

Poverty Rates in a Rural District of Zimbabwe: A Case Study of the Guruve District

Thomas Mupetesi¹, Joseph Francis^{1*} and Richard Gomo²

¹*Institute for Rural Development, University of Venda, Private Bag X5050,
Thohoyandou 0950, South Africa*

²*Number 4- 45th Haig Avenue, Mabelreign, Harare, Zimbabwe*

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ABSTRACT Over the past 20 years, poverty rates in Zimbabwe have worsened. However, the absence of official up-to-date statistics makes it difficult to measure accurately the current status of poverty in the country. The objective of this paper was to provide empirical estimates of this phenomenon in Guruve, a predominantly rural district located in the Mashonaland Central Province. Income Poverty, Human Development Index (HDI) and Human Poverty Index (HPI) were adopted as measures of poverty following the Government of Zimbabwe (GOZ) approach used in the 2003 Poverty Assessment Study Survey (PASS). Compared to the 2003 study, respective improvements in the District's Income Poverty, HPI and HDI did not result in reduced poverty rates. The high poverty rates observed in this paper implied that the chances of Guruve District meeting the Millennium Development Goal of halving poverty rates by 2015 were almost negligible.

INTRODUCTION

At the global level, attention is increasingly focused on poverty eradication than ever before. In this respect, the Millennium Declaration in 2000 symbolised a commitment to eradicate extreme poverty by the year 2015 (Mears and Blaauw 2010). While eradicating poverty will remain a central objective of the post-2015 agenda, increased attention will be on promoting policies that consolidate gains achieved, reduce vulnerability and build resilience of people to stay out of poverty (United Nations Development Programme (UNDP) 2014a). Evidence in literature (Bergh and Nilsson 2014), debatable as it may be, suggests that globalisation is also having a positive impact on poverty eradication. Irrespective of the perspective taken, it is clear that poverty is on a downward trend worldwide (UNDP 2013), thanks to stronger investments and political commitments to eradicate poverty across countries and regions of the world.

Despite the gains in poverty eradication worldwide, progress is uneven across countries and regions (UNDP 2013). Zimbabwe is one of several countries still classified as poor (UNDP 2014b). While a high proportion of poverty rates prevalent in the country today are deeply rooted in the inequalities introduced through colonialism (Zimbabwe National Statistical Agency (ZIMSTAT) 2013), some of it is not. The unprecedented growth in poverty in Zimbabwe since the mid-90s (Government of Zimbabwe (GOZ), Food and Agriculture Organisation (FAO) 2013) for example, is attributable to a number of other factors. Recurring natural disasters (floods and droughts) coupled with a fragile macro-economic environment characterised by high unemployment, an all-time record level of inflation reaching 231 million percent in July 2008, weakened social protection systems and the HIV/AIDS epidemic are some of the factors behind the recent poverty phenomena (GOZ-FAO 2013; ZIMSTAT 2013).

Establishment of the Government of National Unity (GNU) in February 2009 partly eased the political, social and economic downturn that faced the country then, and rekindled the hope for recovery, growth and development. Hyperinflation was soon under control. As a result of this, and other measures, the economy went on a recovery path as GDP increased from 6.1 billion in 2009 to US 7.4 billion in 2011 (ZIMSTAT

Address for correspondence:

Prof. Joseph Francis

Institute for Rural Development,
University of Venda, Private Bag X5050,
Thohoyandou 0950, South Africa

Telephone: (Bus): +27 15 962 8052

Cell: + 2776 409 3976

E-mail: joseph.francis@univen.ac.za

2013). These improved economic growth rates did not however, translate to poverty reduction, due to weak connections between the growth sectors and others components of the economy (United Nations (UN) 2014). Besides, with the challenge of stabilizing the economy and controlling unprecedented hyperinflation, it was crucial to reduce the worsening poverty. However, the unavailability of up-to-date statistics on poverty trends required to serve as a reference point when developing interventions, presented a huge challenge for the GNU.

Taking into consideration that the last poverty assessment study survey (PASS) was carried out in 2003 (hereinafter referred to as PASS 2003) (FAO 2011), it can be argued that the poverty statistics in Zimbabwe are out-dated. Ideally, such studies should be conducted annually (Edward and Sumner 2013) or every three years (Spence 2005) to allow reliable interpolation for intermediate years between surveys and effective policy and intervention-oriented decision-making. The Poverty Income Consumption Surveys (PICES) that the GOZ undertook since 1998 only provide an overview of the poverty data at the provincial level. They do not provide detailed data on the poor that is disaggregated to reflect the situation at district levels as PASS does (ZIMSTAT 2013). The state of affairs presented here justified an empirical study that sought to determine the actual current poverty rates in Guruve District. It was argued then that this information could form the basis for understanding, analysing and tackling the prevailing district level poverty-related issues in Zimbabwe.

