverty indicators are based on the Swaziland Household Income and Expenditures Survey (SHIES). Additional indicators for teen-aged men and women are calculated from the Multiple Cluster Indicator Survey (MICS). Secondary literature is also addressed. Child poverty and teen-age indicators have not been previously undertaken. Findings about orphan poverty from the SHIES are consistent with previous results from the MICS.

The report considers social protection policy in Swaziland and recommends the adoption of a child benefit to alleviate child poverty. Targeting options are explored and a proxy means test (PMT) for child poverty is estimated. Areas for future research, including the potential integration of the SHIES and MICS data are explored.

Journal of Economic Literature (JEL) Keywords

Poor, poverty, welfare and poverty, government programs, provision and effects of welfare, child, children.

Other Keywords: Swaziland, Southern Africa, Sub-Saharan Africa, Africa

JEL Classification Codes

I320, D63, J13, I380

Table of Contents

Acknowledgements

This UNICEF report was prepared by Jeanine Braithwaite (Lead Consultant), and Ismael Yacoubou Djima and Robert Pickmans (Junior Consultants) as well as contributions from several students at the Frank Batten School of Leadership and Public Policy, University of Virginia (UVa). Ismael Yacoubou Djima and Robert Pickmans (Junior Consultants) led the statistical analysis of the SHIES and MICS surveys. Other contributors included: Kathryn Babineau, Kelly Connors, Yaqiong Huang, Melina Schoppa, H. "Min" Yoon, E. "Elshi" Zenaye. and Y. "Qing" Zheng. Jeanine Braithwaite previously worked on Swaziland at the World Bank, and subsequently as a World Bank Consultant. Some of her previous research was part of the World Bank report Swaziland: Using Public Transfers to Reduce Extreme Poverty, Report No. 73973-SZ, November 24, 2012. Batten School contributors to the author's previous work include R. David Cates, Sanjay Choudhury, Ismael Yacoubou Djima, Anna Mohan, Robert Pickmans, and Molly Schmalzbach.

Swaziland Central Statistical Organization (CSO) granted the team's access to the SHIES and MICS surveys, under a data-sharing agreement with UVa. Sabelo Simelane was the key technical counterpart at CSO for this study, alao with Fortune Mhlanga for the World Bank report. Thank you to CSO consultant Harold Coulombe.

The authors are grateful for written comments from UNICEF: Nelisiwe Dlamini, Muriel Mafico, Martin C. Evans, and Mariana Stirbu. Useful comments were provided at a June 2013 presentation at UNICEF headquarters from Warren Benfield, Gokce Baykal, Emily Bang, and from UNICEF participants Priscilla Atwani Idele, S. "Sola" Engilsbertsdottir. Valentina Calderon, Nazifa Syeda, Marcio Carvalho, Kendra Gregson, Sheila Murthy, Yves Dubli, Mhedi Ennaifer, and Samuel Momanyi. The authors thank World Bank staff/consultants for comments on previous work: John Elder, Hideki Mori, Emma Mistaien, and Lorraine Blank.

Dislcaimer

The authors are solely responsible for any errors. This report represents the opinions and conclusions of the authors, not of the Frank Batten School of Leadership and Public Policy, the University of Virginia, the World Bank, UNICEF, the Government of Swaziland, or any government/member of the World Bank Group or the UN system.

Executive Summary

This report uses a consumption-based definition of poverty to look at the situation of children and orphans in Swaziland.

- Children are 48 percent of the population of Swaziland, but are 53 percent of the poor.
- 70 percent of children are poor, versus 63 percent of the population, and this difference is statistically significant.
- More than one-tenth of the population is a child under 18 who has lost one or both parents to death.
- Single orphans are poorer than other children, but double orphans are not. These differences are statistically significant.
- Children comprise 57 percent of the extreme poor.
- The child extreme poverty rate is 34 percent, versus 29 percent for the population.
- Child poverty and extreme poverty go up sharply when the number of children in the household exceeds 2.
- Child poverty and extreme poverty are largely a rural phenomenon, following on from the fact that the large majority of the population (76 percent) lives in rural areas. 91 percent of poor children and 96 percent of extremely poor children are rural. Rural areas have problems with access to clean water, adequate sanitation, and electricity.

Swaziland spends about 2.2 percent of its GDP on safety net programs (World Bank 2012) but this spending fails to reach most poor children, and there is no cash transfer for children. This report and World Bank (2012) contain the primary recommendation that a child benefit be piloted or introduced in Swaziland to combat child poverty and extreme child poverty, and also makes secondary recommendations towards that end.

Out of the possible targeting mechanisms for a child cash benefit, this report focuses on a proxy means test (PMT) for child poverty, and three PMT models are presented. Scenarios about the impact on poverty of a targeted child benefit are presented.

Acronyms

ADePT	Software Platform for Automated Economic Analysis
Ae	Adult equivalent
AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
CHH	Child-Headed Household
CSO	Central Statistical Office
DHS	Demographic and Health Survey
DSW	Department of Social Welfare
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IMF	International Monetary Fund
JEL	Journal of Economic Literature
MET	Ministry of Education and Training
MICS	Multiple Indicator Cluster Survey
MLGH	Ministry of Local Government and Housing
MODA	Multiple Overlapping Deprivation Analysis
MOHSW	Ministry of Health and Social Welfare
NCP	Neighborhood Care Point
NERCHA	National Emergency Response Council on HIV and AIDS
NCCU	National Children's Coordinating Unit
NGO	Non-Governmental Organization
OAG	Old Age Grant
OLS	Ordinary Least Squares
OVC	Orphans and Vulnerable Children
PMT	Proxy Means Test
RHVP	Regional Hunger and Vulnerability Programme
SACU	South African Customs Union
SHIES	Swaziland Household and Income Expenditure Survey
SN	Safety Net
STI	Sexually Transmitted Illness
SWE	Swaziland Emalangeni (currency)
TB	Tuberculosis
Tinkhundlha	community or constituency or district
UNICEF	United Nations Children's Fund
WFP	World Food Programme (a UN Agency)

Introduction

Purpose

The purpose of this study is to quantify the poverty status of children and orphans in Swaziland. Poverty can be measured a number of different ways and this report uses the most internationally robust and accepted measures of monetary poverty. Poverty can also be thought of as deprivation and as lack of capability (Sen 1999). However, it is very difficult to compare poverty across countries by using subjective standards such as deprivation, while Sen's capability approach has proved too complex to derive practical applications in the literature. Recent work by UNICEF on multidimensional child poverty (Undated, and de Neuborg *et al.* 2012) is a promising area for future application to Swaziland, but is beyond the scope of this study.

The primary focus of this study is on monetary consumption poverty. As a bottom line, quantifiable measure, consumption-based poverty leads to robust international comparisons and is a reliable indicator of human well-being or lack thereof (see methodology section below). While others have looked at consumption poverty in Swaziland (World Bank 2012), there has been scant recent attention to focusing on child poverty. UNICEF (2009) examined child poverty by using deprivation indicators from the Demographic and Health Survey (DHS) of 2007. However, those results could not be generalized or compared to other middle- and low-income countries.

This report is intended to supplement the recent (2011) report of the Central Statistical Office (CSO), which looked at overall poverty in Swaziland, but did not include any information about monetary poverty status of children. It is also intended to complement the findings about multidimentional child poverty from the 2009 UNICEF study. Unfortunately, this report does not permit an integrated approach to examine child deprivation and monetary consumption poverty as data for the former are found in the Demographic and Health Survey (DHS) and the Multiple Income Cluster Survey (MICS), while data on the latter were derived from the Swaziland Household Income and Expenditure Survey (SHIES). Research is under way for devising a methodology to bridge this divide, but falls beyond the scope of this report.

In addition to the primary purpose of this study: quantification of child poverty in Swaziland; a second aim was to look at the poverty status of orphans. As the extent of the AIDS epidemic became known, much concern was properly focused on HIV/AIDS orphans, with the under-pinning assumption that most orphans would be poorer and more vulnerable than other non-orphaned children. However, this conventional wisdom was not found to be the case for double orphans in Swaziland (our findings) or in many other African contexts (Beegle et al. 2010). The secondary goal of this study was to gather evidence and draw conclusions about orphan poverty in Swaziland.

Objectives

This study aims to quantify the consumption poverty situation of children and orphans in Swaziland. The study will use three types of consumption-based poverty measures to assess the poverty of Swazi children and orphans: the CSO national poverty line, the CSO national extreme poverty line; and the international $1 per person per day poverty line.

The first group of study objectives is to describe the situation of children in Swaziland and to answer questions such as:

- How many children are in Swaziland?
- Where are they located?
- What are their living conditions?
- Do children have access to water, sanitation, and electricity?
- What is the access of children to medical services?
- What is the access of children to education?

The second objective is to look at child poverty in international comparison: $1 per person per day poverty for children and orphans in Swaziland.

The third set of objectives is to describe the situation of poor children in Swaziland:

- How many poor children are there in Swaziland?
- Where are they located?
- What are their living conditions?
- Do poor children have access to water, sanitation, and electricity?
- What is the access of poor children to medical services?
- What is the access of poor children to education?

The fourth set of objectives is to describe the situation of extremely poor children in Swaziland:

- How many extremely poor children are there in Swaziland?
- Where are they located?
- What are their living conditions?
- Do extremely poor children have access to water, sanitation, and electricity?
- What is the access of extremely poor children to medical services?
- What is the access of extremely poor children to education?

The fifth set of objectives is to quantify to the extent possible the following key topics for assessing the overall welfare of children in Swaziland:

- Malnutrition (summary from MICS).
- Child Labor (SHIES and MICS).
- Child Discipline (MICS).
- Teen attitudes towards HIV/AIDS (MICS).
- Teen reproductive health and self-reported sexual activity (MICS).
    - What is the access of teenagers to reproductive health services?

    - How much do children know about HIV/AIDS and sexual health?
- Child-headed households (SHIES).
- Child Deprivation (MICS)

The sixth set of objectives is to analyze the social safety net in Swaziland, and to propose reforms that would directly address child poverty. This analysis would examine the Swazi safety net, including:

- Brief description
- Spending on safety net
- Child-related benefits

The analysis would also flesh out a policy recommendation on the introduction of a child benefit, including:

- Targeting
- Affordability
- Simulated impact on child poverty

Finally, the seventh objective of this study is to draw conclusions about child and orphan poverty in Swaziland.

Context

Swaziland is a small country (17,200 square kilometers or about 85% the size of New Jersey in the US), and is primarily mountainous. The population currently numbers around 1.1 million people. Swaziland was administered by Britain until independence on September 6, 1968 and is an absolutely monarchy governed by King Mswati III. There is a government and a Parliament comprised of representatives from the *tinkhundla* centers, but political parties are banned.

The World Bank and international donors classify Swaziland as a lower-middle income country (World Bank DAC list 2013), but it is actually more similar to low-income neighboring countries like Mozambique in that poverty is broad (63 percent of the population in 2010) and deep (extreme poverty is high at 29 percent). The country's GDP in current U.S. dollars was $4,090,174,846 in 2011 and was $3,891,604,455 in 2010.[1]

The primary reason that Swaziland is classified by DAC as lower-middle income is that the government budget, and therefore GDP, is propped up by customs revenues from the Southern African Customs Union. These revenues are concentrated among the highest 10 percent of the population, and the Gini coefficients for consumption (2010) and income (2001) are estimated as 49.5 and 50.4 respectively.[2]

[1] The World Bank. (2013). Data. GDP (current US$). Retrieved from http://data.worldbank.org/indicator/NY.GDP.MKTP.CD

[2] 2010 Consumption Gini from SHIES 2010 consumption data. Comsumption Gini was 51.2 in 2001. Income Gini from CIA 2013 reporting 2001 data https://www.cia.gov/library/publications/the-world-factbook/rankorder/2172rank.html Accessed 15 May 2013.

