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## PRELIMINARY INFORMATION

Breaking the Net : Family Structure and Street-Connected Children in Zambia

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**BREAKING THE NET:  
FAMILY STRUCTURE AND STREET-CONNECTED CHILDREN IN ZAMBIA\***

Francesco Strobbe<sup>1</sup>

World Bank

Claudia Olivetti

Boston University & NBER

Mireille Jacobson

RAND Corporation & NBER

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<sup>1</sup> Corresponding author: Francesco Strobbe, The World Bank, 1818 H Street NW, Washington, DC 20433, USA.  
Email: [fstrobbe@worldbank.org](mailto:fstrobbe@worldbank.org); ph. +1-202-458-0956

## **Abstract**

Drawing on original fieldwork in the slums of Ndola in Northern Zambia we isolate those features of a child's nuclear and extended family that put him most at risk of ending up on the streets. We find that older, male children and particularly orphaned children are more likely to wind up on the street. Families with a male household head who is in poor health are more likely to originate street-connected children. In contrast, households with surviving maternal grandparents or with a male head who has many sisters are significantly less likely to originate street-connected children.

**Keywords:** Africa, poverty, extended family, orphans, street children, human capital.

**JEL Classifications:** I3, J12, J13, O12.

## **1. INTRODUCTION**

The AIDS epidemic has not only reduced the population of prime age adults in many African nations but also increased the number of orphans or otherwise vulnerable children. The increase in the ranks of vulnerable children compounds the negative economic consequences of this health crisis. Vulnerable children have much lower human capital (in terms of both schooling and health) than non-orphans and even orphans cared for by members of their extended family. Thus, these children contribute to the intergenerational transmission of poverty far and above their parents' direct contribution.

Street-connected children represent a particular subcategory of orphans and vulnerable children (OVC) that typically lacks regular family support.<sup>i</sup> Studies conducted in 1991 and 2004 estimate that the number of street-connected children in Zambia more than doubled, from approximately 35,000 to 75,000 (Tacon and Lungwangwa 1991; Zambian Ministry of Sport, Youth and Child Development 2004). This represents an increase from roughly 0.9 percent to 1.6 percent of Zambian children living on the street.<sup>ii</sup> While a growing body of domestic and international studies and reports describes the situation of street-connected children, evidence on the causes of this phenomenon remains scant. In this paper we hypothesise that the causes lie in the families of origin. We use data from a unique sample collected through dedicated fieldwork in the slums of Northern Zambia in order to identify the factors that contribute to the breakdown of the safety net provided by the African extended family and give rise to the phenomenon of street-connected children.

In Africa, the extended family was the traditional social security system. Extended family members were responsible for protecting the vulnerable, caring for the poor and sick and passing on traditional social values and education. Families, particularly in traditional societies, are

comprised of a large network of people extending through varying degrees of relationship over multiple generations and geography and involving reciprocal obligations (Foster 2000). However, as the number of orphans and vulnerable children increases and an ever-larger number of adults is affected by HIV/AIDS, these family networks have come under severe strain.

Against this background this paper tries to identify the link between family structure and street-connected children. We present a quantitative analysis of data collected from 220 households, capturing the experience of 1455 nuclear family members and 1685 extended family members. Data collection at the household level began by first interviewing one of 43 street-connected children originating families and then, for each one of them, interviewing the first layer of neighbors using the same questionnaire. We also surveyed a sample of 102 current and former street-connected children and compared their characteristics to those of previous, larger scale, surveys. The Appendix contains the questionnaire templates used during the fieldwork and data collection process in Zambia.

Although our sample is small and not necessarily representative of the Zambian street children population, it provides important detail on a special subcategory of vulnerable children. Moreover, this work is, to the best of our knowledge, the first to collect information on the families of origin and their neighbors in order to evaluate the role of the nuclear and extended family in the street children phenomenon. The lack of quantitative evidence in this area stems from the difficulty of collecting micro-level data on street-connected children and, especially, on their families of origin. The data collected in this paper begin to fill this gap as the fieldwork was conducted in the usually off-limit areas where street-connected children and their families live. The analysis of this unique dataset provides useful insights on the street child phenomenon and

sheds some light on the direction for policies to deal with the growing population of children living on the street.

Based on these data, we find that over 10 percent of the families in the slums have children living on the street. The health status of the male head of the household is associated with a higher likelihood a child ends up on the street. The composition of the extended family net also seems to matter: a higher number of paternal sisters and the presence of maternal grandparents is associated with a lower probability a family originates street-connected children. A younger composition of children in the household and a higher share of girls in the household are both associated with a lower probability any child ends up on the street. Likewise, the relationship of a child to the household affects the likelihood he ends up on the street: nephews, stepchildren and household heads' siblings are less likely to end up on the street compared to natural son and daughters, suggesting, as a possible interpretation, that, when an extended family accepts nephews and stepchildren, it is their intention to keep and protect them.