The current study was undertaken in Guruve, which is one of the eight Districts in Mashonaland Central Province. Guruve is located about 150 km north-east of Harare, the capital city of the country. The study was conducted in the 19 wards that made up the District. A Ward comprises 150 to 2700 households and is an administrative unit within a District (Central Statistical Office (CSO) 2002). In turn, the Ward is subdivided into Enumeration Areas (EAs), which are predetermined population clusters that the CSO demarcates for use when conducting national household surveys. This reality made EAs relevant for the purposes of this study.

Despite experiencing climatic conditions that make it a high agricultural potential area (Vincent and Thomas 1961), Guruve District is characteristically poor (Ministry of Public Service

Labour and Social Welfare (MPSLSW) 2006). Thus, it is a relevant case for a study of this nature. This view originates from the fact that the high agricultural potential of the District taken together with other factors such as knowledge and skills could result in above normal crop and livestock production. Such high agricultural performance might lead to improved incomes and reduced poverty rates. Also, deriving empirical data on the current trends in poverty could help policy makers provide appropriate solutions for tackling poverty in Guruve district and other areas that exhibit similar characteristics. In addition, establishing poverty trends through a study of this nature would assist policymakers and development practitioners to discern the resilience of the District, taking into account the socio-economic and political challenges the country experienced since the mid-90s.

Objectives

The objective of this paper was to provide empirical estimates of poverty in terms of Income Poverty, Human Development Index (HDI) and Human Poverty Index (HPI) in the Guruve District.

Defining and Measuring Poverty

There are many competing definitions of poverty (Eide and Ingstad 2013; Abotutu 2014; Desiere et al. 2015). Existing literature indicates that various perspectives are considered when poverty is measured or defined. For example, the Davies' standard of 'tolerable comfort' (a poverty line developed in the 1790s), perceived and measured poverty based upon the application of a minimum consumption standard to household income (Gazeley and Verdon 2014). More recent views on poverty (Zake et al. 2005; Chakravarty et al. 2008; Abotutu 2014) consider it as a manifestation of insufficient well-being and relative material deprivation in terms of basic human needs such as clean water, energy, education, nutrition and health. Poverty can also be conceived as a state where an individual and/or household controls too few material resources or is unable to afford a basic basket of goods deemed necessary to lead the normal lifestyle of a society (Gelderblom 2007; Mears and Blaauw 2010). Residents of Warri Metropolis in Nigeria see poverty in terms of perpetual hunger, poor

housing conditions without water, kitchen and toilet facilities and lack of social and political status (Abotutu 2014). Another view emanates from Zimbabwe where some communities believe the avenging spirit or 'ngozi' can cause poverty and as such conceiving poverty in the conventional way may not provide solutions to problems associated with the latter (Mtapuri and Mazengwa 2013). Officially, in Zimbabwe, poverty is generally defined as the inability to attain a level of well-being constituting a realistic minimum (ZIMSTAT 2013). Given the views reported above, it can be argued that despite the huge amount of research on it, there is still no consensus in literature on the definition of poverty.

The United Nations Development Programme (UNDP 1997) takes a comprehensive three-pronged perspective to define poverty. Based on the first perspective of income poverty, a person is regarded as poor if his or her income or total expenditure falls below a defined threshold or a level of income sufficient to purchase a specified amount of food. In terms of income poverty, Zimbabwe recognises two poverty lines, namely the Food Poverty Line (FPL) and Total Consumption Poverty Line (TCPL) (MPSLSW 2006; ZIMSTAT 2014). The FPL represents the minimum consumption expenditure necessary to ensure that each household member can (if all expenditure were devoted to food) consume a minimum basket representing 2100 calories. Very poor households have monthly mean expenditure per capita less than the FPL. The TCPL is the level of income at which people can meet their basic food and non-food needs (MPSLSW 2006; ZIMSTAT 2014). Poor households have a mean monthly per capita expenditure of less than the TCPL but above the FPL. Households falling below and above the TCPL constitute the total poor and non-poor, respectively. A downside of income and expenditure-based poverty indices is that they are prone to measurement errors, cost prohibitive, time consuming and require expertise that may be beyond the budgets of organisations and some countries (Desiere et al. 2015). Moreover, this perspective does not recognise that poverty is increasingly accepted as a multidimensional phenomenon that encompasses income and a broad range of related factors such as broadening individual rights and other freedoms (Prince 2014). Even though estimates of the levels of global poverty based on income or expenditure have been the subject of

contentious debates, they still remain the best projections available for studying global poverty and play a significant role in international discourse on the subject (Mears and Blaauw 2010; Edward and Sumner 2013; Bergh and Nilsson 2014).