Swaziland is the highest HIV/AIDS prevalence country in the world at 26 percent of the population aged 15-49 (UNAIDS 2013)[3] and this report found that one-tenth of the Swazi population in 2009-2010 consisted of a child under 18 who had lost one or both parents (or some 123,000 orphans). UNAIDS estimated[4] that there were fewer orphans in 2011 as 75,000 or a range from 68,000 to 82,000. It is not immediately evident how UNAIDS came up with this estimate. The DHS (2010) estimated that 23.6 percent of children were single or double orphans.[5] Using the 2009-2010 number of children from the SHIES and the DHS share yields an estimate of 115,000-120,000 orphans.

Swaziland has successfully mobilized for anti-retro-viral (ARV) therapy for HIV-positive citizens, with a coverage rate of 83 percent, above that of neighboring South Africa (UNAIDS 2013).[6] The widespread use of ARV therapy has cut the rate of death in the able-bodied ages and consequently, there are fewer new orphans. As a result, Swaziland has a bulge of orphans which is decreasing over time, as older children "age out" (grow up past the age of 18) and fewer new orphans are created as fewer parents are dying from AIDS.

Methodology

There are three major approaches to assessing poverty: using income data, consumption data, or measuring non-monetary indicators of deprivation. This report predominantly relies on defining poverty in monetary terms by using household consumption as a gauge of well-being (Deaton and Zaidi 2002, Ravallion 1994, 1196, 1998, 2003, 2008a, 2008b, 2010 and 2012). Additional detail on methodology can be found in the Appendix.

This report relies on the consumption-based approach used by the Central Statistical Office of Swaziland (CSO 2011), and which is typically used by the World Bank in poverty assessments. The report draws on two kinds of survey data: the Swaziland Household Income and Expenditures Survey (SHIES) and the 2010 Multiple Indicator Cluster Survey (MICS). The SHIES was conducted twice: in 2000-2001 and in 2009-2010. For simplicity, this report uses the end years (e.g. SHIES 2001 and SHIES 2010) to identify the surveys. The SHIES includes data that can be used to estimate consumption poverty while the MICS does not.

This report relied primarily on the 2010 SHIES because that survey was nationally representative and many variables of interest that have not been investigated for children and orphans. Sampling weights were provided so that all findings would be representative for the population as a whole in 2009-2010. Additionally, trends from the 2001 SHIES can also be analyzed (although there is no information about orphans in the

[3] http://www.unaids.org/en/dataanalysis/datatools/aidsinfo/. Accessed 15 May 2013.

[4] Same source as footnote 2.

[5] The DHS did not include population sampling weights, so it lacked an estimate of the number of orphans. See annex 1 Orphan Estimation Methodology.

[6] Same source as footnote 2.

2001 SHIES. Finally, report findings can be easily replicated at CSO because this report used the CSO poverty, consumption, and other variables.

The MICS did not include population sampling weights, but rather used "non-response weights" (MICS Report 2011, Appendix A). From the MICS technical annex, it appears that a full set of population weights was not calculated, so we cannot generalize the MICS findings. This lacuna also precludes the integration of the multidimensional deprivations of the MICS with our findings about consumption poverty of children. Where possible, we use the MICS to supplement our findings about children and orphans in Swaziland.

Consumption is defined as household expenditures (purchases) plus the imputed value of food consumed from the own-production of households. Consumption is generally regarded as a more reliable indicator of household welfare than income in countries with large informal sectors or which are predominantly agrarian with low degrees of monetization of the economy.

The Swaziland Household Income and Expenditures Survey (SHIES) interviews were conducted in 2009-2010 and nominal figures were deflated to January 2010 by using the consumer price index. CSO provided the full data sets and many variables calculated which can be used to assess child and orphan poverty.

This study uses three poverty lines: $1 per person per day poverty (for international comparison), national poverty, and national extreme poverty. The poverty and extreme poverty line methodology is explained in CSO (2011), while extensive information about the World Bank's $1 per person per day line is available on-line at www.worldbank.org.

CSO (2011) provided estimates of the P1 or poverty gap measure, which indicates how far below the poverty line, on average, is the consumption of the poor. Thus the poverty gap is a measure of the intensity of poverty of families and gives a more complete picture of the depth of poverty. P2 is also calculated by CSO, which is a measure of poverty severity as defined by Foster, Greer, and Thorbecke (1984).

Standard poverty methodology is to estimate poverty for the population as a whole, using sampling weights. Without sampling weights, estimates of the share of households, which are poor can be sharply different from the share of the population, as larger households are typically smaller under most reasonable equivalence scales. In particular, child poverty is understated if sampling weights are not used. Unfortunately, the MICS did not include sampling weights for children aged 2-17 (nor for adults over reproductive ages), so our standard poverty measures are all from the SHIES, on the population level.[7]

Limitations

[7] Comparison of national-level and household-level poverty are provided below.

The primary limitation of this study is that it is based on monetary poverty. Reliance on monetary measures of poverty means that some forms of deprivation (like lack of access to medical care, malnutrition, reproductive health, or education) may not be captured well. While present in the MICS, questions about these forms of deprivations are lacking in the SHIES, which has made comparison across different surveys challenging. Methods to integrate multidimensional poverty measures (Bourguignon and Chakravarty 2003, de Neuborg *et al* 2012) have remained unimplemented, owing to data and time constraints.

UNICEF is undertaking research on how to integrate monetary poverty indicators with deprivation indices, as these are typically found in two different data sources: monetary poverty from household income and expenditure surveys; and deprivations (MICS). Swaziland could be an example for this work, since its SHIES and MICS were conducted in overlapping time frames. However, the lack of population weights in the MICS makes this a formidable challenge and one that could not be resolved within the framework of this report.

Children's Demographics

Full demographic data on children are available only once every ten years when a population census is taken. However, statistical agencies observe protocols to estimate population in non-census years by drawing nationally representative samples from the census frame. People in the sample are surveyed and if the sample is drawn correctly, the findings are nationally representative in non-census years. For example, the most recent Swaziland population census was in 2007 (CSO 2009). 2007 population totals and children by age-group and gender are presented in Table 1.

Using the 2007 census data, the CSO drew a nationally representative sample for the 2010 SHIES. The SHIES can then be used for a number of purposes, including population estimates. Population totals and children by age-group and gender for 2010 are presented in Table 2. Similarly, with the previous census, the SHIES 2001 produced population estimates. 2001 population totals and children by age-group and gender are presented in Table 3.

There are a number of striking characteristics of the Swazi population as evidenced in Tables 1-3. First, although more than half of the population in 2001 comprised children, the population growth rate to 2007 and 2010 was quite low, increasing from 963,096 persons to 1,017,406, or only 5.46 percent over the decade. This lack of overall population growth was caused by high death rates from HIV/AIDS before ARV therapy became widespread. Children comprised 47.8 percent of the 2010 population, slightly less than in 2001 when 51.7 percent of the population was under 18.

Age Distribution

Owing to a declining birth rate (DHS 2006-2007 and MICS 2010), there were fewer children aged 0-4 than in the older cohorts in both 2001 and 2010. The distribution by age of children under 18 is presented in Tables 1-3. The standard presentation of

demographic information is by five-year cohorts, but the age of majority in Swaziland is 18, so the final cohort is a three-year one (ages 15-17).

Gender Distribution

There are fewer girl children than boys, reflecting natural trends in countries without widespread gender selection. More boys than girls are conceived and born, but males also die disproportionately early, and women outlive men as can be seen in the population age-pyramid graphs (Figures 1 and 2). The only exception to this general rule is caused by high maternal mortality in women of child-bearding age (particularly the 25-29 cohort). This trend is also noted in the 2010 children female-to-male ratio in the age thresholds, which only climbs over 1 for children aged 5 to 9.

Rural/Urban

Swaziland is a predominately rural country (75.8 percent of the population lived in rural areas in 2010 according to the SHIES), and children are disproportionately living in rural areas (82.9 percent). In fact, the share of children in rural areas increased slightly from 2001 (81 percent) to 2010. The urban/rural distribution of children in 2001 and 2010 is presented in Table 4.

Regional

Swaziland is a small country that is divided into four administrative regions (Figure 3). The population density concentrated from 2001 to 2010 in the Manzini region (which include the commercial center of Manzini city), followed by the Hhohho region with the administrative capital of Mbabane (Table 5). In 2010, Manzini region accounted for more than a third of the country's population, while low-lying Shiselweni and Lubombo comprised one-fifth each. The remaining 26 percent of the population was located in Hhohno.

Children were distributed in a similar pattern in 2010, although there were slightly fewer children in Manzini region (31.5 percent) and correspondingly, slightly more in the other three regions. In 2001, the country was less urbanized, with only 29 percent of the population and 27.7 percent of children in Manzini (Table 5).

Orphans

Regrettably, there were no questions asked about orphan status in the 2001 SHIES, nor in the 2007 Census. Estimates of the number of orphans vary considerably. The 2010 SHIES is probably the most reliable as it asked detailed questions about the parents of every respondent. According to the 2010 SHIES, there were 120,534 orphans in Swaziland. Estimates according to type of orphan (single paternal, single maternal,

double) are presented in Table 6. Single paternal orphans represent the highest share of orphans (about 14.6% of children) while maternal and double orphan represent each about 5% of children. Like children in general, orphans are more likely to live in rural areas (Table 6). Approximately 82 percent of non-orphaned children are in rural areas, but 88 percent of orphans are rural residents. Girls aged 15-17 that are orphans are also more likely to have been pregnant than not.

Household Type

The majority of children lived in households with adults, or about 73 percent of children in 2001 and 68 percent in 2010 (Table 7). With the general aging of the population, the number of children living in households with elderly members as well as adults increased from 25 percent in 2001 to 28 percent in 2010. Very few children lived only with other children and elderly member (no adults), but this share doubled from 2001 to 2010 probably as the result of the AIDS epidemic, which claims many adults' lives. Child-headed households are analyzed further below.

Housing Conditions: Water, Sanitation, and Electricity

Housing conditions are highly correlated with urban or rural location, as the rates of access are much higher in urban areas. Since children are more likely to live in rural areas, their access to water, sanitation, and electricity is less. Data on the access of the general population and of children to water, sanitation, and electricity are presented in Table 8. We can see that only 28% of children had accessed to improved sanitation and 33% had electricity.

Access to Healthcare

The SHIES did not include detailed information about access of the population or of children to healthcare. The 2010 SHIES queried whether the household member had sought medical attention in the past four weeks. The SHIES also queried which disease the household member had experienced. Unfortunately these questions are at best indicators of morbidity and do not allow the assessment of the proximity and affordability of health clinics and services.

The DHS and MICS surveys included modules on health of children aged 0-23 months, including immunization records, but also did not query about the nearest clinic or doctor. The DHS and MICS also looked at reproductive health and maternal mortality.

Access to Education and Out of School Population

Net enrollment rates were found to be high, but not universal (data from SHIES, in CSO 2011). Primary net enrollment was found to be 85 percent for boys and 87 percent for girls. Progression from primary to secondary school was low and only 37 percent of boys

and 41 percent of girls were enrolled in secondary school, although this had improved substantially over the period 2001 to 2010.