We urge some caution in the interpretation of our results. In our analysis, we focus on those characteristics that distinguish street-connected children or street families from families that look quite similar in that they live in exactly the same slum and face a very similar set of objective difficulties based on observable characteristics. In our regression models, we control for observable differences in families. However, we recognise that unobservable factors may contribute to the likelihood that children end up on the street. At a minimum, however, these unique data and the characteristics they point to as predictors of the street-connected children phenomenon identify important areas for future research and policy intervention.

The paper is organised as follows: Section 2 reviews the existing literature and explores further the contribution of this paper to the academic debate; Section 3 describes the institutional environment of Zambia and discusses the data sources and the fieldwork methodology; Section 4 describes the empirical methodology and discusses the results; Section 5 concludes.

## **2. LITERATURE REVIEW**

Research on orphans and vulnerable children in Sub-Saharan Africa spans literatures in economics, psychology and socio-medicine as well as in organizational and institutional development. To our knowledge, this paper is among the first to study microeconomic data on vulnerable children in urban slums in Africa – an institutional context very difficult to study. The only notable exceptions are Abraham, Baland and Platteau (1998) and La Ferrara (2002), which are both based on fieldwork in the informal settlements of Nairobi. These papers have a different focus, however, with La Ferrara (2002) conducting a multivariate analysis of ‘self-help’ groups and Abraham, Baland and Platteau (1998) providing a descriptive analysis of participation in different types of groups (e.g. rotating savings and credit associations, burial societies, health groups, etc.) and on the socio-economic background of respondents.

The economics literature on vulnerable children focuses almost exclusively on HIV. Two important streams of this literature capture slightly different aspects of the relationship between family structure and childhood vulnerability.

A first growing stream studies the impact of HIV-related orphanhood on the education and health outcomes of orphans. Several longitudinal studies (e.g., Case and Ardington (2006) in

South Africa and Evans and Miguel (2007) in Kenya) demonstrate that, maternal death has more adverse effects on health and education than paternal death, and that outcomes are worse when the surviving parent is not taking care of the orphan. Evans (2005) demonstrates that the spillover effects of orphans on the health and education of non-orphan children is negligible once selection is taken into account. And, Ksoll (2007) finds that selection into higher-wealth caretakers mitigates the negative effects of orphanhood on education. However, studies using the general child population as a comparison find that orphans receive lower educational investments than the biological children of the household head, providing some justification for conditional transfers to households caring for orphans (Ainsworth and Filmer 2006; Case, Paxson, and Ableidinger 2004).

A second stream of microeconomics literature focuses on the impact of HIV-related adult morbidity and mortality on the income and consumption of surviving household members (Naidu and Harris, 2005). This work provides evidence of a significant consumption drop in affected households within the first five years of death and shows that the impacts are larger when the decedent is a female adult (Beegle et al. 2006). Whether and how these effects are mitigated by socioeconomic status is a subject of ongoing debate (e.g., see Fortson 2008 and De Walque 2006) and may depend on the stage of the HIV epidemic in the country under study (Iorio and Santaaulàlia-Llopis, 2011)

The socio-medical and international development literatures pay more attention to the impact of growing disease burdens on the extended family safety net. Foster (2000) highlights how the traditional practice of orphan inheritance by uncles and aunts has declined and been replaced with care provided by grandparents or other relatives. He points to the importance of

focusing on children who slip through the safety net, ending up in a variety of vulnerable situations such as on the street, working or heading households. Others have shed light on the street child phenomenon in Latin America (Rodgers 1999) and South Asia (Conticini and Hulme 2007).

Six main institutional studies report on vulnerable children in Zambia. Four directly study street-connected children – Tacon and Lungwangwa (1991), Lungwangwa and Macwan'gi (1996), a 2002 assessment of street-connected children in the town of Lusaka conducted by the Project Concern International Zambia and a 2006 survey conducted in 12 Zambian towns by the Ministry of Community Development and Social Services and the Ministry of Sport, Youth and Child Development.<sup>iii</sup> All point to the dire circumstances of these children.

### **3. THE SETTING**

#### **a. INSTITUTIONAL ENVIRONMENT AND BACKGROUND**

Official statistics on street-connected children are rare because of the difficulties of surveying this extremely mobile population. *Ad hoc* surveys and specific micro-data collected from field projects provide some important information. Tacon and Lungwangwa (1991), which increased awareness of the situation of street-connected children in Zambia, singled out poverty, family breakdown, lack of access to education and unemployment as the most important push-factors driving children onto the streets. The 1996 Situational Analysis and the 2004 OVC Situational Analysis support the widespread view that the number of street-connected children in Zambia has increased since 1991 and doubled over the last decade alone.

To provide a clearer picture of the Zambian street children phenomenon, we conducted two different surveys during the month of November 2008 in three highly populated slums of the city of Ndola, in the Copperbelt region of Zambia (see Figure 1). These slums, often called *peri-urban areas* or *compounds*, vary in terms of dimension, accessibility to basic services and geographical proximity to the city centre.