The second perspective of poverty is grounded in the basic needs paradigm (UNDP 1997). It regards poverty as deprivation of material requirements to satisfy a minimally acceptable level of human needs including food, basic health, education and employment. This deprivation was measured using the Human Poverty Index until 2010 when the Multidimensional Poverty Index (MPI) was introduced (UNDP 2010). The MPI takes into consideration the multiple deprivations that people face in their education, health and living standards and can be decomposed into a headcount of those in multidimensional poverty and its intensity (Alkire et al. 2011; UNDP 2014a). The main weakness of the HPI was that it could not identify specific individuals, households or larger groups of people as jointly deprived, aspects that the MPI addresses (UNDP 2014a).

Lastly, the human development or capability approach views poverty as the absence of some basic capabilities required for normal functioning. The capabilities include adequate nutrition, clothing, shelter, a long healthy life, safety and enjoyment of human and other rights. According to Eren et al. (2014), UNDP (2014a), the Human Development Index (HDI) is an alternative measure of poverty to income-only based tools such as the Gross Domestic Product (GDP) per capita or the \$1.25 (adjusted periodically) per day (Prince 2014). It is a composite measure of income, education and health. Since its introduction, human development measures of inequality and gender have been added to the tool to capture improvements in people's lives and freedoms.

The UNDP approach to defining poverty allows for its measurement and profiling, taking into account its multiple dimensions (Eren et al. 2014; Michael 2014; Prince 2014; Cobbinah et al. 2015). This approach was adopted in this paper because of its similarity to the one used in Zimbabwe. As reported earlier, in Zimbabwe, poverty is often measured and profiled using three dimensions-income poverty, human development index (HDI) and human poverty index (HPI). Although, the MPI replaced the HPI, the

measurement tool was adopted because it made it possible to compare the results of the study with those of PASS 2003. Furthermore, according to Prince (2014), since its introduction in 1997 the HPI remained true to its original formulation until its replacement with the MPI in 2010. This reality also made it possible to carry out a comparative analysis with PASS 2003.

It is necessary to point out that use of the income poverty, HDI, HPI and MPI measures of poverty is expensive and time consuming. Presumably, this partly explains why poverty statistics in resource-constrained Zimbabwe are out of date. The Progress out of Poverty Index (PPI) is one of a range of cost effective, easy-to-use and quick to implement measurement tools (Desiere et al. 2015) that could be considered for use in resource and time-constrained situations.

Understanding poverty as a multi-dimensional phenomenon may point towards alternative policies for poverty alleviation (Prince 2014). This perspective supports the Klasen (2007) argument for a focus on both income and non-income dimensions which may help to halve poverty by 2015. The Millennium Development Goals (MDGs) are a set of eight main objectives and 18 targets to be achieved by 2015. They include reducing extreme poverty, lowering child mortality rates, fighting disease epidemics, and building a global partnership for development. After the United Nations adopted the MDGs in 2000, Zimbabwe launched it in 2004 (GOZ 2009b). Thus, the complementary nature of income-based and composite measures of poverty (Antony and Rao 2007; Eren et al. 2014; Prince 2014) made both approaches relevant in this paper. Simultaneous use of these approaches made it possible to compare the observed poverty trends with PASS 2003. It has already been revealed that the PASS 2003 uses the same approaches as those applied in this paper.

METHODOLOGY

Population and Sampling Procedures

When this study was carried out, the estimated total number of households in Guruve District was 23700 (CSO 2002). Heads of households were interviewed. The survey focused on the household instead of the family unit because the former includes both family and non-family members, thereby providing more reliable in-

formation (Mears and Blaauw 2010). In order to draw the sample for the study, the Cochran (1963) approach was adopted. Cochran (1963) provides a formula-based calculation of a sample size from such a population, which is:

$$N = [Z^2 \pi (1-\pi)] \div [ME^2]$$

Where,

N = required sample size

Z = z-value for desired level of confidence

π = Population proportion

ME = acceptable margin of error in confidence interval

A conservative or safest value of the proportion of the population (π) of 0.50 was adopted, aiming to determine the sample size. The minimum sample size (N) for the household survey was found to be 385 households. This minimum sample size (N) for a 5 percent margin of error (ME) around the sample proportion in the 95% Confidence Interval was calculated as follows:

$$\begin{aligned} N &= [1.96^2 (0.5) (0.5)] \div [0.05^2] \\ &= (0.9604) \div (0.0025) \\ &= 384.16 \end{aligned}$$

Sampling entailed grouping the households according to EAs. Using the proportion to size probability sampling, 40 EAs were selected. Since the sampling units (EAs in this case) varied considerably in size, it was desirable to use this sampling method. Use of this method ensured that households located in EAs of different sizes had the same chance of being selected.