Schooling is not compulsory in Swaziland, and school fees are in force even for primary education. After accounting for individuals being too young to attend school and individuals already having completed school from the list of reasons for having stopped or never having attended school, 60% of individuals replied that they did not have money for school costs. Focusing on individuals aged 15 to 20 (those are likely to be in the age range for secondary education), 54% of individuals replied that they did not have money for school costs, while 15% of individuals replied that their pregnancy did not allow them to attend school. Additionally, employment options especially for children are quite limited, so it is not surprising that a significant share of children are neither employed nor enrolled in school (such children are termed "out of school, OOS). The OOS share of children under 18 was 7.24 percent, with girls being more likely to be OOS (8.3 percent) than boys (6.2 percent), driven primarily by the fact that both more younger and more older girls are OOS than boys (Table 9).

Child Poverty

Following standard poverty methodology, we compare household consumption to three poverty lines: (1) the World Bank's International $1 per person per day Purchasing Power Parity (PPP) and is compared to per capita consumption; (2) per equivalent consumption is compared to the national poverty line; and (3) per equivalent consumption is compared to the extreme (food-only) poverty line. Since the findings from the national poverty line are much more robust as they take into account equivalence and prices in a way that the PPP line does not, we present the bulk of our findings for poverty and extreme poverty as defined by CSO. In this report, children are considered poor (or extreme poor) if they live in households with per equivalent consumption below the poverty (or extreme poverty) line.

International Poverty

Poverty as measured by $1 per person per day PPP in Swaziland sharply increased from 2001 to 2010, regardless of PPP rates used (i.e. World Bank or UNDESA), (Tables 10 and 11). Examination of real household consumption in the SHIES shows that it declined sharply for the bottom 25 percent of the distribution. Median real household consumption fell from SWE 1,345 in 2001 to 1,245 in 2010, but mean consumption of poor households was virtually unchanged (SWE 1,356 in 2001 to 1,343 in 2010, this difference is not statistically significant). Mean consumption did increase from 2001 to 2010, but this improvement was all in the top 30 percent of households.

The Gini coefficient for per equivalent household consumption declined from 51.1 percent in 2001 to 49.5 percent in 2010. This indicates that inequality overall increased in Swaziland from 2001 to 2010. A closer look at the decomposition of this overall decreased indicated that a slight decrease in inequality in the lower parts of the distribution was offset by increased inequality in the top three deciles.

As a share of the population, $1 per person per day poverty increased from 17 percent of the population to 33 percent in 2010, reflecting the sharply decreased consumption in the bottom 25 percent of the population. CSO (2011) found that there was little change in the extreme poverty rate, which remained about as high in 2010 as it was in 2001. $1 per person per day was higher for children (40 percent in 2010) than for the population as a whole, and children comprised 58 percent of the poor (but only 48 percent of the population).

Food prices increased sharply since 2008, and Swaziland as a net food importer experienced this price shock, which was identified by many households as one of the three largest shocks they faced in 2009-2010 (World Bank 2012). A predominant coping strategy was to cut back on food consumption, so it is likely that the PPP poverty line increased from 2001 to 2010 while real consumption declined for the poorest.

World Bank estimates of poverty trends using the international poverty lines suggest that absolute $1 per person per day poverty decreased through 2008 (Chen and Ravallion 2012), but Swaziland was not included in the sample of Sub-Saharan African countries used (Ravallion, Chen and Sangrula 2008). The World Bank poverty rate for Sub-Saharan Africa of $1 per person poverty in 2008 was 47.5 percent, so even with the increase in such poverty from 2001 to 2010, Swaziland had less absolute poverty than many neighboring countries. $1 per person per day poverty rates for regions of the world from the World Bank's World Development Indicators are presented in Table 12.

Child Poverty Trends

Poverty in Swaziland decreased from 69 percent in 2001 to 63 percent in 2010, and this difference was statistically significant (Tables 10 and 11). Poverty for children was higher than for the population as a whole. In 2001, the poverty rate for children was 74 percent (vs. 69 percent overall), and in 2010, it was 70 percent (vs. 63 percent overall). The number of poor children declined from 366,631 to 341,334, with children accounting for 55 percent of the poor in 2001 and 53 percent in 2010.

The remainder of this report will focus on child poverty correlates for 2010, as this information is the most recent. With the exception of orphan status, most of the tables for 2010 in the main report can be replicated for 2001 upon request.

Gender and Age of Children

Boys are poorer than girls--71 percent versus 69.2 percent, this difference is statistically significant at the 99 percent level (Table 13, Figure 4) and comprise slightly more of children (50.7 percent). The poor boys outnumber poor girls by each age group (Table 14), and the poverty rate consistently increases with the age of boys, but not with girls. The "age effect" probably results from the fact that older children are more likely to live in families with younger children (see immediately below).

Number of Children

The number of children in a household is strongly correlated with poverty (Table 15, Figure 5,) even though the poverty line was compared to per equivalent household consumption, which should take into account the differing consumption needs of people. The lowest poverty rates were observed in households without children (11 percent of the population but only 5 percent of the poor), and poverty increased steadily with an additional child until topping out 86 percent for households with 7 or more children.

The share of children declines as consumption increases (Figure 6), with average household size declining even more sharply (Figure 7). Figures are oriented with the lowest per equivalent consumption decile on the left, and the top 10 percent of the population according to per equivalent consumption on the right.

Household Type

There are four household types which include children (Table 16): multi-generational households with children, adults, and elderly (28 percent of children live in such a household); elderly and children (no adults, 2.9 percent of children live in such a household); adults and children (no elderly, 68 percent of children live in such a household); and child only households (0.5 percent, share is not statistically significant). Households with only adults and children are much less poor (65 percent) than household with more dependents (both children and elderly) with a poverty rate of 82 percent (Figure 8). As with the number of children, households with children are poorer than households without children.

Orphans

Orphans are a major concern in Swaziland, although the effective rollout of ARV therapy is greatly reducing inflow into the stock of orphans while children are continuously "aging out" of orphan status by reaching the age of majority (18 years). While the acronym for Orphans and Vulnerable Children (OVC) is commonly used, vulnerability remains so poorly defined as to be almost meaningless. Following World Bank (2012), we think of vulnerability as extreme poverty (which is discussed in the following section). Here, we look at orphans and poverty in Swaziland. We agree with the World Bank (2012) and the MICS that double orphans are not at a higher risk of poverty (Table 17). Single orphans, however, are poorer than double orphans and non-orphans (Figure 9).

The reason for the statistically significant differences in poverty rates between single and double orphans and non-orphans (or children in general) appears from qualitative evidence to be what Beegle et al. (2010) termed "selective placement" in 23 African countries. Selective placement of double orphans happens when the extended family places the double orphans in a better-off household, following the common sense idea that better-off households have more means to support the double orphans. We do not

find any evidence for selective placement for single orphans, however. We postulate that at 10 percent of the population, there were simply too many single orphans for informal coping mechanisms like selective placement to function. While there is a difference in poverty rates between maternal and paternal orphans, this difference is not statistically significant. In order to confirm the hypothesis that double orphans are selectively placed in a better-off household, a tracking study of how orphans move around extended families would be needed. At the minimum the orphan modules in the SHIES or MICS should include precise questions about when orphans became members of the household.

There are also more questions that would be useful to add in the next iterations of the SHIES to better assess orphans' poverty and devise appropriate poverty reduction policies. Questions on how food is allocated among children in households with orphans would provide better information about the treatment of orphans. Questions about retroviral treatment would help identify which families benefited from these treatments and would thus help indicate which groups of orphans need the most help.

Urban/Rural and Regional Child Poverty

Children in rural areas are sharply poorer than children in urban areas (Table 18, Figure 10). 91 percent of poor children live in rural areas, while the poverty rate of urban children is only 36 percent—less than half of the poverty rate for the population as a whole. There is only slight regional variation in child poverty as the country is so small, and the rural/urban difference really drives poverty outcomes. The child poverty rate is under the national average in Manzini region (Figure 11), but since this region is the largest in terms of the number of children, it also has the greatest number of poor children (Table 19).

Water, Sanitation, and Electricity

As just noted, poor children are concentrated in rural areas, which have significantly less access to improved water sources, sanitation, and electricity. Looking at child poverty, we see that improved water (Figure 12, Table 20), improved sanitation (Figure 13, Table 21), and electricity (Figure 14, Table 22) are all strongly correlated for children who are not poor. In order to create these tables, the authors used the UNICEF classification of improved water and sanitation to create variables that were corresponding to the categories listed in the SHIES survey. These categories as well as other dwelling categories were not harmonized with the MICS survey. As UNICEF is working to integrate monetary poverty into the MICS to better capture other dimensions of poverty, it would be useful that the next iterations of questionnaire of the MICS and SHIES adopt the same categories for dwelling variables.

Out of School Child Poverty

OOS children are 75 percent poor, but the number of poor OOS children is low as the OOS group itself is not large—only 8 percent of poor children are OOS (Table 23). The

poverty rate of OOS children (75.3 percent) is slightly above the overall child poverty rate of 70.1 percent) but is not dramatically different.

Child Extreme Poverty

Extreme poverty in Swaziland decreased from 30 percent in 2001 to 28.8 percent in 2010, but this difference was not statistically significant (Tables 10 and 11). Extreme poverty for children was higher than for the population as a whole, and actually increased over the decade. In 2001, the extreme poverty rate for children was 31.9 percent (vs. 28.8 percent overall), and in 2010, it was 34.1 percent (vs. 28.8 percent overall). The number of extremely poor children actually increased from 158,741 to 165,898, with children accounting for 55 percent of the extreme poor in 2001 and 56.7 percent in 2010.

Gender and Age of Children

Boys are poorer than girls—34.9 percent versus 33.2 percent, this difference is statistically significant at the 9 percent level (Table 13) and boys comprise slightly more of children (50.7 percent). Extremely poor boys outnumber poor girls by each age group (Table 14), and the extreme poverty rate did not monotonically increase for either girls or boys. It is not clear why there is a bulge of extreme poverty at ages 10-14, and this area merits further research.

Number of Children

The number of children in a household is strongly correlated with extreme poverty (Table 15)—the same pattern as with poverty. The lowest extreme poverty rates were observed in households without children (11 percent of the population but only 2.6 percent of the extreme poor), and extreme poverty increased steadily with an additional child until topping out at 53.2 percent for households with 7 or more children.

Household Type

Households with only adults and children are much less extremely poor (31.2 percent) than household with more dependents (both children and elderly) with a poverty rate of 40.2 percent (Table 16). Again, the same pattern is observed for poor households. Keeping in mind the fact that the poverty rate for households without children is a little bit below 29%, Table 16 confirms the observation that the presence of children in the household increase the likelihood of poverty.

Orphans

Extreme poverty in orphans follows the same pattern as poverty did. Single orphans are more likely to be extremely poor (38.7 percent) than double orphans (25.6 percent), and

double orphans are less extremely poor than non-orphans (33.4 percent). The only difference is that maternal orphans are less extremely poor than paternal orphans, which is the opposite result for poverty. The reasons behind this reversal are not clear and warrant further investigation.

