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Interrogating urban poverty lines: The case of Zambia

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Note: Please note that at the time of printing, the 2006 Living Conditions Monitoring Survey was still in draft form.

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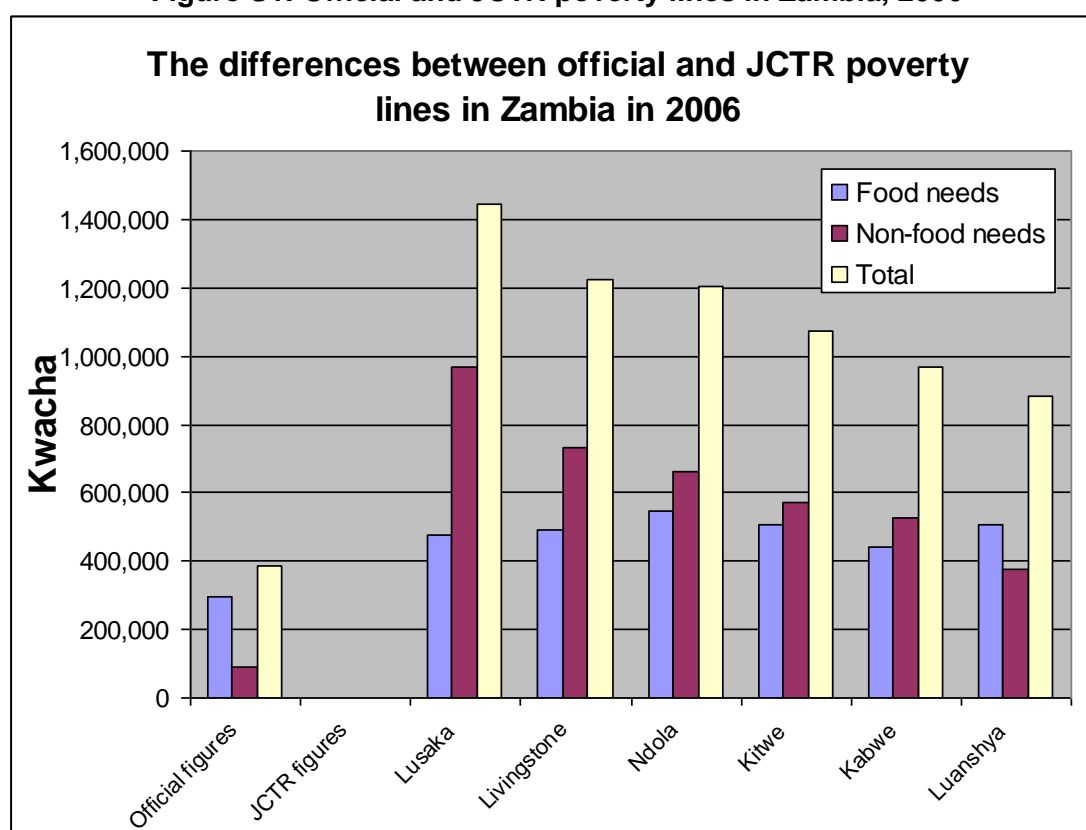
Interrogating urban poverty lines: The case of Zambia

EXECUTIVE SUMMARY

This paper describes how the scale and depth of urban poverty in Zambia is underestimated by official poverty lines. This is also likely to be the case in many other nations in sub-Saharan Africa, because the methodologies used to set poverty lines in Zambia are similar to those in many other nations. The under-estimation of urban poverty contributes to the inadequate attention given to addressing the needs of the urban poor.

Most poverty lines are set as a monetary amount, based on the costs of food and estimates for the costs of non-food needs (although extreme poverty lines are often based on the cost of food needs alone). In Zambia, the costs of both food and non-food needs are underestimated. The monetary amount set as the cost of meeting food needs is based on a national average, and fails to recognize how food costs vary and are particular high in some urban centres. As Figure S1 shows, minimum food costs are a lot higher in Lusaka and five other urban centres than the official food poverty line.

Figure S1: Official and JCTR poverty lines in Zambia, 2006



The official poverty line used in Zambia is based on data from the Living Conditions Monitoring Survey published by the government Central Statistics Office (CSO). In 2006, the official food poverty line (also known as the extreme poverty line) as reflected in the Draft Living Conditions Monitoring Survey was set at 295,696 Zambian Kwacha (K) per month for a household of six persons (equivalent to 82.1 US dollars (\$), equivalent to around \$0.45 per person per day).¹ The official poverty line was K473,114 (equivalent to \$131.4, or around \$0.73 per person per day).

¹ Figures in this summary use the 2006 exchange rate of K3601.5 to \$1.0.

The Jesuit Centre for Theological Reflection (JCTR) has been collecting data on living costs in Zambia since the early 1990s. The JCTR calculation of the food poverty line for Lusaka in December 2006 was K476,250 (equivalent to \$132.2, or around \$0.73 per person per day). For five other urban centres for which data are collected, the JCTR food poverty line varied between K544,370 and K440,480.

The JCTR poverty line for Lusaka was K1,442,350 (equivalent to \$400.49, or around \$2.22 per person per day). Thus, the poverty line of US\$1 per person per day used in the Millennium Development Goals is not a realistic poverty line for use in urban areas in Zambia.

An assessment of a food basket that contributed the same number of calories as the official poverty line but consisted of the basic food items commonly consumed by urban households was K476,250 for Lusaka. The official food poverty line includes no provision at all for bread, meat or sugar, even though official surveys show these to be among the top five food items in terms of share of food expenditure. The JCTR's provision for these was still modest – for instance, one loaf of bread and under 200 grams of meat a day for a family of six. For some Zambian urban centres, the equivalent food poverty line was higher – for instance, K544,370 in Ndola and K504,850 in Luanshya.

The official food poverty line failed to recognize the higher prices for food paid by low-income households who are unable to buy in bulk. For instance, low-income households buy the staple mealie meal in 0.4kg packs, rather than 25kg sacks, and this increases the price per kilo by 31%. If allowance was made for the higher costs paid by low-income households for goods such as mealie meal, soap, sugar and salt, because they can afford to purchase only small quantities, the cost of the minimum food basket would be even higher. In 2006, 58% of families in Zambia reported that they could not afford three meals a day. The 2007 Demographic and Health Survey (CSO, 2009c) reports that 45% of Zambian children are stunted.

Zambia, like many other nations, still has an extreme poverty line based on the cost of only food needs. The validity of setting any poverty line at this level is questionable, especially in urban areas where the costs of non-food needs are particularly high. The official poverty line that does include some allowance for non-food needs fails to recognize higher non-food costs in urban areas, especially for housing, utilities, transport, health care and education. (Health care and education to grade 9 are free in rural areas.) In addition, what urban dwellers spend on education, health care and adequate provision for water is not a good measure of whether they have their needs met. The proportion of the Zambian population with access to safe water has declined in recent years, and most low-income households could not afford sufficient water to meet their needs.

In 2006, the official figure for the cost of non-food needs was K88,709 a month. But the cost of essential non-food needs in Lusaka was more than ten times this amount – K996,100 – because the official figure made no allowance at all for the costs of housing, and insufficient allowance for fuel, soap, electricity and water. Even this much higher figure did not include costs for clothing, education, health and transport. Household expenditures on these vary greatly, although these items represent an important part of total expenditure for many low-income urban households.

The cost of renting the cheapest, reasonable-quality house for a family of six in Lusaka was K650,000 a month in 2006 – for a three-bedroom house in a medium-density area, to allow separate bedrooms for female and male children. However, even if housing costs are lowered to the price of renting poor-quality, overcrowded accommodation in an informal settlement, the costs of rent alone are still far above the entire allowance for non-food needs in the official poverty line. In 2010, the cost of renting two electrified rooms in an informal

settlement in Lusaka was K150,000–200,000 per month; the cost of a three-bedroom house in Lusaka in 2010 had risen to K1.5 million a month. In 2006, the costs of non-food needs varied considerably between urban centres: they were highest in Lusaka at K996,100 and lowest in Luanshya at K378,580 (see Figure S1).

The level at which the poverty line is set has significant implications for the extent to which Zambia can be said to be meeting the Millennium Development Goal of halving chronic poverty and hunger. The level at which the poverty line is set also has major implications for determining the incidence of overall and extreme poverty and how these change over time. For instance, according to official Zambian poverty statistics, urban poverty fell dramatically between 2004 and 2006. The official poverty line suggests that from 1991 to 2004, around half the urban population was poor – but this proportion fell from 53% in 2004 to 34% in 2006. Extreme poverty from 1991 to 2004 varied between 24% and 36% but was down to 20% in 2006. The incidence of both poverty and extreme poverty would be significantly higher using the alternative estimates summarized above for food and non-food needs.

Interrogating urban poverty lines: The case of Zambia

Introduction: about this paper, and defining poverty

Only a few years away from the 2015 deadline for achieving the Millennium Development Goals (MDGs), the fight against poverty is at the centre of national and international development discussions. The global food and economic crises that peaked in 2008 have only increased the urgency. Indeed, the world saw a renewed focus on chronic poverty and specifically MDG 1, which is to reduce chronic poverty and hunger by half by the target date of 2015.²

In the words of the United Nations Secretary-General Ban Ki-moon,

Eradicating extreme poverty continues to be one of the main challenges of our time, and is a major concern of the international community. The Millennium Development Goals set time bound targets, by which progress in reducing income poverty, hunger, disease, lack of adequate shelter and exclusion – while promoting gender equality, health, education and environmental sustainability – can be measured.³

However, the success of both national and international plans should be anchored by a precise characterization and measurement of poverty. Since policy choices are strongly influenced by the definition of a problem, accurate definition and measurement of poverty is critical for the design and implementation of specific poverty-reducing actions. Essentially, a better definition and more precise measurement of poverty is an integral and indispensable part of any approach to poverty reduction.

This paper aims to examine the robustness of urban poverty measurements in Zambia. The paper draws largely on data from the Central Statistics Office (CSO), the major statistical body in Zambia, and the Jesuit Centre for Theological Reflection (JCTR),⁴ a prominent local non-state actor that surveys costs of living in Lusaka and other Zambian towns. The paper further interrogates the basic form and characteristics of the CSO's extreme and overall poverty lines in relation to the JCTR's findings as well as anecdotal evidence from select high-density (low-income) areas of Lusaka.

The first part of the paper provides a brief overview of the meaning of poverty and the various ways in which it can be measured in the current global political and social context. The discussion then focuses on poverty in Zambia by looking at poverty levels and some of the ensuing debates. Next is a detailed analysis of the CSO measures of extreme and overall poverty in relation to the JCTR's cost-of-living surveys. The discussion reflects on living conditions in the high-density areas of Lusaka to enhance the understanding of poverty and to provide a richer background to assessing the various approaches to measuring poverty. The final part of the paper looks at policy measures taken by the Zambian government to address the challenge of poverty.

As poverty statistics are an intrinsic aspect of policy-making, the definition and measurement of poverty is critical. Historically, poverty measurements have been associated with the late-nineteenth-century British social reformers Booth and Rowntree (see, for example, Rowntree, 1901). Rowntree used the concept of "primary poverty", which he described as: "Families whose total earnings are insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency" (Rowntree, 1901, 86).

² The eight Millennium Development Goals (MDGs) were adopted by the international community as a framework for the development activities of over 190 countries around the world.