Data Collection

Three types of questionnaires that captured community, household and market-related data were used. The community questionnaire was used during focus group discussions (FGDs). Specifically, it was used to compile the profiles of Wards encompassing health, education, livelihoods and variables such as demography, consumption, expenditure and income, which are essential for characterising poverty. Data for individual households mainly comprised age, sex, marital status, relationship to head of household and orphan hood, education, health, employment, income, consumption-expenditure, access to land, agricultural activities, transport and communication. Lastly, the market questionnaire was used to obtain the prices of food and non-food items.

The principal researcher worked closely with a statistician when pre-testing all the three data collection instruments. Six people (2 women and 4 men) were hired as research assistants. The research assistants comprised three university students (2 undergraduates and 1 pursuing a Masters degree). The other three were project officers from a non-governmental organisation operating in the District. Apart from participating in the interviews, the project officers also assisted with logistical arrangements and introducing the research team to the respondents.

Pre-testing provided an opportunity for the research assistants to gain experience in using the data collection tools and also familiarizing themselves with interviewing techniques. In addition, the pre-testing helped assess whether reliable responses would be obtained. After pre-testing, the questionnaires were modified taking into consideration the preliminary field observations and experiences.

The primary data collection phase commenced with FGDs, which took about two weeks to complete. Focus groups were used specifically to explore issues and use the results to develop the structured questionnaire. Key informants were identified and interviewed. They included people associated with major governmental institutions such as Guruve's Rural District Council, traditional leaders, schools, health centres, extension services and the Veterinary Services Department. The key informants participated in meetings in which two well-trained research assistants/enumerators per meeting alternated in taking down notes and interviewing. The principal researcher and hired statistician backstopped the entire process, explaining and making clarifications on problematic aspects of the data collection tools, whenever necessary.

The final part of the data collection entailed administering a household questionnaire. Interviews took place at pre-arranged meeting sites. In each case, the questionnaire was administered separately to the heads of households or the representatives they delegated. In order to prevent the possibility of members of different households influencing each other's responses, interviewees were requested to leave the research platform soon after being engaged.

Derivation of Income Poverty

Following the steps outlined in Technical Note B of PASS 2003, income poverty was de-

rived. Income poverty was calculated by first deriving the expenditure-based food basket and food poverty line (FPL). A food basket refers to a bundle of food items expected to meet the minimum energy and nutritional requirements per capita per day, taking into account consumption habits and customs (MPSLSW 2006; Abotutu 2014). The expenditure-based food basket considers the actual patterns of expenses that the poor experienced. According to PASS 2003, the first 30 items the poor mostly consume from the food basket should be used in the calculation.

Household consumption and expenditure data was converted to a reference period of October 2010, using the Consumer Price Index (CPI) obtained from the CSO. Food and non-food expenditures of the household were summed up. Thereafter, the resultant total household expenditure was converted to a per capita measure and the results sorted in ascending order. Following the procedure for estimating a poverty line (Ravallion and Bidan 1994; MPSLSW 2006), households whose per capita expenditure occupied the bottom forty per cent were selected. They were regarded as representative of the poorest segment of the studied population.

After calculating the mean monthly per capita expenditure for each food item that the bottom forty per cent consumed, the proportion of households consuming them was derived. Weighted mean expenditures for each food item were obtained as the product of the mean expenses and the proportion of households consuming the food. The results were ranked in descending order. Only the top 30 items were selected to represent the expenditure-based food basket, in line with the recommendations of PASS 2003 as reported above.

The calorific value of each food item included in the food basket was determined. Per capita calorific values per day were stated using values drawn from the paper on "Zimbabwe Food Items and Nutritional Values" (Chitsuku 1989; The United States Development Agency: USDA 2010). Using the monthly mean expenditure per capita for all items in the food basket, the FPL was derived. The total kilocalories per capita per day for all the items listed in the food basket were calculated. Sums of the mean monthly expenditure per capita for all the items listed in the food basket were obtained. The food poverty line was determined as the total mean monthly

expenditure per capita $\times$ (2100 kilocalories $\div$ total kilocalories per day per capita).

The TCPL was calculated by averaging the total expenditures of households with monthly food expenditure equal to the FPL. Monthly food expenditures per capita were ranked in ascending order. The median total monthly expenditure per capita for households with food expenditure ± 5 percent around the FPL (taking 1 percent intervals at a time until there were five median total monthly expenditure per capita values) was then calculated. An average of the five median totals was obtained, which constituted the TCPL for the sample.