Urban/Rural and Regional Child Poverty

Children in rural areas are more extremely poor than children in urban areas (Table 18). 96 percent of extremely poor children live in rural areas, while the extreme poverty rate of urban children is only 7.4 percent—about one-fifth of the extreme poverty rate for the population as a whole. There is only slight regional variation in child extreme poverty as the country is so small, and the rural/urban difference really drives poverty outcomes. The child extreme poverty rate is under the national average in Manzini and Shiselweni regions (Table 19).[8]

Water, Sanitation, and Electricity

As just noted, extremely poor children are concentrated in rural areas, which have significantly less access to improved water sources, sanitation, and electricity. Looking at child poverty, we see that improved water (Table 20), improved sanitation (Table 21), and electricity (Table 22) are all strongly correlated for children who are not extremely poor.

Out of School Child Poverty

OOS children are 36 percent poor, but the number of extremely poor OOS children is low as the OOS group itself is not large—only 8 percent of extremely poor children are OOS (Table 23). The extreme poverty rate of OOS children (35.8 percent) is slightly above the overall child extreme poverty rate of 34.1 percent) but is not dramatically different.

Swaziland's Safety Net for Children

Swaziland has a limited public safety net. The World Bank (2012) recently studied Swaziland's safety net in depth. Some of the analysis in this report was done by the author and research assistants directly for the World Bank, either for the 2012 study (on poverty) or for previous work (on the safety net and poverty (Braithwaite 2011, 2007)). Other information (such as safety net spending and coverage) was compiled by the World Bank (2012) for its study, and is kindly reproduced here with permission

The public safety net in Swaziland is sparse in terms of benefits delivered to poor children. A comprehensive list of the programs, coverage, and expenditure is presented

[8] CSO (2011) and World Bank (2012) also found a sharp decline in poverty and extreme poverty in Shishelweni from 2001 when it was the poorest region to 2010. The reasons for this are unclear.

below (Table 26, from World Bank 2012). While the list may appear long, the reader is cautioned that most programs cover very few beneficiaries. The largest safety net programs relevant to children are profiled here: the old-age grant (OAG, which many elderly use partly for their grandchildren's needs), OVC grant (a bursary partly covering school fees), school feeding, and pre-school feeding through the Neighborhood Care Points (NCPs), with food previously supplied by UN agencies (WFP and UNICEF) and now substantially left to charities like World Vision. Much more detail about Swaziland's safety net and especially costs are found in World Bank (2012). Although small, the Young Heroes program is also profiled here.

Old Age Grant

In 2005, Swaziland introduced an Old-Age Grant (OAG) intended to partly offset the burden of caring for OVC that has been placed on many of the Kingdom's elderly. However, the OAG is a flat rate for all elderly persons aged 60 and above—it is not differentiated in amount between an elderly person living on his or her own, and the grandmother or grandfather who is looking after 1, 3, 5, or even more OVC. Further, the OAG at Swazi Emalangeni (SWE) 200 per month is equivalent to the extreme poverty line of SWE 215 per month, not the overall poverty line of SWE 461 per month (CSO 2011, p. 7). The OAG is a universal demo-grant paid to all elderly 60 and above.

The OAG was assessed in 2010 (Regional Hunger and Vulnerability Programme (RHVP), HelpAge International, and UNICEF 2010, hereafter RHVP et al. 2010) using qualitative methods—beneficiary assessment. The OAG was found to increase meal frequency, food quality, ability to purchase food, and ability to buy in bulk (RHVP et al. 2010). Nearly 70 percent of OAG recipients spent more on groceries and 63 percent spent more on protein while 71 percent reported that they were "more able to afford health care" (RHVP et al. 2010, p. 5).

Analysis by the World Bank (2012) indicated that the OAG is poorly targeted—about 28 percent of beneficiaries were not poor and 11 percent of beneficiaries are from the two highest deciles. There is a means test for the OAG but it is not typically implemented. The OAG is quite important to the extremely poor as it accounts for a major share of their consumption, but dwindles to a mere 1-2 percent of the consumption of the highest 20 percent (World Bank 2012). Eighty-three percent of the elderly do not live with an orphan, and about 55 percent of orphans do not live with an elderly person (SHIES 2010). However, households that do contain orphans typically have at least two orphans and can have as many as six or more (SHIES 2010), but the OAG does not vary with the number of orphans.

OVC Grant

The Government introduced the OVC grant in 2003 to cover school fees for OVC, not for food or other needs. Using the 2010 SHIES, we estimated 120,500 orphans, and the World Bank (2012) found the OVC program to cover about 118,000 children. The World Bank also found that the program was poorly monitored and that amounts of the grant could vary sharply along with other expenses beyond tuition and further that school

fees alone ranged from "from [SW]E560 per year for primary students to [SW]E2,500 per year for Form IV students. The bursary covers approximately 65 percent of average primary school fees and somewhat less than 30 percent of average secondary school fees.[9]" (World Bank 2012, paragraph 119). The Auditor General estimated that 8 percent of beneficiaries were not eligible, for various reasons including fraud and double-payments (World Bank 2012, paragraph 122).

School Feeding

School feeding programs are extensive but spending on them was not exactly quantifiable (World Bank 2012). School feeding programs do not meet all the food needs of students—they do not operate on weekends or during school vacations, and approximately 7-8 percent of children are OOS and therefore not in receipt of school feeding at all.

Neighborhood Care Points (NCPs)

Beginning in 2001 (UNICEF 2006) or 2002 (MLGH and NCCU 2009), a system of NCPs has evolved in Swaziland to provide feeding to pre-school children (Figure 12). In 2011, there were about 400 NCPs in operation (438 according to UNICEF 2006). UNICEF and ECHO provided the initial funding for building the NCPs, while the food that they distribute to children was initially provided by WFP and UNICEF. However, WFP reduced its presence in Swaziland in 2010, and the resultant gap has only partly been covered by charities like World Vision.[10]

The World Bank (2012) estimated that approximately 55,000 children were being fed in NCPs. There are approximately 136,000 children under five, and on average, 43,000 are extremely poor (Tables 2 and14). The SHIES did not include a question on NCP feeding so it is not possible to quantify how many of the NCP-fed children are poor or extremely poor. In 2010-2011, WFP suggested that 161,000 people were food insecure and stated it planned to reach 54,000 beneficiaries in 2011.[11]

NCPs were intended to evolve into early childhood development centers (MLGH and NC 2009) but in practice, pre-school children do not come to the NCPs unless they are fed. NCPs are typically open for a half-day (8 AM to 1 PM) and provide breakfast and lunch. NCP staff members are usually volunteers—only occasionally does staff receive food rations as compensation (UNICEF 2006).

---

[9] Primary school fees range between E800 and E1,000. Secondary school fees range between E6,000 and E10,000.

[10] One NCP visited in both July 2010 and March 2011 is illustrative. Close to Manzini, the NCP had a pump and latrines—many do not. In July 2010, the volunteers were barely able to feed the children as they had not received food from WFP for several weeks. In March 2011, the same NCP was receiving food for 48 out of the 63 children from World Vision, and relying on the community and their own contributions for feeding the others. In March 2012, financing had stabilized but the NCP was still reliant on local donations.

[11] http://www.wfp.org/countries/Swaziland/Operations accessed 24 June 2011

Young Heroes

Young Heroes is a cash grant program administered through a secretariat within the National Emergency Response Council on HIV and AIDS (NERCHA) and targeted to double orphans. Young Heroes is child sponsorship program funded grants from local and foreign donors and by NERCHA.

Community members are responsible for identifying beneficiaries. Young Heroes staff members make home visits to verify need, including living conditions, elderly persons on homestead, working adults, and sources of income. As of December 2011, there were 887 beneficiaries in 497 households. Grants are equal E180 (USD 23) per month or 39 percent of the adult equivalent poverty line and 84 percent of the adult equivalent food poverty line. Benefits are paid semi-annually through Post Offices. Monitoring Officers visit school once per year to verify that children are enrolled and to ensure they are not getting assistance from other sources. In addition to providing cash grants, Young Heroes also runs HIV testing and care program for the children and runs week-long camps for HIV-positive children twice per year.

Selected Topics

This chapter summarizes information from a variety of secondary sources, from direct calculations from the SHIES database, from reports developed using SHIES data, from the MICS database, and from the MICS report (2011). The single most important findings from the MICS are that stunting (31 percent) is widespread in Swaziland; and that teenagers have a high degree of knowledge about HIV/AIDS, but lag far behind in using methods to minimize their risk of contracting the infection. All information for teenagers was calculated by the authors directly from the MICS database. Statistics pertaining to the population as a whole, or for children under 5 and men and women of reproductive health, are drawn from the MICS report (2011).

Malnutrition

Under-nourishment in children is determined by the three following nutritional status indicators by WHO: weight-for-age, height-for-age, and weight-for-height. Stunting, or height-for-age, is used to find linear growth, which is also impacted by malnutrition in the long term. And weight-for-height is influenced in the short term because of recent shortage of nutrients or disease presence.

The children's measurements were taken using anthropometric equipment recommended by UNICEF. Then, a standard deviation is applied to gauge a child's nutritional level for each of these indicators. If more than two standard deviations below the median of the reference population, a child's case is moderate or severe. If three standard deviations below, it is considered severe.

Under-nutrition is highest for children in lower income families, with mothers with lower education levels, with the greatest concentration in the Shiselweni region. In contrast, 11 percent of Swazi children under-five are overweight. These rates are higher for children

from richer households, have mothers with higher levels or education, and who live in urban areas.

Swaziland has an especially high rate of *underweight* children at almost six percent for children under five with one percent as severely underweight. This is even higher for children ages 6-11 months for whom rates of underweight children are closer to nine percent. Other during this time range, rate of underweight children is consent throughout the first 60 months.

31 percent of Swazi children under five are *stunted* with 10 percent having severe cases. These rates can be as high as 39 percent in the age group of 24-35 months, or 19 percent in the 0-5 months age group. So the graphed curve for percent of stunted children by age curves upward until a peak at 30 months then downward.

One percent of children under five are *wasted*, half severely. These children come also mostly come from low-income families, with mothers with low education, and mostly in the 0-11 month age group. This rate decreases as a child grows because of survivor bias.

Breastfeeding is often an economical and safe solution to complication from under-nutrition of a child. It provides essential nutrients that build a child's immune system to protect from disease. Often, without access to clean drinking water, breastfeeding can be a better option as soon as birth and as long as two years after. On average, 91% of children are breastfed in Swaziland, with the least being 89% in the Hhohho region. Additionally, the highest rate of breastfed children are in the poorest wealth index quintile, have mothers with the lowest levels of education, live in a rural area, and were delivered in a private or public sector health facility rather than at home.

Another option, bottle-feeding, is not recommended because of lack of clean drinking water. Urban children are bottle fed more often than rural children. Additionally, the percentage bottle-fed increases with a child's age, more wealth in a household, and educational level of the mother.

WHO/UNICEF encourage Swazi mothers to begin feeding within the first hour of birth, keep feedings frequent, and continue until the child is two years old (regardless of mother's HIV status). If exclusive breast-fed, a child only receives breast milk. This is recommended for the first six months of life, and after this point, predominantly breastfeeding becomes beneficial. 44 percent of Swazi children six months old and younger are exclusively breastfed and 60 percent are predominantly breastfed. Children in rural areas, such as Lumbombo and Hhohho, are more likely to be exclusively breastfed than in urban areas, like Manzini and Shiselweni regions. There is also an inverse relationship with a mother's educational level, with highest levels being with mothers with no education or just primary educations.