³ Extracted from www.un.org

⁴ www.jctr.org.zm

Not surprisingly, the initial conceptualization of poverty was income based and income has remained at the core of the concept's meaning. The justification for this is that (in market-based economies) lack of income is highly correlated with other causes of poverty and is a predictor of associated and future deprivation (Wratten, 1995). As assessed by Townsend (2006), when people lack, or are denied, the income and other resources, including the use of assets and receipt of goods and services in kind, to obtain the conditions of life – that is, the diets, material goods, amenities, standards and services – that enable them to participate in relationships and follow the customary behaviour which is expected of them by virtue of their membership in society, they can be said to be in poverty. They are deprived because of their poverty. The key to understanding this is the definition and measurement of the two variables that can be shown to be closely related – “income” and “deprivation”.

The World Bank, however, has adopted an absolute approach when conceptualizing poverty in the international-development context. Currently, the Bank sets the poverty line, the minimum income level to meet basic needs, at US\$1.25 per person per day in 2005 Purchasing Power Parity of the national poverty lines for the 10–20 poorest countries of the world (Chen et al. 2008, 10).

Many have criticized the Bank's conventional measure of poverty, which takes income as a proxy measure of welfare. Income-defined poverty lines are problematic for a number of reasons. According to Wratten (1995), income is a useful indicator if we want to identify which people are likely to lack the resources to achieve a socially acceptable standard of living. However, it does not measure accurately their capacity to achieve access to the goods and services they require (which may be influenced by other factors such as education, information, legal rights, illness, threatened domestic violence or insecurity).

Motivated by some of these criticisms, Amartya Sen developed his widely used “capabilities” approach. This conceives of poverty as being absolute in the space of capabilities – in other words, referring to universal human needs with relation to nutrition, education, human dignity and participation in society – but relative in the space of commodities, resources and income required to realize those capabilities. Capabilities include such things as nutrition and shelter. Sen also touches on notions of the goods and services required for participation in society (and hence an adequate level of a specific good/services) when he talks about the capability of “avoiding shame” (Sen, 1983, 167). He elaborates: “A person's ‘capability’ refers to the alternative combinations of functionings that are feasible for her to achieve. Capability is thus a kind of freedom: the substantive freedom to achieve alternative functioning combinations (or, less formally put, the freedom to achieve various lifestyles)” (Sen, 1999, 75). The emphasis is that equal capability sets, in this context, are those that offer required levels of nourishment taking into account the particular social context, and the degree of control available to the individual concerned.

Countries such as South Africa have adopted Sen's definition in their understanding and measurement of poverty by defining it more broadly than merely measuring the extent of low income or low expenditure in the country. Poverty is seen here as being characterized by the inability of individuals, households, or entire communities, to command sufficient resources to satisfy a socially acceptable minimum standard of living (Statistics South Africa, 1998, 6).

Within the international arena, an alternative – and more specific – concept of “absolute” poverty was given at the World Summit for Social Development in Copenhagen in 1995. Here, absolute poverty was described as “a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services” (Gordon, 2002, 59).

More recently, even the World Bank has recognized that an exclusive focus on income may not be enough and that an alternative empirical approach to measuring poverty may be needed in addition. Hence, in 1993, the Bank began conducting poverty assessments that included participatory surveys. Initial investigations along these lines were designed to elicit information about an expenditure-based or income-based poverty line. For example, respondents might be asked, "What income would you consider to be the minimum needed to make ends meet?" More recent work on participatory poverty assessments is much more open-ended, interactive and qualitative, allowing people to describe what constitutes poverty in whatever dimension they choose (Kanbur and Squire, 2001).

It is clear, therefore, that there is now widespread agreement on the scientific definition of poverty as including both low income and limited capabilities to fulfil universal human needs. Perceptions about the nature of poverty, and the policy responses which follow from these perceptions, are central in deciding how best to study, measure and analyze poverty (Wratten, 1995). In interrogating urban poverty measurements in Zambia, this paper will adopt an expanded definition of poverty, embracing dimensions such as income, health, literacy and longevity.

A trajectory of poverty surveys in Zambia

The 1995 World Summit for Social Development reached a consensus on approaches to poverty, as stated in the Copenhagen Declaration on Social Development and the Summit's Programme for Action, signed by 117 countries (United Nations, 1995). In planning to defeat poverty, governments agreed to issue frequent reports on the extent of national poverty, to be based on measures of both "absolute" and "overall" poverty. This was welcomed as an aid to comparable investigations in countries at different levels of development, and as a way to prevent the use of different regional measures of poverty. Further, it was seen as a way of providing genuine measures of the scale of extreme and overall poverty in the world, and of the success or failure of different policies in alleviating poverty (Rio Group, 2006).

Such discussions encouraged the Government of the Republic of Zambia (GRZ) to conduct a number of household surveys to estimate poverty levels. Although the country's Central Statistics Office (CSO) has been collecting poverty-related data since the 1960s, the collection of poverty data for monitoring the social dimensions of adjustment programmes started in 1991 through the first Priority Survey (PS I) followed by PS II in 1993. The overall aim of these surveys was to understand and highlight social dimensions emanating from Zambia's structural adjustment programme, and to analyse how such activities affected different segments of the country's population. Among other data, the survey collected information on demographic characteristics, health care, education, labour-force supply, household income and assets, household expenditures, poverty, and household amenities and facilities.

These surveys were followed by broader surveys, the Living Conditions Monitoring Surveys (LCMSs), which evolved from the Priority Surveys. To date, four LCMSs have been published: in 1996, 1998, 2002/03 and 2004. A 2006 LCMS has also been conducted, and highlights of the findings have been disseminated to the public. However, the full report was still unpublished when this study was finalized. While these surveys are the major source of poverty statistics for Zambia, the objectives and methodologies of some of the surveys differ, making direct comparisons difficult.

Comparability of the Living Conditions Monitoring Surveys

The objectives of the LCMSs are broader than those of the PS I and PS II, and include:

- measuring and monitoring poverty over time for the government to evaluate its programmes of poverty alleviation and reduction
 - monitoring living conditions of households over time in terms of access to various facilities and infrastructure and basic needs such as shelter, clean water, health and food
 - identifying vulnerable groups in society who were unable to cope with and adjust to structural changes in the economy and were not able to afford or did not have access to basic needs of life and necessary social and economic infrastructure.
- (CSO, 2004, 3)

In analysing the LCMSs, it is best to separate the 2002/03 survey from the rest, because of differences in methodology. The 1996 and 1998 LCMSs were cross-sectional consumption-data surveys implemented over a six-week time period, which limited coverage of seasonality and the influence it has on the intensity of poverty. The 2002/03 LCMS criticized the cross-sectional consumption data as not providing a good measure of poverty, mainly because the survey design did not capture changes in welfare due to seasonal variations. The 1996 and 1998 surveys took place in the last two months of the fourth quarter, when people are food insecure. Furthermore, household expenditure was captured using a recall method, prone to omissions resulting from memory lapses.

These shortcomings prompted the World Bank and the CSO to conduct the third LCMS over a period of 12 months: between November 2002 and October 2003. This survey took into consideration the aspects of seasonality and information documented in a diary by participating households. Despite the identified shortcomings in the first two LCMSs, the fourth and fifth surveys (CSO, 2004; CSO, 2006) were again cross-sectional consumption-expenditure data. These surveys are marred by the same shortcomings identified in the 1996 and 1998 LCMSs.

The comparability of household surveys over time is always of concern in poverty monitoring. Clearly, there was a significant break in survey design of the 2002/03 LCMS, which was longitudinal rather than cross-sectional or single-interview. The other surveys usually relied on a two-week recall period; in some instances, this was extended to one month or one full year depending on the assumed regularity of expenditure on certain items. However, there have also been instances where either a two-week or a one-month reference period was used for the same item, which makes aggregation and comparison difficult. CSO justifies these differences with instances when a household had not spent anything on a particular item in the last two weeks but would have done so in the last four weeks. For instance, as mealie meal is a staple food item, a one-month reference period can be more useful in case households purchase a months' supply at once.

This survey design may result in sampling and non-sampling errors leading to imprecise welfare measures such as under- or over-estimation of expenditures due to memory lapses. The 2002/03 longitudinal survey avoided such errors because of the diary method used, requiring households to record daily transactions. Therefore, the longitudinal survey stands higher chances of yielding more accurate estimates of consumption. In fact, the poverty statistics in the longitudinal survey (elaborated in the next section) yielded lower prevalence of poverty than the surveys before, which may be due to the differences in survey methodology.

Poverty levels in Zambia

Poverty levels in Zambia, as in many other countries, have been at the centre of national debates, with statistics and results contested by various factions of society. The objective of this section is to examine variations in poverty across two dimensions.

1. Analysing poverty changes over time, focusing on 1991 to 2006, indicates whether Zambia is likely to attain Millennium Development Goal 1 of halving poverty and hunger by 2015.
2. Changes in the standard of living and in poverty across sections of the Zambian population are measured mainly across geographical regions.

Both of these dimensions are important for economic and social policy in Zambia, and both are important to the accurate measurement of urban poverty.

Table 1: Incidence of overall and extreme poverty in Zambia, 1991–2006

	1991	1993	1996	1998	2004	2006
Incidence of poverty						
All Zambia	70	74	69	73	68	64
Rural	88	92	82	83	78	80
Urban	49	45	46	56	53	34
Incidence of extreme poverty						
All Zambia	58	61	53	58	53	51
Rural	81	84	68	71	53	67
Urban	32	24	27	36	34	20

Source: reconstructed from the 2006 LCMS draft (CSO 2006).⁵

As shown in Table 1, the overall trend in poverty in Zambia in the 1990s was mixed. The incidence of overall poverty (consisting of people who can afford to meet the basic minimum food requirements but cannot afford non-food needs) increased from 70% of the total population in 1991 to 74% in 1993, it then decreased to 69% in 1996 and increased by four percentage points to 73% in 1998. Similarly, extreme poverty (defined as those whose standard of living is insufficient to meet their basic nutritional requirements even if they devoted their entire consumption budget to food) followed the same up-and-down pattern. Of major concern from the data provided in the table is that over 50% of Zambians in the 1990s were unable to meet food needs to ensure mere physical efficiency.

Using the same period of analysis, disaggregated data indicate that rural areas had a higher incidence of both overall and extreme poverty. However, while rural areas showed a decline in overall poverty from 88% in 1991 to 83% in 1998, urban poverty trends behaved differently. Poverty levels in urban areas increased from 49% in 1991 to 56% in 1998. The same pattern occurs for extreme poverty.

One explanation for these results could be that the decline in Zambia's economic performance in the period following the Structural Adjustment Programme (SAP) in the early 1990s adversely affected urban more than rural areas. This is because urban areas in Zambia are monetarized and residents are dependent on income to purchase both food and non-food items. By contrast, people in rural areas largely depend on their own production.