Calculating the Human Poverty Index and the Human Development Index

The HPI was derived by obtaining the unweighted average of the three indicators used to measure deprivation in a decent standard of living. The PASS 2003 computation, which is: $1/3 \times$ (children < 5 yrs who are underweight) $+ 1/3 \times$ (population without access to safe water) $+ 1/3 \times$ (population without access to health care) was used. Thereafter, the HPI was obtained using the Prince (2014) formula:

$$\text{HPI} = [1/3(P_{11} + P_{22} + P_{33}f)^{1/3}], \text{ where}$$

P_{11} = the probability at birth of not surviving to the age of 40 years;

P_{22} = adult literacy rate; and

$P_{33}f$ = unweighted mean of indicators of decent standard of living.

The HDI was computed by determining the minimum and maximum values of life expectancy, education and income indices. Performance in each of these dimensions was calculated using the Eren et al. (2014):

Dimension Index = (Actual value – Minimum value) $\div$ (Maximum value – Minimum value)

Calculation of a simple average of the indices of the three life dimensions as shown in the formula below, gave the HDI.

$\text{HDI} = 1/3(\text{life expectancy index}) + 1/3(\text{education index}) + 1/3(\text{income index})$

Where,

- The education index is calculated as $2/3$ (adult literacy index) $+ 1/3$ (average years of schooling); and
- Income index is calculated using logarithms of annual mean expenditures per capita.

Following the procedures outlined in the PASS 2003, nutrition and life expectancy data used to compute the HDI were obtained from the Multiple Indicator Monitoring Survey (ZIMSTAT 2009).

Data Analysis

Initial analysis of the data collected in this paper involved summarizing the informational contents following the thematic content technique (Sandelowski 2000). Key variables were listed for each Ward and the responses to the open-ended questions were summarised. The Ward and District profiles obtained during the process were used to generate preliminary hypotheses tested using the household data. The hypotheses postulated largely sought to explain some of the quantitative data obtained using the structured household questionnaire.

Data collected through household questionnaires were captured into a template designed using the Statistical Package for Social Sciences (SPSS) version 22.0 for Windows. Data cleaning, verification and further analysis were carried out afterwards. All the discrete variables were transformed into continuous forms through re-coding and assigning numeric values to the responses. During the second step, all the variables were transformed from 'nominal' to 'ordinal' levels of measurement. Nominal levels of measurement used numbers to classify or label categorical data. For example, the variable "sex" was regarded as nominal. Assigning 1 and 0 to denote male and female respectively, helped to distinguish the two sex categories. This adopted "ordinal" level of measurement made it possible to group the responses into separate categories as well as prioritising them.

Frequency tables and cross-tabulations were generated using SPSS. Data generated from the analysis was used to derive estimates of income poverty, HPI and HDI.

RESULTS

Demographic Characteristics

Average household size was found to be 5.5, with the rate of out-migration being 19.3 percent. About fifty-one percent of the interviewees were female. Also, seventy-six percent of the households were male-headed. Almost all (96 %) of the male heads of households were married. In contrast, only twenty-three percent of

the female heads of households were married. The respective rates of orphanhood, disability and illness for male and female-headed households were 18 percent versus 20 percent; 3.9 percent versus 3.5 percent; and 12 percent versus 18 percent.

Income Poverty

In the current paper, the FPL per capita per month was USD10.36 with the TCPL being USD19.50. The proportions of households living below the FPL and TCPL were about fifteen per cent and fifty-six per cent, respectively. Approximately, fifty-three per cent of household monthly expenditures went towards food (Table 1). However, for the very poor households, non-food expenditure was marginally higher (51%) than food expenditure (49%). Also, food had a higher expenditure share for the poor (54%) and non-poor (53%).

Table 1: Food and non-food budget shares, by poverty category in Guruve district of Zimbabwe

Expenditure item	Proportion (%) of			Overall (%)
	Very poor	Poor	Non-poor	
Food	49	54	53	53
Non-food	51	46	47	47
Mean monthly expenditure (US\$)	\$76.41	\$109.29	\$200.28	\$141.76

The difference in the food and non-food budget shares between very poor households and poor households was statistically significant ($p < 0.05$). Mean monthly expenditure on food and non-food items was about USD141.76 for the whole sample. As shown in Table 1, the mean monthly household expenditure decreased with increasing poverty, being \$76.41, \$109.29 and \$200.28 for the very poor, poor and non-poor, respectively.

Table 2 shows that own production was the main source of monthly household food (64.4%), followed by purchases (31.2%). Private transfers comprising income in cash and in-kind from private sources such as relatives and friends constituted 3.5 percent. Public transfers, which comprised income in cash and in-kind from public sources such as NGOs and government assistance programmes were almost negligible (0.1%).