Additionally, as the child grows to need more than breast milk, the organizations also suggest prelacteal feeds. Their findings show that children in rural areas were more likely to receive these supplementary feeds than those in urban areas, although household wealth has little correlation. With time, it is recommended that meal frequency and

portion size of soft, semi-solid, or solid foods also increases. This highest percentage of this adequate feeding is in Manzini region and lowest in Lubombo. Adequate feeding is closely related to household wealth and families with higher income are more likely to provide the minimum number of feeds to a child.

It is an international goal to reach elimination of iodine deficiency from salt by 2015. This is because Iodine Deficiency Disorders (IDD) is correlated to mental retardation and impaired psychomotor development in children. Additionally, it can cause cretinism, and increases the risk of stillbirths or miscarriages, and goiter. Yet, in 52 percent of households 15 or more parts per million of iodine was found in salt supplies, and this amount is considered adequately iodized. Wealthier households with higher levels of education had highest uses of iodized salt than lower wealth households.

Similarly, receiving dietary requirements of Vitamin A is beneficial for eye health and proper functioning of the immune system to fight off disease. Milk, liver, eggs, red and orange fruits, and green leafy vegetables contain high levels of Vitamin A. But in parts of the world where milk and protein is less often consumed, there is a deficiency in children that results in less resistant against infections and disease.

To reach the goal of reduction of child mortality, many recommend high dosages to young children, pregnant, and breastfeeding women. High dose vitamin A capsules are recommended, and 68 percent of children 6-59 months did received these in the six months before the MICS survey was conducted.

Less that adequate nutritional status of a mother can cause low birth weight of a child. There are higher rates if a mother has poor nutritional status before conception, has short stature because of under nutrition in her own development, and continued poor nutrition. For the child, this results in long-term growth complications such as immune system deficiencies, reduced muscle strength, impaired fetal growth, and slower mental development. Still, nine percent of infants weighted at birth are less than 2,500 grams. Mothers of higher educational levels are less likely to birth an underweight child than those with lower levels of education.

Child Labor

Although there are clear, highly negative, welfare implications for child labor, in neither the MICS nor the SHIES is child labor measured well. The MICS survey asked about child labor for children aged 5-14, while the SHIES queried children aged 12-17. Most people interviewed did not answer the SHIES child labor questions at all, so our results are too few for statistical significance.

We further noted in previous work (World Bank 2012) that the term "work" did not seem to be understood by SHIES respondents in the way the survey designers wanted. In particular, "did you work" appeared to be understood by respondents as did they work in a formal job, with cash payment. Such employment is scarce in Swaziland, in particular in the rural areas where children are concentrated.

For the MICS (weighted), 1.25 percent of children aged 5-9 were reported to work for pay and 3.08 percent were reported to have unpaid work, both outside of the household. The corresponding percentages for children aged 10-14 were 3.22 percent (paid) and 3.64 percent (unpaid) work. Most questionnaires were answered, so that we know that 96 percent of children aged 5-9 were reported to not work, and 93 percent of children aged 10-14. However, we do not know how the respondents thought of the word "work"

The MICS finding does not match to the SHIES for children aged 10-14, where 0.97 percent were reported to have "worked at least 1 hour in the last 30 days." This percentage increased to 4.15 percent of children aged 15-17. However, the question was answered for less than half of the children in each of these two age groups.

Child Discipline

The MICS report (2011, p. 161) stated that 89 percent of Swazi children aged 2-14 experienced at least one form of "psychological aggression or physical punishment by their caretakers or other household members." However, this percentage was derived simply by adding up the total number of positive responses for any one of eight questions about severe discipline. It is not only possible but quite likely that caretakers who used one form of severe discipline would use others as well. The design of the MICS question (p. A81) clearly allows for double- or multiple-counting, since the discipline questions are not exclusive. And it's highly likely that abusive caretakers would use more than one kind of severe punishment, thus causing multiple counting if one merely tallies the positive responses to all the severe discipline questions. Furthermore, the MICS (2011) report states that 82 percent of respondents believed in corporal punishment, but this question did not differentiate between spanking and severe physical abuse.

A far more encouraging story emerges if one examines the other questions. For example, 73.5 percent of respondents who had children aged 0-4 reported that they explained why the behavior was wrong, and this increased to 77.1 percent of children aged 5-9 and 76.7 percent of children aged 10-14. And about half of respondents reported that they withdrew privileges for bad behavior, as opposed to 23 percent reporting spanking for children aged 0-4 (and this fell to 15.8 percent of children aged 10-14.

Teen Attitudes & Knowledge about HIV/AIDS

The MICS report (2011) did not separate out teens (aged 15-17) from men and women of reproductive age. We did so, but the MICS did not include population weights, so we simply report findings for the teenaged men and women surveyed in this section and in the next. There were 645 teenage men surveyed and 678 teenage women. 97.7 percent of the teen men and 98.5 percent of the teen women had heard of HIV/AIDS. Rates of informed opinion about HIV/AIDS were overall high for both groups (Table 24). For example, only 2 percent of teens thought HIV/AIDS could be caused by witchcraft, and only 6 percent of ten boys and 4 percent of ten girls thought it could be cured by sex with

a virgin. Attitudes towards HIV/AIDS were progressive, with 94 percent of teen boys and 95 percent of teen girls stating that they would take care of a family member with HIV/AIDS in their own household.

Teen Reproductive Health

The MICS questionnaire asked a few more questions about reproductive health for teen women than teen men, since only females can be pregnant. For male teens, 7.1 percent of the 644 respondents reported that they used methods to avoid pregnancy and 66.7 percent of 571 respondents reported that their partners used birth control or that they would permit their partners to do so. Only 1 and 4 teen male respondents respectively reported that they had a sexually transmitted illness (STI) or STI symptom in the past 12 months. 16 percent of teen males reported that they were circumcised, and 53 percent said circumcision was for health and hygiene reasons while 42 percent said they were circumcised to prevent HIV/AIDS. Interestingly, 79 percent of teen men reported that they would circumcise a son.

66 percent of male teens and 73 percent of female teens knew that other STIs beyond HIV/AIDS were transmitted through sexual contact. Only 3, 13, and 10 female teen respondents reported that they had respectively: a STI, or one of two STI symptoms.

2.4 percent of teen females surveyed (16 teens out of 677) reported that they were pregnant at the time of the interview, and 8.2 percent (56 out of 678 respondents) reported that they had ever been pregnant. Of the 56 who reported that they had been pregnant, 53 had the child and 4 reported a miscarriage or abortion (double-counting of 1 means that one respondent had two pregnancies or else there was a transcription error).

66 out of 660 teen female respondents (10 percent) reported that they were using a method to avoid pregnancy. Of the 595 who reported they were not using a birth control method, 555 (93 percent) stated that they were not sexually active. Too few responses were recorded for the options: religious belief, partner refusal, can't afford, side effects, do not wish to avoid pregnancy; while 25 (4.2 percent) answered "other" which was not further specified. 59 percent (69 out of 118 respondents) reported that a condom was used during the first sexual experience.

Child-Headed Households

There were too few child-headed households (CHH) in the SHIES 2001 and 2010 for statistically robust analysis: merely 20 in 2001 and 12 in 2002. (Note that there were also too few elderly-only households for reliable estimation). Imai et al. (2009) undertook a study of 191 households headed by a person aged 24 or younger; of which 74 households were headed by a child under age 18. Unfortunately, that study did not reproduce its numerical data in most cases, so one has to gauge CHH versus young adults by looking at graphical information. From Figure 3 (Imai et al. 2009, p. 6), it appears that CHH reported only 4.5 days of porridge per week while households headed by a young adult reported 5.3 days, but without the numerical data, we can't assess whether this difference

is statistically significant. It is alarming of course that this figure is so low for CHH and households headed by young adults.

A significant finding of Imai et al. (2009, pp. 9-10) was that 57% of CHH had aunts or uncles, but 46 percent of CHH reported that they did not live with an extended family member because of "poor relationship." About 23 percent of CHH reported that they lived alone because they were "afraid that properties (sic) would be stolen."

Psychological well-being of orphans

As mentioned earlier in this report, Swaziland has the highest prevalence of AIDS in the world, and the epidemic has had a profound impact on its demographic profile with 25 percent of children having lost one or both parents (SHIES 2010). Given their orphan status, these children are at high risk of poverty, abuse and exploitation. This has prompt Swaziland's government and other international organizations to address the situation of these children through various means that are described in the next section.

However, one major concern that seems to have been overlooked is the mental condition of Swaziland adolescent orphans. Because of the trauma associated with the loss of parent, it is not uncommon that orphans experience symptoms such as mood swings, phobias, withdrawal, aggressiveness, or other social difficulties. As Makame, Ani, & Grantham-McGregor (2002) concluded from a study on the psychological well-being of orphans in Dar El Salam: "orphans not only have unmet basic needs, but have markedly increasing internalizing problems. Their long-term mental health is obviously in jeopardy and this will have implications not only for the individual children but also for the society as a whole."

Unfortunately, the SHIES or MICS did not ask questions that address the possible trauma that orphans face. This makes it difficult to assess the extent to which Swaziland orphans are psychologically affected. It would be important that the next iterations of these surveys include questions to identify symptoms of traumatic stress in adults as well as children.

Child Deprivation

The MICS 2010 asked three questions about deprivations for children aged 5-17: did the child have at least one meal per day, did the child have a pair of shoes, and does the child have at least two sets of clothing. At this stage, it is not possible to cross-tabulate these indicators with monetary consumption poverty, although research is under way at UNICEF on this idea (as discussed above). The overall distribution, age and gender, and urban/rural breakdowns are presented in Table 25.

Education

While the primary net enrollment rate for education are relatively high in Swaziland thanks to the guarantee of primary education by the government, the secondary net enrollment rate that advances students is much lower. Less than half of those enrolling at the primary level reach the secondary level. The net enrollment rate, which is the proportion of those in the relevant age range attending primary or secondary schooling, was 37% for boys and 41% for girls at the secondary level (CSO 2011).

This pattern of enrollment is also such that there are more boys than girls in Form 1 through Form 3, but most of the boys are on average older than the girls and hence outside of the official age expected to be enrolled (Ministry of Education and Training (MET) 2010. The mean age is more than three years past the expected age of entry at every grade level from Standard 4 to Form 5. Although the attendance rate seems to be high, the pattern suggests parents are enrolling students later in their lives, and that this pattern begins before secondary school begins. This out of age enrollment trend could lead to heterogeneous classrooms that make efficient teaching difficult, and hence students will be more likely to fail.

The repetition rate in Swaziland in secondary education also suggests issues with children and seems to be related to the out of age enrollment trend. In 2010, the total repetition rate in Swaziland for those aged 12 to 25 in Forms 1 through 3 was 11% (MET 2010).

Swaziland's school system also seems to lack qualified teachers within its schools. There is a shortage of qualified secondary school teachers, and many of those who are qualified do not want to teach in rural areas without running electricity or water.[12] In order to compensate for the lack of qualified teachers, some areas of Swaziland have up to two-thirds of their teachers coming from outside of Swaziland.[13] Assuming that qualified teachers in the secondary school setting refers to teachers trained and certified to teach in secondary schools, the pupil/teacher ratio on the national level for qualified teachers is 24 while for all teachers the ratio is 18.[14] Given that in the incoming years there will be more students entering primary school, there will also be an expected increase in the number of students entering secondary schools. This increase in schooling will be tied with expectations of an increase in the number of teachers. Much of the funding for education from the Ministry of Education and Training currently goes to pay for the salaries of teachers, and an increase in the construction of schools would likely not change the proportions of where spending goes by much. This lack of teachers is especially pronounced in the subjects of math and science, design and technology, and information and communication technology.