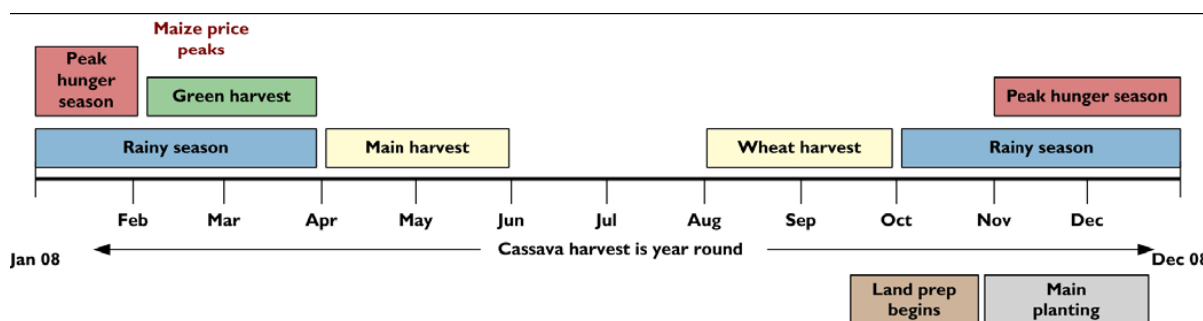
⁵ This table has been simplified from its original form in the 2006 LCMS where aspects of poverty (overall poverty and extreme poverty) are presented in two separate tables. The original versions of these tables also include a breakdown of poverty by province.

Between 1980 and 1990, formal-sector employment in Zambia decreased from 24% to 10% of the labour force. At the same time, inflation rapidly increased from 55% in 1985 to 110% in 1990.⁶ As a result, consumer prices increased while earnings in real terms declined, making it difficult for most families to afford basic household needs (Nsemukila, 2001). In these circumstances, urban poverty would be expected to increase.

The longitudinal LCMS of 2002/03 showed an overall poverty rate of 67%, with 46% of the population being extremely poor and unable to afford even the minimum basic food requirements. According to the 2002/03 LCMS, poverty was highest in the fourth quarter, considered to be the lean (peak hunger) period. Figure 1 shows a typical seasonal calendar and critical events timeline. In light of this seasonal aspect of poverty, the CSO conducts cross-sectional surveys in the fourth quarter of the year. The aim is to capture the highest poverty levels in the year, if the 2002/03 results are taken to be the norm.

While food availability in rural areas may affect food affordability in urban areas (Chibuye, 2009), there may be a lag in price changes in comparison to changes in supply in rural areas. For instance, the JCTR has observed through its monthly cost-of-living surveys that, over the years, food prices in urban areas in Zambia are highest in the first quarter of the year. Therefore, levels of seasonal vulnerability in rural areas are likely to differ from those in urban areas because of the lag in price changes.

Figure 1: Seasonal calendar and timeline of critical events



Source: Fewsnet (2008, 2).

Critics of the CSO survey methodology have argued that measurements should be differentiated between rural and urban areas to take account of these price changes. That is, adjusting for cost-of-living differences may be important to ensure equal treatment of urban and rural dwellers. However, CSO uses the same bundle of food needs and the same approximated nominal cost of food without weighting it to reflect realistic costs of food and non-food items in different regions. For instance, the 2006 CSO food poverty line was valued at 295,696 Zambian Kwacha (K), which is the average national price at which the CSO bundle of food items reaches the pre-determined mean food energy requirement of 2100 calories per person per day.

This paper argues that using an average national amount does not make sense in the Zambian context considering the significant disparity between costs of food in rural and urban areas. This disparity is largely driven by the methods of accessing food items: urban dwellers typically purchase food items, while rural people mainly consume self-produced foods at lower cost. For instance, in the 2009/10 agriculture production seasons, it was estimated that smallholder farmers planned to sell 43% of their maize production and retain 57% (MACO/CSO and ACF/FSRP, 2010, 5). This in comparison to large-scale farms which planned to sell 92% and retain 8% of their total maize production. Therefore, using an

⁶ See Appendix 1 for annual changes in the inflation rate from 1990 to 2009.

average amount of money under-estimates urban poverty and is likely to over-estimate rural poverty. This thread of the argument will be returned to below.

Controversial findings on reduced poverty levels

According to the last two LCMSs, 2004 and 2006, overall poverty levels fell from 68% to 64% respectively. Extreme poverty also fell from 53% to 51% in the same period.⁷ However, there is a major difference in trends between rural and urban areas. While rural poverty increased from 78% to 80%, urban poverty fell significantly – from 53% to 34%. The unprecedented reduction (19 percentage points) in urban poverty between 2004 and 2006 has raised controversy. No clear explanations have been offered as to why poverty is shown to have fallen so dramatically within a two-year period, when measured using the same methodology.

Debates about methods of poverty measurement became more acute after these controversial findings, and questions were raised about the comparability of the surveys, the methodologies used in analyzing the data, and their consistency with other poverty data. This is not surprising, as anecdotal evidence and international measurements also paint a less optimistic picture. They indicate that Zambia is not making progress on various welfare measures. For example, according to United Nations estimates, life expectancy at birth in Zambia is the fifth lowest in the world. Life expectancy for those born in 2000–2005 was just 37.4 years, a drop of 14.3 years from 25 years earlier (World Bank, 2005, 43). This decline was especially large because Zambians enjoyed a life expectancy at birth of 50 years, one of the longest in the region, during its period of relative prosperity in the early 1970s.

The decline in life expectancy at birth is largely an effect of HIV/AIDS. Zambia is one of just ten countries worldwide, all in sub-Saharan Africa, with double-digit HIV prevalence rates (World Bank, 2005). Similarly, the 2010 *Human Development Report* reports that, of the 135 countries in its sample for 1970 to 2010, only Zambia, the Democratic Republic of Congo and Zimbabwe had a lower Human Development Index (HDI) in 2010 than in 1970 (UNDP, 2010, 3). According to that report, one of the major contributing factors for Zambia has been the worsening health situation as measured by life expectancy, which according to the report is now at 47.3 years.

Perhaps most importantly, only about 10% of the entire Zambian labour force is in formal employment, which is an important measure of welfare due to the associated security of income. Therefore, any recorded reduction in poverty, without corresponding improvements in other welfare indicators, seems doubtful.

Revisions of poverty figures: official statistics?

These debates prompted CSO to engage external experts to analyse the micro data on household expenditure and conduct an ex-post revision of the 1996, 1998, 2004 and 2006 LCMS poverty lines. According to information from the CSO *Monthly Bulletin* of December 2009 (CSO, 2009b), the revisions that took place were in tune with the changes in international methodologies and standards on the measurement of poverty which are periodically updated.

In support of such exercises, the Rio Group (2006) has stated that poverty lines can be adjusted either by keeping the quantities of the baskets fixed and updating their market prices or by setting up new baskets. Baskets assembled by observing consumption habits are normally based on income and expenditure surveys, which are collected every five or ten

⁷ Extreme poverty in Zambia reduced by only 7%, rather than the expected 29%, between 1991 and 2006. With only four years to the 2015 MDG deadline, Zambia is unlikely to meet this target.

years in most developing countries. Unless poverty is measured exclusively in those years, it will be necessary to update the value of the line to the year in which income information is collected, to maintain consistency between them. Price indices are usually employed, disaggregated in as many items as necessary and possible.

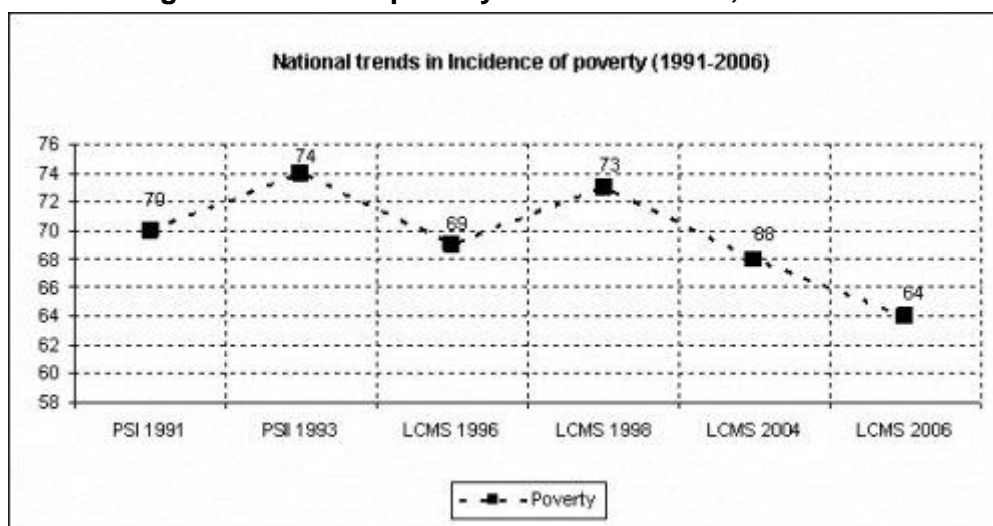
In most cases, the total value of the food basket is updated according to the variation of the food price index, and a similar criterion is sometimes applied to the cost of the rest of the items. How often the basket itself should be modified depends not only on data availability, but also on the importance of changes in consumption patterns. The contents of baskets may experience considerable modifications when a long period has elapsed since the last poverty line was calculated, or when a significant economic change has taken place. Normative baskets developed by experts should be suitable for longer periods, as they are not so closely related to consumption habits.

The ex-post revision of the poverty statistics in Zambia by the group of experts was therefore in line with recommendations by the Rio Group. After standardizing the measurement of poverty using the micro data from the LCMSs, the findings of this exercise showed reductions in both overall and extreme poverty (although the reduction in urban poverty between 2004 and 2006 was not as dramatic). The revised trends show that poverty in Zambia declined from 68.1% in 1996 to 59.3% in 2006. They further show that extreme poverty declined from 44.5% in 1996 to 36.5% in 2006, meaning that 36.5% of the population in Zambia was extremely poor in 2006.

Analysis of poverty trends produced by CSO (2009a) by rural/urban disaggregation shows that in rural areas, the revised levels of poverty declined from 84.2% in 1996 to 76.8% in 2006. These figures mean that in 2006, 76.8% of the population residing in rural areas were poor. This translates to about 5.9 million persons being poor in rural areas in 2006, out of the total rural population of about 7.6 million persons. In urban areas, the revised levels of poverty declined from 40.5% in 1996 to 26.7% in 2006. This means that about 1.1 million persons in urban areas were poor in 2006.

While these trends were disseminated to the public through the CSO *Monthly Bulletin*, key informant interviews with the CSO reveal that the revised trends are not considered to be official CSO statistics. The revision is regarded as an exercise conducted by independent external experts to give an independent view only. What was misleading therefore was the lack of a disclaimer in the December 2009 CSO *Monthly Bulletin*. For the purpose of this paper, the official CSO statistics used will be the data extracted from the 2006 LCMS (as shown in Table 1 above, and in Figure 2), and not the unofficial revision provided by external experts in 2009.

Figure 2: National poverty levels in Zambia, 1991–2006



Source: CSO website.

The dissemination of the ex-post revised poverty data is currently confusing for the end users and may mislead policy makers. As discussed above, the definition of poverty is as important as its measurement. Therefore, clear explanation of information relating to such measurements is necessary to avoid misinterpretation of data and analysis. There are strong indications of trends in poverty in Zambia, but the lack of clarity surrounding the nature and purpose of the external experts revising poverty levels makes an unambiguous interpretation much more difficult. This raises important questions about the robustness of the data. In particular, would a different methodology have delivered substantially different results? This question applies both to the observed pattern of poverty, and to the observed trends.

To improve the reliability and robustness of data, poverty surveys and empirical poverty analysis should take potential data errors more seriously. Current practice in poverty analysis typically ignores the statistical imprecision of the measures used. Yet, standard errors for the usual (additive) poverty measures would be easy to calculate and to take into consideration for simple random samples (Kakwani, 2002). This would be not much more difficult for the more complex sample designs found in practice – provided of course that the design is known (Ravallion, 1996).