Table 2: Sources of household food consumption by household poverty category in Guruve district of Zimbabwe

Poverty category	Purchases	Own production	Public transfers	Private transfers
Very poor	23.9	71.4	0.5	3.6
Poor	29.4	66.1	0.0	3.9
Non-poor	36.0	59.7	0.0	3.0
Total	31.2	64.4	0.1	3.5

The percentage contribution from own production to household food consumption expenditure was highest amongst very poor households (71.4%) compared to the poor (66.1%) and non-poor (59.7%) as indicated in Table 2. Purchases were significantly higher for the non-poor households (36%) compared to the poor (29.4%) ($p < 0.01$) and very poor households (29.4%) ($p < 0.05$). The contribution of own production to food consumption in poor households was significantly greater ($p < 0.05$) than that for non-poor households. Similarly, the contribution of own production to household food consumption in very poor households was significantly greater ($p < 0.01$) than that for the non-poor.

Cereals (mainly maize as the staple crop) contributed the largest share (30.9%) of the monthly household food consumption expenditure (Table 3). The share of cereals increased with worsening poverty. In this regard, cereals

Table 3: Budget Shares (percent) of food items, by poverty category in Guruve district of Zimbabwe

Food group	Very poor	Poor	Non-poor	Total
Sugar, coffee and tea	7.28	8.28	8.19	8.10
Cereals	44.24	31.91	25.25	30.93
Vegetables	22.36	20.55	14.90	18.50
Fruits	1.26	1.32	1.14	1.24
Alcoholic beverages	0.99	0.78	2.38	1.46
Non-alcoholic beverages	0.00	1.60	2.18	1.61
Meat, poultry and eggs	8.01	17.03	22.95	18.17
Milk and dairy products	2.23	1.65	5.75	3.4
Fats and oils	7.89	7.26	5.54	6.65
Pulses	5.46	9.31	10.73	9.40
Total	100	100	100	100
Mean monthly food consumption expenditure (US\$)	\$36.91	\$58.41	\$100.91	\$72.71

constituted 25.2 percent, 31.9 percent and 44.2 percent of the non-poor, poor and very poor households' food budget, respectively. Food expenditure shares for vegetables (18.5%) and meat/poultry/eggs (18.2%), were the second and third highest, respectively.

In contrast to meat, poultry or eggs, the relative share of vegetables increased with increasing poverty. Fruits (1.2%), alcoholic (1.5%) and non-alcoholic beverages (1.6%) contributed the least to the monthly household food budget. Mean monthly expenditure on food items decreased with increasing poverty as follows: non-poor (\$101), poor (\$58) and very poor (\$37).

Rent, rates and domestic power contributed the largest (49.9%) share of the non-food expenditure. Their share of the household budget increased as poverty worsened (Table 4). Education and transport or communication contribut-

Table 4: Budget shares of non-food items by poverty category in Guruve district of Zimbabwe

Item	Very poor	Poor	Non-poor	Total
Tobacco	1.57	0.50	0.71	0.75
Clothing and footwear	3.70	5.69	7.08	6.02
Rent, rates and domestic power	72.65	55.17	37.71	49.91
Furniture and household stores	0.84	4.15	10.65	6.58
Transport and communication	3.14	7.50	11.80	8.82
Recreation and entertainment	0.14	2.48	1.97	1.91
Education	14.47	15.43	13.19	14.29
Health	1.38	3.80	6.95	4.88
Funeral and other expenses	0.92	1.86	2.78	2.13
Domestic wages and house maintenance	0.54	0.81	3.72	2.07
Personal care effects	0.65	2.36	3.16	2.47
Insurance, loan and interest	0.00	0.18	0.22	0.17
Total	100	100	100	100
Mean monthly non-food consumption expenditure (US\$)	\$41.48	\$53.47	\$115.78	\$78.91

ed the second (14.3%) and third (8.9%) largest percentage shares of the household non-food monthly expenditure. The health budget share was 4.9 percent, which decreased with increasing poverty. It was observed that the budget share for education did not vary significantly across the poverty categories ($p > 0.05$). The share of transport or communication increased significantly as poverty rates decreased ($p > 0.05$).

Insurance, loan or interest, tobacco and recreation or entertainments were the least prioritized non-food expenditure items. In Table 5, the indicators and measurements of poverty are shown.

Table 5: Indicators and measurements of poverty obtained during the study in Guruve District of Zimbabwe

Indicator/measure	Status during the study period
a) Human Poverty Index (HPI), %	35.2
b) Human Development Index (HDI)	0.417
c) % population without access to safe water	20.3
d) % population without access to health care	13.7
e) Probability at birth of not surviving to age 40 (times 100), %	50
f) Adult literacy rate, %	86.9
g) Adult illiteracy rate, %	13.1
h) Average years of schooling	9.3

Human Poverty and Development Indices

As shown in Table 5, the Guruve District's HPI and HDI were thirty-five percent and 0.417, respectively. Approximately, twenty percent of the sampled households had no access to safe water compared to 13.7 percent for health. The probability at birth of not surviving to 40 years old was about fifty percent and the illiteracy rate was found to be 13.1 percent. On average, the number of years of schooling was 9.3.