---

[12] (2013). Swaziland - Secondary Education. Stateuniversity.com. Retrieved from http://education.stateuniversity.com/pages/1453/Swaziland-SECONDARY-EDUCATION.html

[13] Ibid

[14] Ibid, p. 103

Multivariate Analysis

Child poverty and child extreme poverty has been analyzed in this report primarily by undertaking bivariate analysis—that is child poverty cross-tabulated with various correlates of poverty. Using the SHIES, it is also possible to undertake multivariate analysis of poverty. There are two kinds of multivariate analysis typically done in poverty analysis: ordinary least squares (OLS) and probit regressions. We use OLS to estimate a model identifying the poor (a proxy means test) below.

A probit is a regression where the dependent variable is a binary one—equal to 0 if not p;oor, or 1 if poor. STATA allows the calculation of the marginal probability of falling into poverty for each independent variable. For example, if a household has an additional member, how much more likely is it for that household to be poor? If the household head is female, is the probability of the household being poor increased? In the case of Swaziland, additional members do increase the risk of poverty, but female headedness is not statistically significant. As we saw in the bivariate analysis, rural location greatly increases the risk of poverty. Detailed results available from the authors upon request.

Policy Recommendations

The high rates of child poverty and child extreme poverty, as well as Swaziland's high rate of stunting (indicating chronic malnutrition), suggest that more needs to be done for children in Swaziland. The safety net is not targeted to the extreme poor or the poor, and large groups of children such as the OOS population or the non-orphaned extremely poor children receive no public support at all.

UNICEF and the World Bank (2013) strongly urge the building of child-focused social protection systems to ensure that today's poor children do not grow up to be tomorrow's poor parents. While there are many specific recommendations on safety net system reform in the World Bank (2012) report, here the focus is on children and child poverty.

Child Grant

This report agrees with the recommendation of the World Bank (2012) for a child grant to be introduced in Swaziland. Cash transfers have been found to be highly effective in terms of reducing poverty without prohibitive public cost (Hablon, Barrientos and Hulme 2010). While poverty is pervasive at 63 percent of the population and 70 percent of children, it is technically feasible to target a child benefit to the extreme poor (the bottom 30 percent of the population and bottom 34 percent of children).

Simulations done for the World Bank (2012) report demonstrate that a proxy means test model to identify the poor is feasible using the SHIES data. These specifications are narrowed for child poverty in the next section. Next, if the poorest children could be

identified through targeting, the cost of a benefit is surprisingly low—although this estimate does not account for administrative expenses, which could be considerable. Because the extreme poverty line is low, it does not take much aggregate spending to move the extreme poor above it, if targeting can be cost-effectively achieved.

Targeting

Swaziland has relied on categorical programs without poverty targeting—notably, the OAG for all aged 60 and above, and school feeding—or has used orphanhood as a proxy for need in the OVC school bursary, when the poverty rate for orphans (75 percent) is only a bit higher than that of children overall (70 percent). The analysis of this report has found that such categorical programs mean that the non-poor benefit even more than do the poor, and much of the spending goes to the top thirty percent who do not need it.

When facing constrained budgets, a natural candidate in response for policy makers is to consider how to concentrate spending on the poor. "Concentrating resources on the poor or vulnerable can increase the benefits that they can achieve within a given budget or can achieve a given impact at the lowest cost. The theoretical gain from targeting can appear to be large. For example, if all the benefits provided by a transfer program were targeted to the poorest quintile of the population rather than uniformly distributed across the whole population, the budget savings or the difference in impact for a fixed budget would be five to one. In practice, the full theoretical gain is not realized, because targeting is never completely accurate, and because costs are associated with targeting. These costs include administrative costs borne by the program, transaction and social costs borne by program applicants, incentive costs that may affect the overall benefit to society, and political costs that may affect support for the program. The size of targeting errors and costs will differ according to the setting and the types of targeting methods used and must be assessed carefully in any policy proposal "(Grosh et al. 2008, p. 97).

A recent study of targeting in China found that it would be largely ineffective in terms of poverty reduction and cost (Ravallion 2007). A survey of experience worldwide (Coady, Grosh and Hoddinott 2004) suggested that on average self-targeting through a low wage rate, geographical targeting, and administrative means testing are the most effective; and that proxy means testing, community-based targeting, and demographic targeting of children can be successful, but are on average less effective. Demographic targeting of the elderly, community, or self-selection show the least promise. But there is great variation, and the choice depends on the program and the country context. Correctly implementing the targeting system makes far more difference than the choice of method. The same study found 80% of the variation in effectiveness of targeting was due to differences *within* methods, and only 20% due to the choice of method.

Although these caveats are quite important, in practice, most low- and medium-income countries use some form of targeting to keep safety net spending manageable and equitable. This section will discuss the main forms of targeting and present some simulations for Swaziland.

The following are the main targeting methods used in transfer programs worldwide:
Administrative Targeting: involves using data on clients' income or wealth (means- testing), or age (in the case of pensions) to confirm eligibility; this is how most programs in developed countries are targeted, but is generally not feasible in low-income countries, where family income is not known, and in the absence of birth certificates even demographic information may not be reliable.

Proxy Means Testing (PMT) uses other attributes (such as the type of house a family lives in, or whether they own livestock) to identify the poor. The problem with PMT is that still involves substantial data demands, the measurement is often subjective, and – especially in countries like Swaziland– many of the population may live in similar homes, and have almost no assets, making it hard to find attributes that distinguish the poorest from the medium-poor.

Self-Targeting puts the least demands on data, and involves almost no targeting cost. Examples include offering a low wage rate for public works employment – so only the poorest will apply - or offering inferior goods (such as yellow maize, or broken rice) which families will only take if they are in extreme need), or very small packages of benefits, such as fertilizer. The main challenge is that policy-makers and the public may object to extremely low levels of benefits; but to make them any higher will defeat the objective of self-targeting.

Geographical Targeting involves operating programs only in areas known to be poor. It has the benefit of being an easy-to-implement and easy-to-justify approach for limiting program coverage when it is not possible to expand nationwide. Geographical targeting makes most sense when there are a few pockets of extreme poverty in a country, or in response to localized problems (such as drought). However, in countries like Swaziland where there is deep poverty spread throughout the country, geographical targeting can miss out on large proportions, or even the majority, of the poorest.

Community-Based Targeting: involves using community members to identify who are eligible for a program. This is often a group of respected elders or elected villagers, who are given guidelines on who should benefit. The rationale is that only people with local knowledge can identify who falls into a certain category (for example there may be many orphans in a village, but only some may be destitute). The potential problems are favouritism, or of communities spreading benefits too thinly to avoid exclusion. CBT systems are also labour-intensive to set up and support.

Categorical Targeting is based on the idea that certain groups (elderly, children, orphans, disabled people) are at greater risk of poverty than the general population. This form of targeting is complicated by the fact that most vulnerable group members live in households with others who can and do contribute to their consumption/welfare. Demographic targeting based on age is administratively simple unless birth certificates are not widely available or reliable, and can be politically popular. However, its limitations are that age may be only weakly correlated with poverty, or the group may be so numerous that covering all members is not financially feasible.

Targeting Methods Pros and Cons for Swaziland

"In practice, program officials do not have perfect information about who is poor, because collecting such information is time consuming and costly. When program eligibility is based on imperfect information, program officials or the targeting rules they use may mistakenly identify non-poor people as poor, and therefore admit them to the program (referred to as an error of inclusion), or do the opposite, that is, mistakenly identify poor people as non-poor, and thus deny them access to the program (referred to as an error of exclusion) "Grosh et al. 2008 p. 97).

Generally, targeting errors will be greater the more difficult it is to identify the poor or the extremely poor. Difficulty in identification occurs when poverty or extreme poverty is widespread, and when poor households differ little from non-poor households. Poverty in Swaziland is pervasive, with a majority of the population being poor (63 percent), and a sizeable share of the population is extremely poor (nearly a third).

There were only a few indictors that showed sharp differentiation in terms of child poverty: rural location, number of children in the household, and lack of safe water and sanitation. However, most households in Swaziland are rural and with children, and substantial portions lack water, electricity, and sanitation. Furthermore, asset ownership (such as livestock or cell phones) also does not demonstrate major differences between the poor and the non-poor (World Bank 2012), which would make targeting methods that relay on a assessment of wealth/well-being (such as administrative targeting or PMT) more difficult.
The pervasive informal sector makes it very difficult to assess household income, and income itself is generally considered to be an inferior indicator of actual household welfare, especially in countries with large non-monetized subsistence agriculture, which provides the bulwark of rural consumption.

Capacity constraints in Swaziland are severe. While simulations with regression analysis and the SHIES suggests that proxy-means test formula for children can be derived (Table B), associated errors with these formula can be large, and administering a PMT would require staffing.

Self-targeting in a public works system would also be difficult. Given the extremely low employment rates, pervasive and relatively homogenous rural poverty, and the general lack of cash in rural areas, setting a minimum wage that would not attract too many applicants may not be feasible.

Geographical targeting in Swaziland on the basis of small area statistics has definite potential. First, there are several small area statistical databases that are available (VAC livelihoods mapping, NERCHA NCP mapping) and CSO has already used the SHIES to construct a poverty map (CSO 2011b). These three could be triangulated for greater reliability. And there is a sharp rural/urban cleavage in poverty, with rural areas accounting for 88 percent of the poor. This means that targeting based on rural location

alone would exclude 12 percent of the poor in urban areas, which is not that bad a targeting outcome in international comparison (Coady, Grosh and Hoddinott 2004).

Community targeting has a number of drawbacks in terms of elite capture and favoritism (Conning and Kevane 2002) and requires significant administrative support, for which Swaziland lacks capacity. Also, in Swaziland, there is little differentiation between rural households, which tend to experience co-variant shocks like drought or flood, making it quite difficult to select the "poorest" households among them.

Given the difficulties with any targeting system in Swaziland and the fiscal imperative that any reforms of the safety net or introduction of a child benefit be affordable, we estimates some PMT formulae in the next section.

PMT Formulation for Swaziland

The Government of Swaziland is piloting a PMT to select poor orphans for a cash benefit under a World Bank-supported health sector loan. This PMT pilot will refine the preliminary PMT formulation in the World Bank (2012) report. Since children are the majority of the poor and extreme poor, there is little difference between the World Bank's preliminary PMT based on the population, and one based on only households with children (Table 27). However, a full PMT would require collection of data about household assets and dwelling characteristics.

Given our analysis that child poverty is most associated with rural location and number of children in the household, we ran a very simple PMT on rural households with children (Table 28). This PMT would require only three kinds of information about the rural household: number of children, and information about water and sanitation. If the latter is too administratively complicated to collect reliably, we also noted that a regression of rural welfare for households with children on just the number of children per household suggests that some share of variation is captured by this variable alone, although 95 percent of the model is unexplained/omitted (Table 29). These reduced-variables for PMT specifications do have much greater errors than more-fully specified models, but they would be far simpler to implement.

If targeting could be resolved, a simple rural child benefit would be affordable and effective in reducing child poverty.

Affordability

If perfect targeting could be assumed with zero administrative cost, then it would not cost much to bring up all households above either the extreme poverty line or the poverty line. A graphical representation is presented in Figure 13. Filling the entire extreme poverty gap would cost very little (0.08 percent of 2010 GDP), if there were no administrative costs and

perfect targeting. Even filling in the entire poverty gap would still be affordable in this ideal and completely unrealistic scenario, at 0.53 percent of 2010 GDP. Recall that Swaziland is currently spending 2.2 percent of GDP on its safety net.