One trend that remains uncontested throughout all surveys is the geographic pattern of extreme poverty in Zambia: it is more concentrated in rural areas and less so in urban areas. The following sections explore the robustness of the poverty measures to consider the likely accuracy of urban poverty estimates. The discussion begins with a more detailed examination of the measurement of the poverty line in Zambia.

Calculation and measurement of poverty lines

How poverty is measured by the CSO poverty lines

In Zambia, poverty estimates have been made on the basis of the cost of a “minimum food basket”. The Prices and Incomes Commission (PIC) and the National Food and Nutrition Commission (NFNC) composed this minimum food basket in 1992, based on nutritional needs for an average family of six, consisting of two adults and four children with ages ranged between one and twelve years. The average calorie intake was 2094 per household member for a family of six. These requirements appear to be based on a FAO/WHO/UNU

recommendation, although the assumptions used for estimating them are not stated (Nsemukila, 2001).

According to the CSO (2006), the composition of the basket has received a lot of criticism, mainly because it may not reflect the current consumption patterns of the Zambian population. Further, the food composition of this basket (shown in Table 2 below) is biased towards urban areas, and leaves out some food items which are very popular among the majority of poor households. For example, tubers such as cassava and sweet potatoes, typically consumed in rural areas, are not included in the basket.

On a conceptual level, the construction of a food basket has to consider several aspects: in particular, desired nutritional values, typical consumption patterns and the measurement of consumption. The food component of the poverty line is almost universally anchored to nutritional requirements for good health. However, authors such as Ravallion (1998) argue that this does not generate a unique monetary poverty line, since many bundles of food goods yield the same nutritional level. For instance, in the Zambian case, an alternative to the CSO's food basket measure is a survey done by the JCTR. The cost-of-living survey called the Basic Needs Basket (BNB) features a slightly different bundle of food items which adds up to 2100 calories per person per day. The two baskets, their differences and the significance for poverty measurement are explained in detail below.

Regarding consumption patterns, statisticians often chose a diet for the basket that reflects a general consensus on prevailing overall consumption patterns in a country (Ravallion, 1998). However, most of the available literature recommends that the food basket be constructed using food expenditure values of households in the lowest one or two quintiles of the population, in order for the basket to reflect consumption patterns of the poor. In Zambia, the CSO has deliberately deviated from this approach simply because this typical basket falls short of meeting the minimum required calorie-intake requirements. Given the problem of food insecurity and poverty in the country, basing the basket on households in the lowest or second-lowest quintiles would run the risk of misclassifying some households as non-poor when they are poor (CSO, 2006).

Furthermore, the measurement of a household's consumption takes into account expenditures plus the value of home-produced food. Most analysts favour expenditure, rather than consumption, because it is usually far easier to measure. The values of the non-marketed goods are computed through estimations of the local prevailing prices in specific areas. These prices are then used to estimate the value of own production.

Consumption has a conceptual advantage over another possible indicator, income, for two reasons. First, household surveys measure what people spend more accurately than they measure their incomes. If incomes vary over time in fairly predictable ways (as they are likely to do in rural economies), households can to some extent smooth their living standards from income variability (Kanbur and Squire, 2001 p19). Income figures at any particular point in time may be misleading. Second, income is typically variable over the course of the year, so expenditure provides a better measure of welfare over time.

Consumption, on the other hand, is a better measure of welfare than simple expenditure alone, because much of what many households consume is their own production, which would not be captured by expenditure. Ignoring home-produced food would greatly underestimate the consumption levels of rural households (World Bank, 2005). Hence, the requirement that the value of own production is estimated using prevailing prices.

The food basket used for poverty analysis in the 2006 LCMS is based on households whose food expenditure in per-adult equivalent terms was within 20% of the national median food

expenditure. It was argued that this approach would yield a representative food basket reflecting the consumption patterns of both the poor and the non-poor.

Information on the quantity of food consumption was missing, and therefore quantities had to be estimated by dividing household food expenditure by unit market prices in households' respective regions. The food quantities were then converted to calories using conversion factors adopted from the Africa Food Composition Table developed and compiled by the Food and Agriculture Organization (FAO). The basket accommodates about 90% of all food items consumed in the country. The inclusion of various food items in the basket depends on the size of their mean consumption shares. However, the nominal food basket was valued using national median prices, to facilitate the derivation of real poverty lines for different regions. The food basket yielded about 2094 calories per person per day, and was valued at K295,696 at nominal average national prices.

This approach is similar to that used by Rowntree, an early measurer of poverty, who arrived at a "socially acceptable" amount of money as a poverty line. He estimated the budget required "to obtain the minimum necessities for the maintenance of merely physical efficiency" appropriate to the specific circumstances of the city of York at the turn of the last century (Rowntree, 1901, 86). Based on the nutritional content of various foods and their local prices, Rowntree concluded that 15 shillings would provide the minimum budget for food for a family of six for one week. Adding an allowance for shelter, clothing, fuel, and other sundries, he arrived at a poverty line of 26 shillings for a family of six that implied a poverty rate of almost 10% in York at that time. While this same approach has been used in other countries and other times, the resulting poverty line is of course sensitive to local circumstances (Kanbur and Squire, 2001).

Calculation of the poverty line therefore involves determining a calorie requirement, creating a food basket, evaluating the cost of meeting the calorie requirement using that food basket, and then developing a non-food component of the poverty line. Calculations for the poverty line are on a per-adult-equivalent basis. Both the adult equivalents and the calorie requirement underlying the poverty line are determined using a widely used analysis of energy-intake needs from the World Health Organization (WHO, 1985). For the purposes of this analysis, it is sufficient to note that the minimum nutritional requirements are expressed only in terms of calorie intake, hence excluding protein and micronutrient needs. The exclusion of these extra nutritional requirements is based on the premise that it is now fairly common to assume that an adequate food intake is met by virtue of meeting the minimum calorie requirements (Lamjouw et al., 1996).

Internationally, a commonly used poverty line for monitoring progress in reducing poverty worldwide is the "dollar a day" measure introduced in the 1990 *World Development Report*, since revised to \$1.25 a day. This measure however has several well-known deficiencies. Suffice to say here that the \$1.25 a day figure does not allow for cost-of-living differentials within countries; it does not distinguish between transient and chronic poverty; it values only goods and services delivered through the market; it does not consider intra-household allocation of expenditure; and it deals in only rudimentary fashion with differences in household size and composition (Kanbur and Squire, 1999). Perhaps most importantly, it does not provide adequate allowance for all essential non-food needs (such as decent housing, invariable access to water and sanitation and energy) available only to those with the money to pay for them. Techniques exist to address most of these concerns, but only at a cost and only with appropriate data.

The poverty line eventually chosen – whether it is based on a local food basket, or is an internationally set level such as the World Bank figure – is a quantitative representation of the value of all goods and services considered necessary for either an individual or a household. Once this value has been determined, it can be used to analyse the distribution

of resources within a country using quantitative survey data to calculate how many people in that country fall above or below the poverty line (Rio Group, 2006). Such a measure can only give a broad outline of the distribution of resources within a country; it cannot alone describe the depth of poverty nor does it provide a nuanced analysis of the prevalence of different manifestations of poverty and needs (Studies in Poverty and Inequality Institute, 2007).

Once the poverty line is determined and consumption per adult equivalent calculated for each household, estimating poverty rates is straightforward. The most common measure is the poverty headcount, which is simply the fraction of individuals with levels of consumption below the poverty line. In addition to the headcount, two other consumption poverty measures are estimated. The poverty gap index expresses the average gap between the consumption of the poor and the poverty line. The poverty gap index is higher not just when there are more people but also when consumption levels are lower among the poor. The poverty severity index is similar to the poverty gap index but gives greater weight to the very poorest individuals (World Bank, 2005).

Food poverty lines

Like many other poverty studies, this analysis defines both a total poverty line and a core poverty line equal to the food poverty line that is an amount of money that covers only minimum required food expenditure. One problem associated with the idea of a core poverty line (also sometimes called the food poverty line or the extreme poverty line) is that core poverty does not correspond to any underlying welfare concept. It is simply a lower line, without any clear basis. It is sometimes referred to as the minimum expenditure required to meet basic food needs. However, this is a misleading interpretation. Because some non-food consumption is part of basic needs and all individuals will have some non-food consumption, someone with total consumption equal to the food poverty line is not meeting his or her basic food needs.

The CSO food poverty line

As noted above, in Zambia, the food poverty line calculated by CSO for 2006 is K295,696 per month for a family of six. This represents the estimated expenditure level at which a typical Zambian reached the pre-determined mean food energy requirement of 2100 calories per person (adult equivalent) per day in December 2006 (Table 2). The non-food poverty line will be considered in the next section, while this section further explores the validity of this food poverty line.

Table 2: CSO monthly food basket (December 2006 prices)

To meet monthly nutritional requirement of a household of six				
No.	Product description	Qty	Unit cost (K)	Total cost (K)
1	White roller maize meal, 25 kg	3.6	26,288	94,636.80
2	Dried kapenta ⁸ siavonga, 1kg	2.0	28,692	57,384.00
3	Dried bream, 1kg	1.0	22,317	22,317.00
4	Fresh milk (pasteurised), local, 500ml	4.0	2,186	8,744.00
5	Groundnuts, 1kg	3.0	5,743	17,229.00
6	Eggs, 1 unit	2.0	5,660	11,320.00
7	Cooking oil, imported, 750ml	6.0	5,394	32,364.00

⁸ Small sardine like fish rich in proteins.

8	Onions, 1kg	4.0	3,864	15,456.00
9	Tomatoes, 1kg	4.0	2,253	9,012.00
10	Vegetables	7.5	1,697	12,727.50
11	Dried beans	2.0	6,041	12,082.00
12	Table salt (any brand), 1kg	1.0	2,424	2,424.00
	TOTAL			295,696.00

Source: CSO Draft LCMS (CSO 2006, 122).

Since the early 1990s, the Jesuit Centre for Theological Reflection (JCTR) has been keenly monitoring the rising cost of living in Lusaka and other major towns across Zambia, through monthly price surveys of a Basic Needs Basket (BNB) of essential food and non-food items. Using JCTR data, this paper argues that the food poverty line is too low.

Food component of the JCTR Basic Needs Basket

For a slightly different bundle of food items totalling 2100 calories per person, for an average family of six in the capital, Lusaka, the cost of the JCTR's BNB in the same month under review (December 2006) came to K476,250, significantly higher than the CSO figure of K295,696. The food component of the JCTR's BNB consists of basic food items commonly consumed by households (Table 3). Hence its conceptual base is similar to that of the CSO poverty line (i.e., it does not focus on consumption of the population quintile with the lowest incomes). Using the BNB therefore, the poverty line would be much higher, resulting also in higher extreme poverty levels.

Table 3: JCTR monthly basic-needs basket, December 2006

Basic food items for a family of six in Lusaka			
Commodity	Quantity	Unit cost (K)	Total cost (K)
Mealie meal (breakfast)	3 x 25kg bag	33,300	99,900
Beans	2kg	6,000	12,000
Kapenta (Siavonga)	2kg	30,000	60,000
Dry fish	1kg	43,300	43,300
Meat (mixed cut)	4kg	15,400	61,600
Eggs	2 units	5,000	10,000
Vegetables (greens)	7.5kg	1,700	12,750
Tomato	4kg	2,500	10,000
Onion	4kg	2,600	10,400
Milk (fresh)	2 litres	8,300	8,300
Cooking oil	2x2 litres	14,700	29,400
Bread	1 loaf/day	2,400	72,000
Sugar	8kg	4,500	36,000
Salt	1kg	1,600	1,600
Tea (leaves)	1x500g	9,000	9,000
<i>Total</i>			476,250

Source: JCTR website.