DISCUSSION

Income Poverty

The proportion of households living below the FPL observed in this study was forty-six per cent lower compared to the PASS 2003 findings. This suggested that the food poverty situation

in the Guruve District was improving. The improvement in the food poverty situation between 2003 and 2010 could be attributed to the fact that the share of household food consumption from own production increased dramatically in that year compared to 2003. In 2003 for example, the main source of household food consumption (76%) across all poverty categories was purchases (MPSLSW 2006). However, in the current study, own production (64%) was more important than purchases (31.2%).

Prince (2014) observes that increased own-food production is an important factor that considerably reduces deprivation, which in itself is the main source of poverty (Bodea and Herman 2014). It can be deduced that the increase in own-food production observed in the current study could be benefiting the poor in Guruve District through reduction in expenditure on staple food and improved calorific intake. Evidence in the literature points to the fact that production of own food, mostly for domestic consumption, is an important anti-poverty strategy in Sub-Saharan Africa (Palmer and Sender 2006; Mears and Blaauw 2010; Abotutu 2014). Taking these results into consideration, policies that support the production of own food crops, particularly the staple maize crop are likely to have a huge positive impact on food poverty in Guruve's smallholder farming communities.

Despite the improvement in the proportion of households meeting their basic food needs (very poor), incidence of poverty continued to worsen. The sixteen percent increase in the proportion of households living below the TCPL in 2009 when compared to the PASS 2003 findings supports this assertion. Although rent constituted the highest share of monthly household non-food expenditure, it was not an important cost to consider in practice. Rent was just an opportunity cost necessary to consider when computing the TCPL (MPSLSW 2006). The households in Guruve did not actually pay rent for their housing.

Even though there was an increase in the proportion of households falling below the TCPL, the communities in Guruve District were still committed to educating their children. The high monthly non-food expenditure budget share of education across all poverty categories, which was only second after rent, supported this view. Favourable government policies that took into account the hardships that the families faced

ensured that both tuition and examination fees were kept at a minimum through subsidies and other enforced control measures (Mahere 2010).

Education is regarded as a major determinant of household welfare and level of development of a country (Mears and Blaauw 2010; Cui and Ge 2013; Abotutu 2014; Eren et al. 2014). It also signifies an accumulation of human capital that might propel economic growth, socio-economic enhancement and poverty reduction (Foulkes 2008; Hanjra et al. 2009). This implies that through favourable education policies, which include subsidies and controls on payable tuition and levy fees that the Government of Zimbabwe implemented, Guruve District stood to benefit from such poverty reduction initiatives in the long-term.

The high literacy rates observed in the current paper in Guruve District represent substantial progress considering that literacy rates have a statistically significant impact on levels of development (Eren et al. 2014). Presumably, policies ensuring that schools are built and equipped particularly in the new resettlement areas and maintaining the current high literacy rate of ninety-two percent in the country (GOZ 2013) might precipitate improvements in the TCPL in Guruve District.

The amount of money that rural area-based households allocated to transport and communication was found to significantly decrease with increasing poverty, a trend, which was consistent with other observations in the literature (Gelderblom 2000; UNDP 2009). This evidence reveals that very poor and poor households in Guruve District were more likely to suffer from poverty and social exclusion due to the lower incomes that limited their mobility and ability to network effectively with distant communities and access services such as inputs and output markets. Such a situation limits the competitiveness of poor people in the district in agricultural marketing and trading activities. In order to address the lack of agricultural competitiveness in the rural areas of the country, the government of Zimbabwe through several policy instruments, made several major commitments (GOZ 2013, 2014a, 2014b). The commitments include rehabilitating, upgrading and development of the national power grid, road and railway network, water storage, supply and sanitation, buildings as well as ICT related infrastructure. Taking the case of ICT for example, Bergh and Nilsson (2014)

reveal that larger information flows are robustly associated with lower poverty rates. This implies that the kind of developments referred to above, if implemented, plays a fundamental role in the socio-economic development of the country and Guruve District as well.

Human Poverty

Although there was an eight percent improvement in the HPI for Guruve District since 2003, the rates of poverty worsened over the 20 years prior to late 2009. This trend arose due to the fact that the HPI observed in this paper (35.2%) lagged far behind the country's Millennium Development Goal target of about seventeen percent (ZIMSTAT 2009). Guruveis, therefore, not likely to achieve MDG 1 on halving hunger and extreme poverty by the year 2015 (FAO 2011).