However, neither assumption is realistic. All targeting systems have errors of inclusion and exclusion, and no real-world benefit can be calibrated to be exactly equal to an individual household's poverty gap (distance from the poverty line). Giving each household the average poverty gap would mean that the poorest households would not be brought up to the poverty line, while relatively better households would exceed it. Increasing the benefit to make sure that the single poorest household would be brought up to the poverty line would increase spending on the benefit alone extremely.

Even if the benefit level could be perfectly targeted, there would still be administrative costs. Administrative costs in the best-administered social protection programs in Latin America were about 15 percent of program costs (Grosh 1994). More recent, selected data found costs to be around 7 percent (World Bank 2012). The World Bank (2012) deter,omed that administrative costs were at least 15 percent of the cash transfer programs in Swaziland, and also suggested that true administrative costs were higher, but did not specify by how much.

Using perfect targeting to reach only the bottom 30 percent of the population (the extreme poor) would cover a significant number of children (173,000) at a low cost if the benefit paid were low (Table 30). Only when the amount of the possible transfer is high (SWE200 per month or nearly equal to the extreme poverty line) or coverage reaches all children, does the cost of a child benefit become prohibitive.

The benefit levels in Table 30 do not have an economic rationale; they were simply chosen as arbitrary shares of the poverty line for illustrative purposes only. Furthermore, all scenarios are in constant Jan 2010 SWE without allowing for actual or projected inflation. Finally, the number of children was static for 2010 and not projected forward by population trends.

The World Bank (2012) made a number of recommendations where cost-savings could be achieved from safety net reform. The biggest savings would be from the elimination of OVC benefits to primary-school-aged children as Swaziland rolls out free primary education.

Impact on Child Poverty

Substantial reductions in extreme poverty could be reached if the bottom deciles could be targeted cost-effectively (Table 30). Even a low amount (less than one quarter of the extreme poverty line) if targeted to the bottom 30 percent of the population would cover 173,000 children and reduce extreme poverty from 28.8 percent to 20.7 percent—nearly about a third. If higher amounts were spent, extreme poverty could be virtually eliminated. The scenarios in Table 30 underscore how important targeting could be. Perfect targeting could eliminate the entire poverty gap at a cost of only 0.53 percent of GDP. This means

that there would be no poor children in Swaziland, if the needy could be perfectly identified.

Conclusions & Areas for Further Research

This report has found that children are disproportionately poor and extremely poor. Poor children of today will grow up to be the poor adults of tomorrow, and the intergenerational cycle of poverty will repeat itself. Child poverty in Swaziland is remarkably undifferentiated. The strongest correlate of child poverty and child extreme poverty is rural location, followed by number of children in the household and by proxies for rural location: water, sanitation, and electricity. While double orphans are less poor than all children, and single orphans are poorer, these differences (from 65 to 70 to 75 percent) are not that large.

This report concurs with UNICEF and World Bank (2013) and World Bank (2012) in finding that a child benefit could greatly reduce extreme and child poverty, if it could be targeted well and cost-effectively. The report demonstrates that PMTs can be calculated for child poverty, and even a very simple formula might help differentiate among poor and extremely poor children.

Areas for Further Research

MICS and SHIES

As discussed above, the MICS dataset for Swaziland does not include a full set of population weights. In order to integrate the HIES with the MICS, sampling weights for all the population are needed. The MICS has only weights for children aged 0-5, women aged 15-45, and men aged 15-59. Children aged 6-14, women aged 46 and above, men aged 50 and above are not part of the standard MICS approach or analysis. This is easily correctable in future iterations of the MICS, since for the next MICS, a new sample will be drawn. At that time, the full set of sampling weights must be calculated. It is not difficult to calculate the full set of weights if one is altready going to have to calculate weights for sub-groups, and this recommendation is germane not only to Swaziland but for the MICS in any country.

The reason why it is so important to be able to use both the MICS and the SHIES is that the surveys cover very different indicators. The SHIES does not capture many of the core indicators that readers normally expect in a MICS, and the MICS can not be used for the calculation of monetary poverty. Rather than set up a false dichotomy between monetary poverty and multidimensional approaches such as MODA, it would be of great policy usefulness to be able to do both for the same country and for UNICEF, with a special focus on cnildren.

Further analysis on key topics, such as the situation of orphans, chronic malnutrition, reproductive health for teenagers, and others fall across and between the two surveys . The Government of Swaziland and UNICEF approaches to data collection and analysis

could easily be harmonized in the future by continuing to field both surveys at points close in time together, and by ensuring a full set of population weights in the MICS. Ongoing efforts with UNICEF Headquarters and the University of Virginia are dedicated to a finding a work-around for the existing SHIES and MICS, but it would be imperative to avoid this in the future by harmonizing the two surveys.

SHIES further analysis

There are also some further research topics on monetary consumption in the SHIES that are 'beyond' the simple descriptive profiles done in this report– for instance, the healthcare and schooling costs issues and their relationship to poverty and service uptake.

Orphans

As Swaziland rolls out ARV treatment (covering 74 percent of the HIV-positive according to UNAIDS), we can expect the flow of children entering into orphanhood to abate. However, there is still a very large number of orphans in Swaziland. We have only scratched the surface of the situation of orphans in this report. A longitudinal or tracking survey would be of great benefit, to see whether the orphan bursary or the NCP feeding were actually helping orphans to achieve better education and health outcomes.

Further, some key questions arise, such as: (i) which households (poor/extreme poor) are the ones being benefited by antiretroviral treatments?, and (ii) given this trend, which group(s) of orphans should be supported. Improved data and analysis over time is critical. Both the MIC S and the SHIES asked about orphans, but until the surveys can be integrated, we can't move from say malnutrition (from the MICS) to consumption poverty (from the SHIES), neither for orphans nor for all children in Swaziland.

References

Beegle, Kathleen et al. *Orphanhood and the Living Arrangements of Children in Sub-Saharan Africa*. World Development. Vol. 38, No. 12, pp. 1727-1746.

Bourguignon, Francois and Satya Chkravarty. 2003. "The measurement of multidimensional poverty." *Journal of Economic Inquality*. Vol. 1. No. 1. April. p. 25-49.

Braithwaite, Jeanine. 2011. "Safety Net Under Stress: The Impact of HIV/AIDS in Swaziland." Draft. World Bank. June 30.

Braithwaite, Jeanine. 2007. "Social Protection Challenges in Swaziland," Draft. World Bank. July 5.

Central Statistical Office (CSO). 2011. *Poverty in a decade of slow economic growth: Swaziland in the 2000's.*

CSO (2011b). *2010 Swaziland Poverty and MDG Maps: Region, Tinkhunlda and Major Areas.*

CSO and UNICEF (2011). *Swaziland Multiple Indicator Cluster Survey 2010.*

Central Statistical Office (CSO) and Macro International. 2008. *Swaziland: Demographic and Health Survey.*

Chen, Shaohau and Martin Ravallion. 2008. *The Developing World is Poorer Than We Thought, But No Less Successful in the Fight Against Poverty.* World Bank Policy Research Working Paper 4703.

Coady, David, Margaret Grosh and John Hoddinott. 2004. "Targeting Outcomes Redux." *The World Bank Research Observer.* Vol. 19. No. 1. Pp. 61-85.7yuy

Deaton, Angus and John Muellbauer. 1980. *Economics and Consumer Behavior*. Cambridge: Cambridge University Press.

Deaton, Angus and John Muellbauer.. 1986. "On Measuring Child Costs: With Applications to Poor Countries. *Journal of Political Economy* 94: 720-44.

Deaton, Angus and Christina Paxon. 1998. "Economies of Scale, Household Size, and the Demand for Food." *Journal of Political Economy* 106: 897-930.

Deaton, Angus and Salman Zaidi. 2002. *Guidelines for Constructing Consumption Aggregates for Welfare Analysis.* World Bank. Living Standards Measurement Study Working Paper No. 135.

de Neuborg, Chris *et al.* 2012. "Step-by-Step Guidelines to the Multiple Overlapping Deprivation Analysis (MODA). *Working Paper 2012-10*. Florence: UNICEF Office of Reasearch.

Foster, James, J. Greer, and Eric Thorbecke. 1984. "A Class of Decomposable Poverty Measures." *Econometrica* 52: 761-66.

Grosh, Margaret. 1994. *Administering Targeted Social Programs in Latin America: From Platitudes to Practice.* World Bank Regional and Sector Studies. Washington, DC: The World Bank.

Grosh, Margaret et al. 2008. *For Protection and Promotion: The Design and Implementation of Effective Safety Nets*. Washington, DC: The World Bank.

Imai, Kumiko, Nathi Vilakati, Khetho Dlamini, Robert Fakudze, and Sibongile Hlatshwayo. 2009. *A Situation and Needs Assessment of Child Headed Households in Drought Prone Areas of Swaziland: Key Findings*. UNICEF and Save the Children.
March 29, 2011 January 29, 2001April 4, 2011
International Monetary Fund (IMF). 2011. *Kingdom of Swaziland: Staff Monitored Program—Staff Report; Staff Supplement.*

Lanjouw, Peter and Martin Ravallion. 1995. "Poverty and Household Size." *Economic Journal* 105: 1415-1424.

Lanjouw, Peter, Branko Milanovic, and Stefano Paternostro. "Poverty and the Economic Transition: How Do Changes in Economies of Scale Affect Poverty Rates for Different Households?" *Policy Research Working Papers* 2009. Washington, DC: The World Bank.

Makame, V., Ani, C. and Grantham-McGregor, S. "Psychological well-being of orphans in Dar El Salaam, Tanzania." Acta Paediatrica, 91: 459–465.

Ministry of Education and Training (MET). 2010. *Annual Education Census Report 2010*: Education Statistics. The Government of the Kingdom of Swaziland.

Ministry of Local Government and Housing and National Children's Co-ordination Unit. 2009. *Neighbourhood Care and Development Centres: Ten Year Strategic Plan 2008-2018 Zero Draft.* The Government of the Kingdom of Swaziland.

National Emergency Response Council on HIV and AIDS (NERCHA). 2006. *National Plan of Action for Orphans and Vulnerable Children 2006-2010*. The Kingdom of Swaziland.

National Emergency Council on HIV and AIDS (NERCHA). 2009. *Swaziland HIV Prevention Response and Modes of Transmission Analysis*. Mbabane: The Government of the Kingdom of Swaziland.

National Emergency Response Council on HIV and AIDS (NERCHA). 2009. *Swaziland National Multisectoral HIV and AIDS Monitoring and Evaluation Framework 2009-2014.* The Kingdom of Swaziland.

National Emergency Response Council on HIV and AIDS (NERCHA). 2009. *The National Multisectoral Framework for HIV and AIDS 2009-2014*. The Kingdom of Swaziland.

National Emergency Response Council on HIV and AIDS (NERCHA). 2011. *Mapping of Neighborhood Care Points, 2010/11*.

Ravallion, Martin, Shaohua Chen and Prem Sangraula. *Dollar a Day Revisited*. World Bank Policy Research Working Paper 4620.

Ravallion, Martin, 1994, *Poverty Comparisons.* Harwood Academic Press, Chur: Switzerland.

Ravallion, Martin, 1996. "Issues in Measuring and Modeling Poverty," *Economic Journal*, 106: 1328-44.