Differences between the JCTR and CSO food baskets

While both the JCTR and CSO food baskets (see Tables 2 and 3) amount to approximately 2100 calories per person per day, the two have some differences in context and content. While these differences make it difficult to make comparisons between the two baskets,

enough conclusions can be drawn from comparing the baskets to be concerned about the accuracy of poverty measurements in urban areas of Zambia.

Regarding measurement context, the two baskets differ in methodology in two ways.

1. The CSO conducts nationwide surveys, which makes it possible to aggregate the findings, while the JCTR conducts town-specific surveys. Therefore, the JCTR averages the cost of living at a town level only.
2. The CSO conducts its surveys at the beginning of each month, while JCTR conducts its surveys at the end of each month. For instance, to measure the cost of living for December 2006, the CSO collected the data in the first week of December while JCTR collected in the last week of December 2006. The major justification for both surveys is that household spending is higher in the chosen weeks. While prices do not change much in two weeks, differences may be noticed over a four-week period. The JCTR's survey is likely to capture any food shocks or food price changes within the month, and reflect it in the BNB, while the CSO would reflect such changes only in the following month.

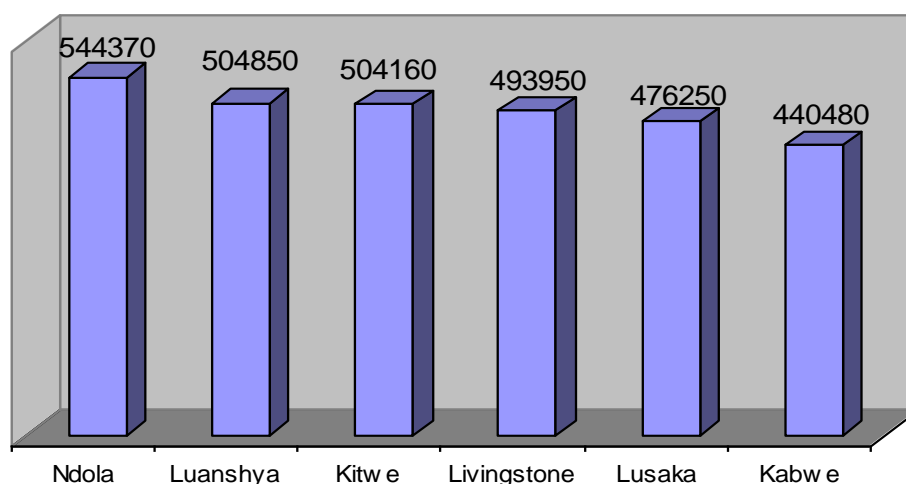
Regarding the contents of the baskets, there are three major variations.

1. The JCTR surveys the cost of 25kg white breakfast (refined) mealie meal, while the CSO basket surveys 25kg white roller meal. While the white roller meal is cheaper, the refined mealie meal is preferred, as expressed by mealie meal retailers in Lusaka and other major towns such as Ndola, Kitwe and Livingstone. Though not significantly different in price, the white roller meal is always cheaper than the refined mealie meal.
2. In constructing the food basket, JCTR considered what is consumed by a typical household in a town, and included basic food consumed at breakfast, lunch and supper. This explains the presence of bread and sugar in the basket, which can increase the cost of the basket. The CSO however left both items out. Other items not appearing in the CSO basket but included in the JCTR basket are meat and tea leaves. The JCTR argues that the CSO basket is not realistic as the CSO's own surveys have consistently shown that bread, sugar and meat are among the top five food items in terms of share of food expenditure. In the last LCMS (2006), fish claimed the highest expenditure share of food (11%), followed by meat (10%), bread and cereals (8%), sugar (4%), cooking oil (3%), vegetables (2%), with 1% for milk and groundnuts and 0% for tea. Therefore, if poverty levels are to be realistic, the food consumption measured should reflect what is actually consumed.
3. Finally, the quantities of the food items in the two baskets differ. This proves Ravallion's (1998) argument that the calorific measure does not generate a unique monetary poverty line, since many bundles of food goods yield the same calorific level.

Cost of living based on JCTR Basic Needs Basket surveys

The JCTR collects information from seven retail outlets across Lusaka, covering high-, medium- and low-density areas. These are: City Market, Shoprite (Kafue Road), Chawama and Chainda representing high-density areas, Kabwata and Matero representing medium-density; and Northmead representing low-density areas. Given that more people live in high-density areas in Zambia, this selection is a broadly representative sample. A similar method is applied in the ten other towns across Zambia where the JCTR conducts BNB surveys.

Figure 3: Monthly food costs in different Zambian towns (K)



Source: JCTR.

Analysis of the JCTR's December 2006 BNBs for selected towns (Figure 3) shows that Ndola had the highest cost of food, followed by Luanshya and Kitwe. As elaborated below, Lusaka records a higher overall cost of living. The three most expensive towns (Ndola, Luanshya and Kitwe) are all in the Copperbelt province of Zambia. One explanation of the higher cost of food here, as revealed by a study by FAO (2009), is that Ndola has the strongest rate of price transmission as it co-moves with international prices. As Ndola is the capital of the Copperbelt province, the high prices are easily transmitted to other neighbouring towns.

According to the FAO study, prices in all Zambian markets co-move with the South African market, especially for white maize⁹ (most commonly consumed). The study found that it takes only 3.2 months for Ndola to adjust fully to the international price, with other towns taking longer. Ndola seems to be more integrated into the international market than any other town in Zambia and is more likely to be affected by price shocks at the international level. JCTR data corroborate this: at the height of the recent food crisis, Ndola recorded the highest month-on-month increase in the cost of food of all towns in Zambia.

Focusing on the cost of food items in Lusaka, it has been evident in the areas surveyed by JCTR that high-density areas generally record relatively lower prices than medium- or low-density areas. In December 2006 for instance, prices in the Chawama and Chainda markets, both high-density areas, resulted in JCTR basket values of K373,900 and K431,750, respectively. The average Lusaka Food Basket on the other hand came to K476,250. However, these aggregates do not adjust for the size of units in which the food was purchased.

In order to determine how households are coping and whether the relatively lower prices have a positive influence on them, the JCTR conducts the "Satellite Homes Survey",¹⁰ a

⁹ This is significant because, as established by the World Bank (2007), low-income people in Zambia obtain 70% of their calories from grains, chiefly various forms of maize, and most of the remainder from vegetables.

¹⁰ This survey has been conducted since 2005 in high-density areas of Lusaka, namely Matero, Chainda, Linda, Chipata compound, Kanyama, Garden, and also includes interviews with different randomly selected respondents in the same areas. The findings supplement information reflected in the JCTR's BNB. The research is largely qualitative, using a one-month recall period, with interviews held in the first week of each month.

monthly qualitative survey in high-density areas of Lusaka. The survey reveals that most household income is spent on food items. A further finding which also challenges the CSO (and the JCTR baskets) is that it is unusual for families to buy any commodity in the quantities that are produced by factories for the retail market. Instead they purchase small repackaged goods, reflecting the reality of incomes earned in the informal sector. For example, a small 300–500g packet of mealie meal, locally called “pamela”, is preferred for economic reasons to a 25kg bag.

According to the Satellite Homes Survey (JCTR, 2010), a 400g packet of mealie meal costs on average K1500, resulting in household expenditure of K93,750 for 25kg. The average nominal price for a 25kg bag of mealie meal for May 2010 in Lusaka was K64,300, making the sub-optimal packages more expensive by 31%. Middle-income households would purchase mealie meal in 25kg bags. This pattern extends to sugar, salt, and soap, among other goods. It generally costs significantly more to buy these goods in sub-optimal packets but neither “basket” takes this into account.

Typical meals in low-income Lusaka are predominantly green vegetables and nshima (cornmeal). At least once a week, one of the following food items might be added: kapenta (fish), chicken offal or goat meat. It is difficult for many families in these areas to have three meals every day. In general, each family has two meals a day: breakfast and supper. Lunch is normally skipped because most family members would be away from home. This resonates with the LCMS survey (CSO, 2006), which found that more than half of households in Zambia cannot afford to eat three meals a day. Only 42% of households reported that they could afford to have three meals a day. About half the total number of households (50.7%) could afford two meals a day, while 5.2% of households could only manage one meal a day.

Generally, the minimum number of meals that a person requires is three meals per day. It is assumed that a person would meet minimum dietary requirements from these three meals. According to nutritionists, reduced food intake may lead to deficiencies in life-sustaining nutrients such as vitamins, minerals, proteins and carbohydrates. Normal growth, particularly of children under five years of age, occurs only if various body organs and tissues receive adequate nutrients (CSO, 2006). It is therefore not surprising that the Zambia Demographic and Health Survey (CSO, 2009c) indicates that 45% of Zambian children are stunted.

Non-food poverty lines

Academically, there is broad recognition that setting the non-food component of the poverty line is highly controversial. As Ravallion (1998) describes, of all the data used in measuring poverty, the non-food component of the poverty line is probably the most contentious. The major challenge is that it is difficult to agree on how the “standard of living” should be defined, and how its cost can be identified from available data. One might simply define and agree on a bundle of non-food goods. But it is unclear whether a fixed bundle of non-food goods would gain wide acceptance, or maintain its relevance over time. In addition, there are also practical problems of consistently measuring non-food prices.

Because poverty is a multi-dimensional phenomenon, consumption-based measures need to be supplemented by other welfare indicators such as education, health and shelter. These have some of the characteristics of public goods and are conceptually difficult to measure in monetary terms. In the case of the food basket described above, most practices use the nutritional level to provide an objective criterion for what is considered a minimum. There is usually no such anchor available for non-food items.

CSO non-food poverty measurement

The Central Statistics Office (CSO) acknowledges in its LCMSs that there is no straightforward approach to determining the non-food poverty line. However, the food poverty line sets the basis of CSO's determination of the non-food poverty line. The CSO evokes Engel's law of welfare, which states that the budget share devoted to food tends to decrease with an increase in total real consumption expenditure. This law implies that poor households will devote most of their income to food rather than non-food items. Engel's law further states that households that spend the same proportion of total expenditure on food experience the same level of welfare (CSO, 2006).

Therefore, the CSO determines the non-food component of the poverty line by observing the share of non-food expenditure among households whose total expenditure is exactly equal to the cost of the food basket. This approach is backed by Ravallion (1998), who states that if a person's total income is just enough to reach the food threshold, anything that he or she spends on non-food items can be regarded as an absolutely basic non-food requirement. In this case, the non-food poverty line relates to essential expenditure on items other than food.

The CSO further acknowledges that it is extremely difficult to find households with total expenditures that are exactly equal to the food poverty line. Available literature suggests that one can select households whose total expenditures are within 10% of the food poverty line for determining an appropriate Engel's ratio required for adjusting the food poverty line (Kakwani, 2002). This procedure for Zambia generated a non-food share of 30% of total expenditure or an Engel's ratio of 70/100 or 0.7. Variation of the total expenditure bands from 5% to 30% around the food poverty line still produced the same ratio of 0.7. In order to obtain the upper poverty line that takes into account the non-food requirements of individuals, the food poverty line was then divided by the Engel's ratio (CSO, 2006). In simple terms, 30% of the food poverty line is factored into the overall poverty line to cover the non-food expenditure. Therefore, given the monthly cost of the food basket of K295,696, the allowance for the non-food related cost was K88,709.