The considerably high probability of dying before attaining the age of 40 (50%) observed in this paper was worrisome and explained the high HPI for Guruve District. Longevity expressed as vulnerability to death at a relatively early age as measured by the probability of dying before attaining the age of 40 is an important factor often considered when computing the HPI (Prince 2014). Presumably, the high maternal and under-five mortality rates in the country (ZIMSTAT 2013) contributed to the low longevity and high HPI levels observed in Guruve District. This originates from the fact that they are important factors of longevity in Zimbabwe (CSO 2007, 2009; ZIMSTAT 2009). Linked to this were the high HIV and AIDS prevalence rates in the adult population, estimated to be fifteen percent (ZIMSTAT 2013). Such a situation might also have exacerbated the HPI through increasing mortality rates and deprivation, in particular in poor and very poor households. Interventions of the Ministry of Health and Child Welfare (MoHCW) aimed at reducing childhood mortality such as the Prevention of Parent to Child Transmission (PPTCT) programme and the Expanded Programme on Immunisation (EPI) (ZIMSTAT 2013) are commendable because they go a long way towards reducing the HPI.

The 13.7 percent reduction in the number of people without access to health, which is another important component considered in the computation of the HPI that occurred between 2003 and 2009 in Guruve District was rather sur-

prising. It occurred when the macro-economic environment and health delivery services were deteriorating at a faster rate than ever experienced before in the history of the country (GOZ 2009a; World Bank 2009). Limitations that the definition of 'access to health' used in the PASS 2003 and that adopted in the current paper imposed might explain the variation referred to above. Use of a more comprehensive definition that includes and addresses quality issues in health care such as availability of drugs, equipment, skilled personnel, cost and attitudes of staff might yield more comprehensive and realistic results (Trani et al. 2010; Mariko 2003). Such factors have a positive effect on the utilisation of health facilities.

Human Development

Despite a twenty-four percent improvement in HDI between 2003 and 2009, Guruve District, and Zimbabwe as a whole continued to be the poorest in sub-Saharan Africa (UNDP 2014b). In human development terms, these statistics suggested that the quality of life that the people in the District enjoyed had worsened over the period under consideration (Eren et al. 2014). With respect to improving the HDI for Guruve District, poor performance in terms of longevity and income outweighed the relatively better performance in the knowledge category and other indicators such as access to clean drinking water. This was the case despite evidence (Eren et al. 2014) suggesting that higher education levels increase the probability of having a very high HDI.

Taking into account that a high HDI ranking of a country has significant effects on its level of development (Eren et al. 2014), Zimbabwe should explicitly include increases in the country's HDI as a central policy objective. Michael (2014) shows that setting targets for a country's HDI ranking can help coordinate broader macroeconomic, sectorial and fiscal policy objectives, which are all factors that help to translate into real GDP growth. Zimbabwe is endowed with abundant natural wealth that includes mineral resources and productive agricultural land (GOZ 2013). Judicious use of such resources would contribute to overall economic growth through restructuring the economy and helping to provide the hospitals, schools and other infrastructure needed for rapid HDI rank improvements.

CONCLUSION

Improvement in income poverty observed in 2009 when compared to the results of PASS 2003 as measured by the FPL implied that the high own production of the staple maize crop observed in this paper impacted positively on household food poverty. This was the case particularly for the poor and very poor households. Also, the observed improvements in the HPI and HDI for Guruve when compared to the results of the PASS 2003 were not large enough to help the District meet its MDG targets. This implied that Guruve remains largely a poor district.

RECOMMENDATIONS

Based on the findings of this paper, policy formulation should favour increased agricultural productivity of the main food crops, especially maize. Such a policy thrust is likely to result in long-term food security and poverty alleviation. Targeted educational subsidies and provision of improved infrastructure, in particular having better roads and investing in modern communication technology might make it significantly possible to reduce the proportion of people living below the TCPL. Maintaining and where possible, improving the relatively high standards of education through adopting policies designed to maintain high quality standards in the District, are likely to impact positively on the HDI. Also, interventions that ensure improved access to safe water in communities are needed. Possibly, this might also have a positive impact on Guruve District's HDI. Policies designed to maintain high literacy levels, improve health conditions and reduce high mortality rates might help reduce the district's high HPI.

LIMITATIONS OF THE PAPER

This study was undertaken during a turbulent period in which rural households in Zimbabwe faced a myriad of socio-economic and political challenges. It is possible that a similar study conducted in a much more stable environment could yield different results. Although this paper ascertained the extent of poverty rates in the District, establishing the exact reasons why Guruve remained a poor district was beyond its scope. Thus, further research is needed to establish why this is the case considering

that the District had abundant natural and human capital.

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