Ravallion, Martin. 1998. *Poverty Lines in Theory and Practice.* Living Standards Measurement Study Paper 133. Washington DC: World Bank.

Ravallion, Martin. 2003. "Measuring Aggregate Economic Welfare in Developing Countries: How Well do National Accounts and Surveys Agree?," *Review of Economics and Statistics,* 85: 645–652.

Ravallion, Martin. 2007. *How Relevant is Targeting to the Success of an Anti-Poverty Program?* World Bank Policy Research Working Paper. No. 4385. November.

Ravallion, Martin. 2008a, "On the Welfarist Rationale for Relative Poverty Lines," in Kaushik Basu and Ravi Kanbur (eds) *The Oxford Handbook of Arguments for a Better World: Essays in Honor of Amartya Sen. Volume I: Ethics, Welfare and Measurement*, Oxford: Oxford University Press, 2008., Oxford: Oxford University Press.

Ravallion, Martin.2008b, "Poverty Lines," in *The New Palgrave Dictionary of Economics*, 2nd edition, Larry Blume and Steven Durlauf (eds) London: Palgrave Macmillan.

Ravallion, Martin.2010. *Poverty Lines across the World.* World Bank Policy Research Working Paper. 5284.

Ravallion, Martin. 2012. *Benchmarking Global Poverty Reduction.* World Bank Policy Research Working Paper. 6205.

Regional Hunger and Vulnerability Programme (RHVP). 2010. *Swaziland Old Age Grant Impact Assessment*. HelpAge International, UNICEF Federal Ministry for Economic Cooperation and Development, and UKaid.

Sen, Amartya. 1999. *Commodities and Capabilities.* Oxford University Press.

Swaziland Vulnerability Assessment Committee. 2008. *Swaziland Annual Vulnerability Assessment & Analysis Report*. World Food Programme and Regional Hunger and Vulnerability Programme.

United Nations Children's Fund (UNICEF). 2006. *Report on the Assessment of Neighbourhood Care Points.*

United Nations Children's Fund (UNICEF). 2009. *Child Poverty and Disparities in Swaziland.*

United Nations Children's Fund (UNICEF). Undated. "Cross-Country MODA Study: Technical Note. Multiple Overlapping Deprivation Analysis. Draft.

United Nations Development Programme Swaziland. 2007. *Swaziland Human Development Report: HIV and AIDS and Culture*.

Weiser, Sheri et al. 2007. *Food Insecurity is Associated with High-Risk Sexual Behavior among Women in Botswana and Swaziland.* PLOS Medicine. Volume 4. Issue 10. October.

World Bank and UNICEF. 2013. *Common Ground: UNICEF and World Bank Approaches to Building Social Protection Systems*. World Bank Report Number 75044. January.

World Bank. 2012. *Swaziland: Using Public Transfers to Reduce Extreme Poverty*. Report Report No. 73973-SZ. 24 November 2012.

World Bank. 2011. *Project Appraisal Document on a Proposed Loan in the Amount of US$ 20 Million to the Kingdom of Swaziland for a Swaziland Health, HIV/AIDS and TB Project.* Report 527=875-SZ. February 11.

World Bank. 2008. *Interim Strategy Note: A Framework for Scaling up Support for the Kingdom of Swaziland*. Report No. 42059-SZ.

Tables

Table 1. Swaziland Population Pyramid 2007

Age	Males	Females	Total Population	Male to Female Ratio
under 5	63,767	64,092	127,859	1.01
5 to 9	67,885	68,420	136,305	1.01
10 to 14	67,688	70,541	138,229	1.04
15 to 19	60,493	66,203	126,696	1.09
20 to 24	48,698	60,035	108,733	1.23
25 to 29	38,978	46,552	85,530	1.19
30 to 34	29,753	32,623	62,376	1.10
35 to 39	24,822	27,425	52,247	1.10
40 to 44	18,088	22,314	40,402	1.23
45 to 49	15,762	18,992	34,754	1.20
50 to 54	12,668	14,240	26,908	1.12
55 to 59	10,045	11,022	21,067	1.10
60 to 64	7,724	11,092	18,816	1.44
65 to 69	6,211	8,542	14,753	1.38
70 to 74	3,554	5,455	9,009	1.53
75 to 79	2,543	4,275	6,818	1.68
80 to 84	1,016	1,968	2,984	1.94
over 85	1,290	2,715	4,005	2.10
Subtotals	480,985	536,506	1,017,491	1.12

Swaziland Children 2007				
Age	Males	Females	Both	Male to Female Ratio
under 5	63,767	64,092	127,859	1.01
5-9	67,885	68,420	136,305	1.01
10-14	67,688	70,541	138,229	1.04
15-17	38,968	40,584	79,552	1.04
Total	238,308	243,637	481,945	1.02

Source: Census 2007.

Table 2. Swaziland Population Pyramid 2010.

Age	Males	Females	Total Population	Male to Female Ratio
under 5	65,372	64,374	129,746	0.98
5 to 9	65,929	69,884	135,813	1.06
10 to 14	72,166	67,868	140,034	0.94
15 to 19	66,696	61,743	128,439	0.93
20 to 24	45,172	55,946	101,117	1.24
25 to 29	42,815	49,681	92,496	1.16
30 to 34	27,930	32,610	60,540	1.17
35 to 39	23,135	24,494	47,629	1.06
40 to 44	17,853	21,606	39,459	1.21
45 to 49	12,434	19,268	31,702	1.55
50 to 54	9,936	14,048	23,983	1.41
55 to 59	9,941	15,038	24,979	1.51
60 to 64	8,029	11,676	19,705	1.45
65 to 69	6,172	10,026	16,198	1.62
70 to 74	4,123	6,237	10,360	1.51
75 to 79	2,900	4,882	7,783	1.68
80 to 84	1,441	2,316	3,757	1.61
over 85	843	2,821	3,664	3.35
Sum	482,886	534,520	1,017,406	1.11

Swaziland Children 2010				
Age	Males	Females	Both	Male to Female Ratio
under 5	65,372	64,374	129,746	0.98
5 to 9	65,929	69,884	135,813	1.06
10 to 14	72,166	67,868	140,034	0.94
15 to 17	43,109	38,050	81,159	0.88
Total	246,575	240,176	486,752	0.97

Source: SHIES 2010.

Table 3. Swaziland Population Pyramid 2001

Age	Males	Females	Total Population	Male to Female Ratio
under 5	71,562	62,797	134,359	0.88
5 to 9	73,744	71,198	144,942	0.97
10 to 14	71,704	71,527	143,231	1.00
15 to 19	63,714	57,928	121,641	0.91
20 to 24	40,037	48,454	88,490	1.21
25 to 29	27,664	36,767	64,432	1.33
30 to 34	24,199	31,176	55,374	1.29
35 to 39	17,461	26,205	43,667	1.50
40 to 44	15,870	21,849	37,718	1.38
45 to 49	14,003	17,779	31,782	1.27
50 to 54	12,369	13,942	26,310	1.13
55 to 59	8,690	10,701	19,392	1.23
60 to 64	7,661	8,306	15,966	1.08
65 to 69	4,890	6,180	11,070	1.26
70 to 74	3,113	5,447	8,560	1.75
75 to 79	1,542	3,142	4,684	2.04
80 to 84	1,653	2,896	4,549	1.75
over 85	2,767	4,162	6,929	1.50
Subtotals	462,642	500,454	963,096	1.08

Swaziland Children 2001

Age	Males	Females	Both	Male to Female Ratio
under 5	71,562	62,797	134,359	0.88
5-9	73,744	71,198	144,942	0.97
10-14	71,704	71,527	143,231	1.00
15-17	39,506	35,885	75,392	0.91
Total	256,516	241,407	497,923	0.94

Source: SHIES 2001.

Table 4. Swaziland: Rural and Urban 2001 and 2010.

2001	Urban	Rural	Share Rural
Population	237,033	733,660	75.6
Children	94,705	403,378	81.0
2010	**Urban**	**Rural**	**Share Rural**
Population	246,208	771,198	75.8
Children	83,099	403,652	82.9

Source; SHIES 2010, SHIES 2001.

Table 5. Swaziland: Regional Distribution of Population and Children, 2001 and 2010

2001	Population	Share of Population	Children	Share of Children
Hhohho	271,007	27.92	135,926	27.29
Manzini	281,401	28.99	138,014	27.71
Shiselweni	212,117	21.85	118,765	23.84
Lubombo	206,168	21.24	105,378	21.16
Total	970,694	100.00	498,083	100.00

2010	Population	Share of Population	Children	Share of Children
Hhohho	263,318	25.88	124,527	25.58
Manzini	346,956	34.10	153,436	31.52
Shiselweni	207,883	20.43	108,908	22.37
Lubombo	199,248	19.58	99,880	20.52
Total	1,017,406	100.00	486,751	100.00

Source: SHIES 2010, SHIES 2001.

.

Table 6. Swaziland: Orphans 2010.

2010	Paternal Orphans	Maternal Orphans	Double Orphans	Not Orphaned	Single Orphans (Paternal + Maternal)	Subtotal All Orphans
Subtotals	71,195	24,815	24,524	363,832	96,010	120,534
Of which,						
Urban	8,437	3,118	3,952	67,035	11,556	15,508
Rural	62,757	21,697	20,571	296,797	84,454	105,026
Share Rural	88.15	87.43	83.88	81.58	87.96	87.13

Source: 2010 SHIES.

Table 7. Swaziland: Household Types and Children 2001 and 2010

2001	Share of Population	Number of People	Share of Children	Number of Children
Household type				
Elderly Only	0.41	3,979		
Eldery&Adult (no children)	1.35	13,071		
Elderly&Adult&Child	25.29	245,413	24.86	123,838
Elderly&Child	1.00	9,746	1.28	6,378
Adults only (no children nor elderly)	6.80	65,985		
Adult&Child	64.87	629,518	73.38	365,473
Child only	0.27	2,646	0.48	2,393
All households with children	100.00	970,358	100.00	498,083

2010 Household type	Share of Population	Number of People	Share of Children	Number of Children
Elderly Only	0.6	5,646		
Eldery&Adult (no children)	1.2	12,644		
Elderly&Adult&Child	27.8	282,423	28.48	138,646
Elderly&Child	2.0	20,720	2.89	14,060
Adults only (no children nor elderly)	9.0	91,447		
Adult&Child	59.2	602,556	68.22	332,076
Child only	0.2	1,969	0.40	1,969
All households with children	100.0	1,017,406	100.00	486,751

Source: SHIES 2001, SHIES 2010.

Table 8. Swaziland: Access to Water, Sanitation, and Electricity, 2001 and 2010.
(percent with access)

2001	Improved Water	Sanitation	Electricity
Population	45.59	33.64	21.37
Children	40.56	30.14	17.13

2010	Improved Water	Sanitation	Electricity
Population	65.38	32.4	38.59
Children	61.76	28.95	33.11

Source: SHIES 2001, SHIES 2010.

Table 9. Swaziland: Out of School Children 2010.

2010	Boys	Girls	Both
Age 5-9	1,162	2,609	3,770
Age 10-14	3,975	3,804	7,780
Age 15-17	4,716	6,445	11,161
Subtotal	9,853	12,858	22,711

Share (percent)	Boys	Girls
Age 5-9	30.81	69.19
Age 10-14	51.10	48.90
Age 15-17	42.26	57.74
Subtotal	43.38	56.62

Source: SHIES 2010.