Essentially, CSO uses two poverty lines: extreme and moderate poverty levels. The extreme poverty line relates to the monthly cost of the food basket, which amounted to K295,696 in December 2006 for a Zambian average family size of six. The moderate line relates to the monthly cost of all basic needs including non-food items such as housing and water. Using an additional 30% of the cost of food to allow for essential non-food items, the amount obtained for the moderate poverty line of food plus non-food items is K384,405.¹¹ Therefore, if a household or an individual fails to meet the cost of the food basket (extreme line), then he or she is classified as extremely poor. If an individual meets the cost of the food basket but falls short of affording the cost implied by the moderate poverty line, that person is classified as being moderately poor. Therefore, the number of total poor is simply obtained by adding the extremely and the moderately poor. Hence, in the CSO methodology, the moderate poverty line constitutes the ultimate poverty line used for deriving aggregate poverty measures (CSO 2006).

However, in reality and specifically for the Zambian context, this methodology is not convincing. In particular, it is not realistic to make no allowance for spatial differences in prices of non-food items. This paper has questioned this aggregate approach in relation to the food poverty line, but the approach is even more questionable for non-food analysis, especially considering the cost of housing. For example, the 2006 LCMS found that 66% of rural households lived in traditional huts, usually with mud walls and grass or straw roofs. While these building materials may be considered to be of lower quality than materials

¹¹ While the food poverty-line figure (K295,696) is cited from the LCMS (CSO, 2006), the figure for the non-food allowance (K88,709) was calculated by the author of this paper.

sometimes found in urban areas, hut-dwellers may enjoy considerably more space and lower population densities, with consequently better environmental health than many urban dwellers. Housing and other select non-food items will be discussed below in this paper.

Fundamentally, CSO's use of a constant rate (30%) is misleading. Ravallion and Sen (1994) argue that using a constant mark-up across rural and urban sectors is defensible if one believes that relative price differences between the two sectors are negligible. However, this seems highly unlikely. In Zambia, the cost of living in rural areas is much lower, as health care and basic education (grades one to nine) are free, and there is likely to be no expenditure on water as more than half of rural households access water from unprotected water sources. (Again, quality and price comparisons are complex here.) Therefore, the robustness of the methodology is questionable.

Returning to the 2006 LCMS, expenditure patterns for households in the different urban strata reveal that households spent more on non-food than on food items. For instance, on average, non-food items took up 52% of total household expenditure, with urban households recording a much higher share (62%) than rural households (35%). Clothing accounted for the largest expenditure share – 10% for both rural and urban households. Other notable non-food items include: household utilities (5% rural and 18% urban); personal effects (7% rural, 10% urban); transport (4% rural, 9% urban) and education (3% rural and 6% urban).

Surprisingly, the LCMSs of both 2004 and 2006 exclude expenditure on house rental – a major monthly expense, especially in urban areas. For instance, housing costs for Lusaka in December 2006 according to the JCTR BNB amounted to K650,000 – more than the total cost of food in the same month of K476,250. As noted by Wratten (1995), housing costs are a major expense of urban households. This paper therefore argues that the official figure of 30% is neither a complete nor satisfactory representation/ breakdown of non-food expenditure for urban areas.

JCTR non-food data

Given the lack of an agreed anchor analogous to the role played by food-energy requirements in setting the food component of the poverty line, it is not surprising that the scope for disagreement between JCTR and CSO appears far greater concerning the non-food component of the poverty line. The main underlying reason for the differences is that, while the CSO factors in 30% of the cost of food to cater for the non-food poverty line, the JCTR has a set of what it calls essential non-food items¹² and conducts price surveys of these.

The JCTR's essential non-food items include housing, energy (electricity and charcoal)¹³ and water. JCTR's rationale for selecting these items is that they are necessary for human dignity, albeit at a very basic level. The JCTR argues that it has looked realistically at what a family of six requires to lead a decent life. Table 4 shows the essential non-food items as defined by the JCTR and gives the associated costs for Lusaka.

¹² See Appendix 2 for a complete presentation of the December 2006 JCTR BNB.

¹³ Zambians use charcoal mainly for long-cooking food items such as beans and dry fish.

Table 4: Cost of essential non-food items, December 2006

Basic non-food items per month for a family of six in Lusaka			
Commodity	Quantity	Unit cost (K)	Total cost (K)
Charcoal	2 x 90kg bag	43,000	86,000
Soap (Lifebuoy)	10 tablets	1,300	13,000
Wash soap (Boom)	4 x 400g	2,500	10,000
Jelly (e.g. Vaseline)	1 x 500ml	5,600	5,600
Electricity (medium density)			113,000
Water (medium density)			88,500
Housing (medium density)			650,000
<i>Total cost of non-food items:</i>			<i>966,100</i>
Total for Basic Needs Basket (food plus non-food items):			1,442,350

Source: JCTR.

Clearly, the JCTR's BNB includes a higher cost of non-food than food items. As observed by the World Bank (2005), taking the JCTR cost of living as a poverty line would imply higher poverty rates than those presented by the CSO or the World Bank.¹⁴ While the CSO considers a poverty line of K384,405, the JCTR's total cost of basic needs amounts to K1,442,350. However, as shown in Figure 4, the cost of living is much higher in Lusaka in comparison to other towns in Zambia, mostly because of the higher housing costs in Lusaka.¹⁵ The JCTR calculates town-specific BNBs, as the cost of living between towns varies greatly in Zambia.

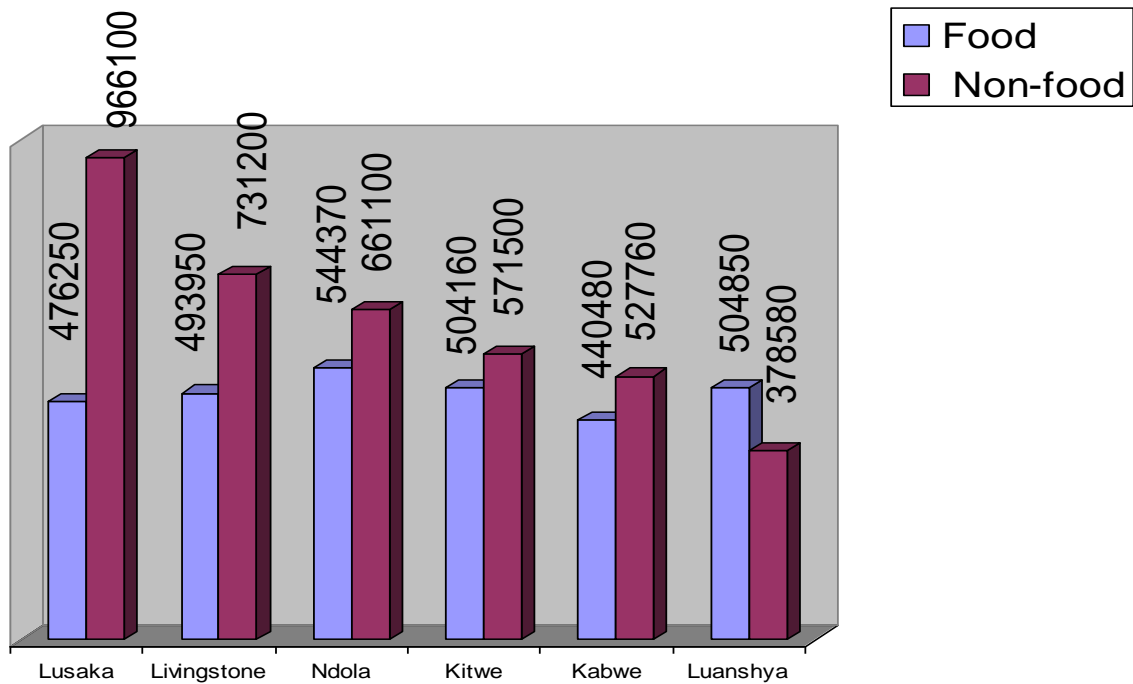
Examples of specific non-food costs of living in urban Zambia

The JCTR recognizes that its BNB excludes the cost of some important essential needs such as clothing, education, health and transportation in its monthly calculation, which is a major concern. One explanation for this decision is that average expenditure is very difficult to determine, as such expenses vary at household level. Therefore, even the JCTR BNB does not give a total picture of the monthly cost of living. As the 2006 LCMS established, clothing, transport, education and health make up 10%, 9%, 6% and 1% respectively of the total urban household expenditure. The following sections provide details of three essential non-food expenses (housing, health, and water and sanitation) influencing the high cost of living in urban areas, with a specific focus on Lusaka.

¹⁴ See the *Zambia: Poverty and Vulnerability Assessment* reports (World Bank 2004, 2007) for further details.

¹⁵ As of June 2010, the JCTR conducts BNB surveys in 10 towns across Zambia (Lusaka, Livingstone, Ndola, Kitwe, Kabwe, Luanshya, Kasama, Mongu, Solwezi and Monze), plus piloting in Chipata.

Figure 4: JCTR's town-specific BNBs, December 2006



Housing costs

Zambia is considered to be one of the most urbanized countries in Sub-Saharan Africa, although 60% of the population lives in rural areas. The relatively high level of urbanization is largely influenced by the effect of copper mining on migration from rural to urban areas. As urban populations have increased, so has the extent of urban poverty. Most of the urban poor live in unplanned squatter settlements on the periphery of urban centres, where their lack of legal status and inadequate service provision make them extremely vulnerable. This vulnerability is worsened by insecure, low-wage employment. The vast majority of the urban poor work in the informal sector in a variety of activities including petty trading and casual labour.

According to the Rio Group (2006), the distinction between “formal” and “informal” settlements dates from the creation of the first urban centres that followed British planning and construction codes. These formal centres were reserved for European settlers and were the only recognized permanent urban settlements. They were designed with infrastructure for housing, transportation, access to piped water, sanitation and social services. Africans were not allowed permanent residence in these urban centres and their temporary stay was tied to being formally employed. As a result, on expiry of their short-term employment contracts, those who wanted to remain in urban centres retreated to temporary settlements on farms on the outskirts of cities.

After independence in 1964, Africans were granted the right to live permanently in Zambian cities, but formal urban centres were not large enough to accommodate the new migrants attracted by the thriving urban economies. The temporary settlements on the urban outskirts thus became the main areas where new migrants could find housing. Without public support, these settlements lacked essential infrastructure and services. Today, despite some upgrading in the 1970s and 1980s, their situation has not much improved. Estimates are that 50–80% of the urban population resides in informal settlements, including most of the urban poor.

Many families in Lusaka, especially in high-density areas, are able to pay for only two or three rooms, rather than renting a whole house (of separate bedrooms, kitchen and bathroom). Most landlords in high-density areas sublet rooms, with most houses having an average of three families sharing. According to the Satellite Homes Survey (JCTR, 2010), the monthly cost of housing for two electrified rooms in January 2010 averaged K150,000 in Kanyama compound and K200,000 in Garden compound, both high-density areas of Lusaka. Some respondents from these areas revealed that due to limited space, arrangements were made with friends living in the same location in order to separate boys' sleeping rooms from the girls'.

Since we don't have enough money to rent more rooms, we have made an arrangement with a friend who lives close by who also is renting two rooms. The boy children sleep at our friend's house while the girl children sleep here. That way, decency is upheld!

Respondents from Garden and Kanyama compounds.

Some critics have raised concerns about the cost of housing reflected in the JCTR's Basic Needs Basket. The housing surveyed by the JCTR is a basic three-bedroom house (located in a medium-density area), to allow one bedroom for the girl-children, one for the boy-children and one for the parents. This choice was inspired by the UN Global Shelter Strategy, to which Zambia is a signatory, which defines "adequate housing" as encompassing adequate security, privacy, space, lighting and location with regard to work and basic facilities.

The cost of housing (monthly rental) for a three-bedroom house in a medium-density area of Lusaka in December 2006 was K650,000. By contrast, Luanshya has the lowest average cost of urban housing of K180,000. Average costs in other towns were: Livingstone, K450,000; Ndola, K425,000; Kitwe, K350,000; and Kabwe, K350,000.

Rentals are adjusted annually (normally at the beginning of the year), and the nominal cost of a three-bedroom house has in many cases doubled in recent years in medium-density areas across major towns in Zambia. For instance, 2010 JCTR data showed that three-bedroom houses in medium-density areas of Lusaka were costing K1,500,000, and K400,000 for Luanshya, K900,000 in Livingstone, K850,000 in Ndola and K700,000 in Kitwe. The only town with minimal adjustment in rentals since December 2006 was Kabwe, with three-bedroom houses currently costing K500,000, an increase of K150,000 only.

While the rental fee for a three-bedroom house is significantly higher than what most Zambian families are actually paying for housing, the three-bedroom house is the appropriate size to promote a decent standard of living for a family of six. To cope with high costs of living, most households in the middle-income bracket opt to live in a two-bedroom house, at lower cost. (In Lusaka for instance, rental fees for a two-bedroom house in a medium-density area may average K900,000, although these are hard to find.) For those in the low-income brackets, chances are that they will live in high-density areas, with greater overcrowding.

Health and health care

Access to health care is identified as a critical issue in most of the high-density areas (informal settlements) in Lusaka. According to the CSO survey of 2006, 93% of urban residents live within 5km of a health facility, as a result of the extension of health facilities to high-density areas. This compares to 54.5% in rural areas, but the quality of health provision is still a matter of concern. For instance, there was general discontent in all high-density areas regarding the standard of centrally provided health services and availability of drugs (World Bank, 2004). The 2007 Demographic and Health Survey (CSO, 2009c) revealed that

54% of women were concerned that there were no drugs available at the health facility and that this was a major factor affecting them in seeking medical advice or treatment.

It is common for those attending health centres to be given only prescriptions rather than drugs. This affects treatment, as households resort to buying drugs at the drug stores, without paying much attention to dosage or in most cases even being certain of the disease, having had no clinical tests (JCTR, 2010). The drug stores are profit-oriented and sell according to available resources rather than prescribed quantities. In the areas visited during research for this paper, some people mentioned an increase in consultations with traditional healers, as they accept payment in kind. This may be a reason for the low expenditure (1%) on health, as surveyed by the 2006 LCMS.

My child had malaria last month. We opted not to go to the hospital but just bought medicine from a private drug store to cure the disease.

Respondents from Chipata compound

“An old woman was taken to a local clinic in one of the compounds for treatment after her Blood Pressure shot up. However, the medical personnel on duty refused to treat her because she had no medical scheme card. She was only attended to after paying an emergency fee of K7,000 contrary to the health provisions of the country – free medical treatment to children (below 5 years) and the elderly (above 65 years) in all public health centers.”

(JCTR, 2008)

According to a study by the World Bank (2004), a number of diseases were common to all areas in Zambia and illustrate the linkages between health and poverty through inadequate nutrition, and a lack of access to sanitation, water and physical planning of living environments in urban areas. In Kalikiliki (another high-density area in Lusaka), scabies and sore eyes are very common ailments, and worms affect around 80–90% of the residents. While cholera, dysentery, coughs, malnutrition, malaria and worms are all worse in the rainy season (from October to April), vomiting and diarrhoea seem to be prevalent throughout the year.

Water and sanitation

Reducing the proportion of the population without sustainable access to safe drinking water and basic sanitation is one of the targets under MDG 7, which focuses on ensuring environmental sustainability. The source of drinking water is an indicator of whether it is safe and clean enough for drinking. The 2006 LCMS found that about 58% of households in Zambia had access to a safe water supply, while the remaining 42% accessed water from unsafe sources. There has been low investment in the water sector in Zambia, and there are high water tariffs in relation to income, a situation worsened by the corporatization of the service. A study by Dagdeviren (2008) found that, as of November 2006, there were ten commercial water and sanitation companies in the major urban centres of Zambia.

The ratio of household spending on water to household income is the yardstick commonly used to assess affordability. Some studies use either 3% or 5% as a benchmark. Dagdeviran (2008) cites the example of the World Bank, which has stated that households should spend no more than 5% of their monthly income on water (World Bank, 2001). Furthermore, the 2006 *Human Development Report* (UNDP, 2006) suggests that no household should spend more than 3% of its income on water. The report also stated that, in the UK, the government considers water tariffs to be unaffordable if expenditure exceeds 3% of household income, which is twice the current median spending ratio on water in the country (Sawkins and Dickie, 2005).

Using the above benchmarks, Dagdeviren's (2008) estimates indicate that, by both measures, low-cost water is unaffordable for about 40–60% of urban dwellers in Lusaka and the Copperbelt, where most of the urban population lives. Using the 5% benchmark, her study found that water is unaffordable for all urban households in extreme and moderate poverty, except for those in the Southern Region.

According to the Zambia Demographic and Health Survey (ZDHS) (CSO, 2009c, 23), while 82% have access to an improved source of drinking water in the urban areas, only 40% have piped water to their house; 37% access water at a public tap and 6% from a protected dug well. Between 1992 and 2002, about 25% of users lost their piped supply and became dependent on public taps, wells, boreholes, rivers, ponds and lakes (Dagdeviren, 2008).

The ZDHS report (CSO, 2009c) recognized that lack of ready access to water may limit the quantity of suitable drinking water that is available to a household, even if the water is obtained from an improved source. Water that must be fetched from a source that is not immediately accessible to the household may be contaminated during transport or storage. Another factor in considering the accessibility of water sources is that the burden of fetching water often falls disproportionately on female members of the household.

What has worsened the situation in Zambia, specifically in urban areas, is that most households pay a flat or fixed monthly rate, irrespective of the quantity of water they consume due to limited metering of domestic connections. Therefore, most households are normally charged for water according to the housing category they occupy. Families in low-cost housing pay less than those in medium- and high-cost housing. Those who use public taps pay the least (Dagdeviren, 2008).

However, perceptions of problems associated with water and sanitation vary across communities. Most high-density areas have communal taps where households pay a service charge. In some areas, the charge is made for each 20-litre container filled. For instance, in one of the areas visited, households pay K500 per 20-litre container. Many households complained that they could not buy enough safe water for use each day and hence supplemented it with unsafe water from shallow wells. This increases the level of vulnerability.

Moreover, in Chawama, Lusaka, most respondents indicated that, although they have water pipes, these are often dry. As in most other settlements, the water system suffers from extensive leakage. Of 314 standpipes set up for communal use, 142 had been vandalized and were unusable. In most settlements where water is available, it is rationed for a few hours a day and it is of low quality because of the poor quality of the pipes. The response to the shortage of water has been to use water from shallow wells, which are often polluted due to the proximity of pit latrines.

These findings resonate with the World Bank's *Poverty and Vulnerability Assessment* (World Bank, 2007) which established that residents of informal urban settlements in Zambia generally rely on self-made shallow wells for water supply and on pit latrines for disposal of human waste. This is a serious health challenge, because of the possible contamination of water, and most residents cannot afford to boil or to chlorinate their drinking water. As a result, they generally drink untreated water and are extremely vulnerable to diarrhoeal diseases.

The importance of non-food items such as water, energy, education, health and housing for poor households is undisputed. The different cost implications they have for households in rural and different urban areas, as laid out above, means that realistic costs of these commodities should be considered explicitly in poverty assessments.

Macroeconomics and poverty

The effects of structural adjustment

Regardless of measurement technique, it is clear that Zambia still suffers from dramatic levels of poverty. Both the slow-growth period induced by structural adjustment of the 1980s and 1990s and the recent global economic crisis have contributed to a dire situation.

During the “lost decade” of the 1980s, it was the urban poor who bore the brunt of the crisis associated with debt, deteriorating terms of trade, and the economic policy failures of governments. Rising food prices, unemployment and a steep decline in real wages wrought havoc in the lives of urban communities across the developing world. In Zambia, average wages fell to a quarter of their mid-1970s level in real terms. Employment in the formal sector declined from 25% of total employment in 1970 to less than 10% in 1990.

Growth in formal employment has remained slow since the early 1990s. Years after the 1970s crisis, the formal employment rate in Zambia has not gone back to the levels seen in the 1970s (Watkins, 1995, 21). As the formal sector continues to shrink, the majority of the urban poor engage in informal activities. Behind these statistics lies a human tragedy of enormous proportions. This widespread poverty and deprivation is reflected perhaps most powerfully in one effect on Zambia’s young children – 45% of children below the age of five are stunted (CSO, 2009c).

The broad employment and income categories of household surveys do not adequately capture the diversity of urban employment. Urban areas are by nature home to a wide variety of activities. The few residents of informal settlements who are formally employed mostly have low-paid jobs, as shop assistants, security guards, soldiers and domestic helpers. In old informal settlements, such as Chawama in Lusaka, there are also teachers, nurses, police constables and other front-line civil servants (Rio Group, 2006). Key-informant interviews with Multi National Retail shops revealed that the highest wage for a unionized worker (supervisor level) as at end of June 2010 was K1,200,000. Table 5 shows other examples of monthly wages.

Table 5: Comparative figures of net monthly wages in Zambia (K)

Teacher	Nurse	Secretary in civil service	Guard with a security firm	Average monthly income in urban low-cost area (CSO)
1,300,300 to 2,200,600	1,300,000 to 3,450,000	1,390,500 to 1,900,000	250,000 to 850,000	645,326 (between October 2004 and January 2005)

Source: JCTR’s May 2010 BNB.

The 2006 LCMS (CSO, 2006) found that only about one in every three households in Zambia (35%) had mean monthly incomes exceeding K300,000, implying that the majority of Zambian households, approximately 65%, had incomes below the CSO’s basic needs basket for minimum food alone.

In Zambia’s informal urban settlements, most residents are self-employed. They work in a variety of informal economic activities ranging from producing and selling building materials, to trading petty commodities, or farming, stone crushing and renting out houses or rooms.

The following list presents examples of income levels for January–March 2010 in high-density areas surveyed through the Satellite Homes Survey (JCTR, 2010).

- Male-headed household of eight. The head of the household is a freelance tile-fitter. During the first quarter of the year, he did not have any work. His wife is a trader at the local market and sells vegetables and dry food (such as beans and kapenta). She estimated to have earned an average of K400,000 per month.
- Female-headed household of seven. The household head is a government school teacher with a take-home pay of K950,000 per month. During this period, she earned extra income by subletting four rooms for a total of K500, 000 per month.
- Male-headed household of eleven. Due to ill health, the head of the household was not engaged in any income-generating activities. His wife sells vegetables and dry foods at the local market, and earned an average income of K400,000 per month. She is also servicing a loan from a micro-financing institution.
- Random interview with a clinical officer running a private clinic and drug store: he reported earning an average of K500,000 per month. However, during this period, he faced major challenges in paying his workers, as his business did not raise enough revenue.

Many public officials interviewed for the World Bank's Participatory Poverty Assessment voiced the view that the urban poor are largely unproductive because they are not formally employed (World Bank 2005). The same study found, however, that poor urban dwellers have adapted to the decline of formal employment by pursuing at least one activity that allows them to generate revenue or produce enough food to survive. These activities illustrate the resilience and ingenuity of poor urban communities to adapt to a very unfavourable economic context in which few formal jobs are available (World Bank, 2005: 86).

Effects of food and fuel crises

It is expected that urban poverty will increase due to the recent economic crisis. According to a World Bank study (Dessus et al., 2008), the urban poor have been hit hardest in this recent food and fuel crisis (as in previous financial crises), due to their heavy reliance on the cash economy, no subsistence agricultural production to fall back on, and wage reductions and employment losses in urban-based industries. The overall impact on the urban poor is a combination of several effects. With regard to food prices, the high costs directly affect the household consumption budgets of the poor, as they are almost all net consumers. In addition, higher energy prices result in higher production costs for a range of goods and services that use fuel – including manufactured goods, food, and transport services – although this impact is more difficult to quantify. The high costs of energy also directly affect the urban poor, through the extra cost of purchasing fuel.

The existing evidence shows that the impacts on poverty from the food and fuel crises have been significant. The impact on the urban poor was particularly acute, increasing the incidence of urban poverty by more than 1.5 percentage points in Sub-Saharan Africa. Many more people who are already poor are falling even more deeply into poverty. Recent “back-of-the-envelope” analysis by the World Bank using micro-data for 72 countries estimates the impact of the rising food prices on urban poverty, and to what extent this involves the new poor and those who are already poor and have become poorer. These estimates consider three scenarios for food-price increases (10%, 20%, and 30%) during the 2005–2008 period. The analysis indicates that for the 20 most affected countries in the dataset (11 of which are African countries), a 20% increase in food prices results in a 5.8% average increase in the urban poverty rate. This analysis uses a US\$2.50 per day poverty line, which according to the author is arguably more appropriate in urban areas than US\$1.25 per day (Dessus et al., 2008).

Poverty reduction strategies

In Zambia, poverty has been recognized as the biggest challenge facing the economy, and the government launched a Poverty Reduction Strategy Programme (PRSP) in 2002. This strategy accompanied other commitments such as achieving the MDGs, as well as adhering to many other declarations that Zambia is signatory to, for instance, the Maputo Declaration on Agriculture. However, these efforts are not unprecedented. To respond to the situation of destitute households, the government has been implementing social protection programmes such as the Public Welfare Assistance Scheme (PWAS), which targets the poorest in communities.

Zambia has successfully piloted five separate cash-transfer schemes, utilizing the PWAS structure, mainly supported by international donors such as DFID and GTZ. The schemes provided monthly cash transfers of about K50,000 (approximately \$10) to the neediest 10% of households in the pilot area. An evaluation of the programme ascertained that it helped to reduce extreme poverty, hunger and starvation of the most critically poor and incapacitated households in the community. However, the major challenge is for government to scale up the cash-transfer initiative by increasing budgetary allocations towards social protection (Petrauskis, 2007).

Another poverty-reduction initiative by the government is the provision of subsidized fertilizer and seeds to smallholder farmers through the Farmer Input Support Programme (FISP) – formerly called Fertilizer Support Programme (FSP). While this initiative is meant to increase food security and consequently reduce poverty, questions have been raised about its targeting efficiency. Furthermore, despite a significant monetary investment by government, the benefits have not been commensurate.

In the overall work to increase agricultural production in Zambia, the Food Security Pack stands out as the most promising and effective government initiative to build capacity of low-capacity but viable farmers. It is recognized as a major entry point for poverty reduction in rural areas. In implementing the FSP, the Programme Against Malnutrition (PAM) targets many of the most poor and food-insecure farmers across the country: those not only tilling less than one acre, but also facing a serious vulnerability such as a child heading the household. Due to unaffordable inputs and poor agricultural knowledge, such smallholder farmers typically fail to produce more than a few bags of maize in a season, leaving them desperate for food aid to survive the year (Petrauskis, 2007).

All these programmes, and others being implemented, depend on a correct assessment of the state of poverty in targeted regions or targeted households. For this reason, they would certainly benefit from a more precise measurement of the cost of living in Zambia.

Conclusion

This paper critically questions the robustness of poverty measurements in urban Zambia. It largely draws upon data from the Central Statistics Office (CSO), the major statistical body in Zambia, and the Jesuit Centre for Theological Reflection (JCTR), a prominent local non-state actor that conducts cost-of-living surveys in Lusaka and other towns across Zambia. The interrogation was conducted within the framework of defining poverty as a multi-dimensional phenomenon, which incorporates other welfare indicators such as health, education and shelter. This paper further interrogates the basic form and characteristics of the CSO's extreme and overall poverty lines in relation to the JCTR's cost-of-living findings. It also uses anecdotal evidence from select high-density (low-income) areas of Lusaka.

One major argument of this paper is that it is misleading to use the same bundle of food needs and the same approximated nominal cost of food, without weighting it to reflect realistic costs of food and non-food items in different regions (rural and urban). Specific to the Zambian case, there is significant disparity between costs of food in rural and urban areas, largely driven by the methods of accessing food items. While urban dwellers purchase food items, rural dwellers mainly consume own-produced foods, and so rural dwellers have lower food costs. Therefore, to base the poverty line on a national average for food costs under-estimates urban poverty and is likely to over-estimate rural poverty.

The official national food poverty line for 2006 is K295,696 per month for a household of six people. This represents the estimated expenditure level at which a typical Zambian reaches the pre-determined mean food energy requirement of 2100 calories per person per day. For a slightly different bundle of food items, but also equivalent to 2100 calories per person per day, for an average family of six in Lusaka, the cost of the JCTR's Basic Needs Basket in the same period was K476,250. There is a strong case for differentiating between rural and urban poverty measurements by adjusting for cost-of-living differences.

Similarly, to obtain the upper poverty line that takes into account the non-food requirements of individuals, CSO factors in 30% of the food poverty line, taking the overall poverty line (reflecting food and non-food) to K384,405. On the other hand, the JCTR's cost of essential non-food items alone in Lusaka was K966,100, more than double the cost of basic food alone. The main reason for the much higher cost of essential non-food items in Lusaka is the high cost of a decent house in a planned settlement area. However, this paper argues that the 30% figure used by the CSO produces a monetary amount that is too meagre for any urban area in Zambia, especially when taking the cost of housing into consideration.

The success of both national and international plans should be anchored upon a precise characterization and measurement of poverty. Since policy choices are largely influenced by the definition of a problem, accurate definition and measurement of poverty is critical for the design and implementation of specific actions to reduce poverty. Undoubtedly, a better definition and more precise method for measuring poverty in Zambia is called for, in order to facilitate appropriate poverty reduction interventions.

Appendix 1: Inflation rates in Zambia, 1990–2009

Year	Year-on-year inflation
1990	110.6
1991	99.7
1992	180.7
1993	128.1
1994	38.3
1995	46.0
1996	35.2
1997	18.6
1998	30.6
1999	20.6
2000	30.1
2001	18.7
2002	26.7
2003	17.2
2004	17.5
2005	15.9
2006	8.2
2007	8.9
2008	16.6
2009	9.9

SOURCE: CSO, 2010.

Appendix 2: Sample JCTR Basic Needs Basket

JCTR BASIC NEEDS BASKET: LUSAKA

December 2006

(A) COST OF BASIC FOOD ITEMS FOR A FAMILY OF SIX IN LUSAKA

Commodity	Kwacha	Quantity	Total
Mealie meal (breakfast)	33,300	3 x 25 Kg bags	99,900
Beans	6,000	2 Kgs	12,000
Kapenta (Siavonga)	30,000	2 Kgs	60,000
Dry Fish	43,300	1 Kg	43,300
Meat (mixed cut)	15,400	4 Kgs	61,600
Eggs	5,000	2 Units	10,000
Vegetables (greens)	1,700	7.5 Kgs	12,750
Tomato	2,500	4 Kgs	10,000
Onion	2,600	4 Kgs	10,400
Milk (fresh)	8,300	1 x 2 litres	8,300
Cooking oil	14,700	2 x 2 litres	29,400
Bread	2,400	1 loaf/day	72,000
Sugar	4,500	8 Kgs	36,000
Salt	1,600	1 Kg	1,600
Tea (leaves)	9,000	1 x 500 g	9,000
Sub-total			K476,250

(B) COST OF ESSENTIAL NON-FOOD ITEMS

Charcoal	43,000	2 x 90 Kg bags	86,000
Soap (Lifebuoy)	1,300	10 tablets	13,000
Wash soap (Booni)	2,500	4 x 400 g	10,000
Jelly (e.g., Vaseline)	5,600	1 x 500 ml	5,600
Electricity (medium density)	113,000		113,000
Water (medium density)	88,500		88,500
Housing (medium density)	650,000		650,000
Sub-total			K966,100

Total for *Basic Needs Basket*

K1,442,350

Total from previous month	Dec 05	Jan 06	Feb 05	Mar 06	Apr 06	May 06	Jun 06	July 06	Aug 06	Sep 06	Oct 06	Nov 06
Amount	1,385,700	1,415,650	1,413,150	1,468,850	1,405,700	1,421,850	1,378,650	1,376,300	1,421,650	1,450,250	1,422,850	1,436,400

(C) SOME OTHER ADDITIONAL COSTS

Item	Kwacha	Item	Kwacha
Education (PTA/user fee per year)		Health (clinic / hospital fee)	
Upper Basic (grades 8-9)	K220,000-K350,000	Monthly Scheme (per person)	K1,500
Secondary (grades 10-12)	K220,000-K380,000	No Scheme Emergency Fee	K8,000
Transport (bus fare round trip):		Fuel (cost at the pump)	
Chilenje-Town	K3,800	Petrol (per litre)	K5,394
Chelston-Town	K4,400	Diesel (per litre)	K4,959
Matero-Town	K3,600	Paraffin (per litre)	K3,938

"Tibvutika maningi, Boma iyenela kuika nzeru pakusamalila nzika za chalo" – Resident in Mandevu

(D) SOME COMPARATIVE FIGURES OF WAGES--"TAKE HOME PAY"

	Teacher	Nurse	Guard with Security Firm	Secretary in Civil Service	Average Monthly Income in Urban Low-Cost Area - CSO	Piecoworker on a Farm
Pay Slip	K672,000 to K1,193,000	K748,000 to K2,105,000	K250,000 to K750,000	K653,000 to K1,190,000	645,326 (between October 2004 and January 2005)	K3,000 to K15,000 per day

This survey was conducted on 27th to 28th December 2006 by the Social Conditions Research Project of the Jesuit Centre for Theological Reflection. Average prices were calculated on the basis of prices gathered from retail outlets at Northmead, Town Centre (Shoprite), City Market, Chawama, Chairoa, Kabwata, Matero and schools, clinics/hospitals around Lusaka. The December Basic Needs Basket is approximately US\$330 based upon an average middle exchange rate of 4375 Kwacha per US\$ at the end of December.

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