*Fig.1 – Map of Zambia (Copperbelt region in red)*



Living conditions are extremely poor in these slums: the great majority of the population lives below the official poverty threshold of \$1 per day. The three slums in our sample are Nkwazi, Chipulukusu and Kawama. The first two are among the poorest and largest slums on the outskirts of Ndola, with more than 40,000 residents each, living without any city planning, amenities or utilities. Kawama is slightly smaller and more distant from Ndola than the other two. Basic services such as sanitation and drinking water are very poor in all of them.

## **b. DATA COLLECTION**

Our first survey was directed at 102 street-connected children.<sup>iv</sup> The survey of street-connected children collected information on their family background, the reasons they took to the streets, the conditions on the street, their main activities and earnings as well as their education, health, sexual behaviour and exposure to STDs. This survey was conducted both directly on the streets of Ndola where children gather as well as at the shelters where former street children attend programs and participate in activities sponsored by our hosting NGO. Given the small size and potential non-representativeness of this sample, this survey is meant to complement the main analysis by showing that our sample of street-connected children (and their families of origin) has similar characteristics to those of the overall population of street-connected children in Zambia. The second survey, which is the primary focus of our analysis, assesses the status of the extended family safety network. It was therefore collected at the household level.<sup>v</sup> By focusing on the family of origin of street-connected children, this work attempts to deal more effectively with the high mobility of the street-connected children population and at the same time to offer a complementary view to the one emerging from the larger-scale institutional surveys.

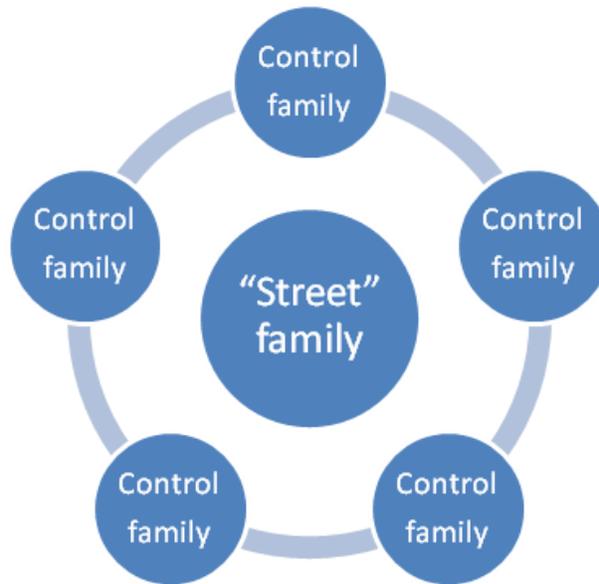
The sampling design for the family survey was based on a two-stage sampling procedure. At the first stage, groups or “clusters” of households were selected; households themselves were selected at the second stage. The “clusters” corresponded to the 18 slums surrounding the city of Ndola. In particular, three slums – Nkwazi, Chipulukusu and Kawama- were selected for the data collection because they had the highest concentration of families of origin of street-connected children traced back by the hosting NGO. Hence, though our analysis should accurately reflect

conditions in those Zambian slums where street-connected children are most prevalent, it might not reflect the experience of a random sample of families living in Zambian slums.

The second stage of the sampling selection procedure was based on a list of 43 families of origin of street-connected children residing in the three slums. These families were identified through a specific child reintegration program run by the hosting NGO. The number of households to be interviewed per cluster was based on estimates of the proportion of families with street-connected children in each slum provided by local committees of community-based organizations. Estimates, which have been validated by other local sources (e.g. local NGOs and social services' officers), put the proportion of families with street-connected children at 20-25 percent in each slum. The number of street-connected children families and control families to be interviewed in each slum was then selected in order to reflect the suggested proportion.

Data collection began by first interviewing one of the 43 street-connected children families and then, for each one of them, interviewing the first layer of neighbors using the same questionnaire. Given the scattered disposition of houses in the slums, we drew a circle around the house of a street child's family's and interviewed neighbors living in that circle, as shown in Figure 2. Because families with street-connected children did not live close to each other, we had no cases where a neighboring family was also a family with a child on the street, which had the benefit of simplifying the analysis. The aim of this methodology was to gather the same set of information from families that, despite facing similar living conditions, did not originate street-connected children. By comparing families with street-connected children to their immediate neighbors we aim to isolate those characteristics of the family that put children most at risk of winding up on the street.

*Fig 2 –Household selection criterion*



In order to serve as a proper comparison group, a key requirement was that each neighboring family had at least one child (e.g. below the age of 18), although in all cases neighboring families had children. Interviews were carried out through home visits to each family and addressed to the head of the household or his spouse.<sup>vi</sup> The questionnaires were in English and a local operator from the hosting NGO assisted during each interview by providing translations in Bemba (the regional language widely used in the slums) while a second operator, who knew the geographical location of street-connected children families, served as a guide through the slums. Every family we approached agreed to participate in the survey, showing a high level of cooperation.

Based on this methodology, we interviewed a total of 220 families (43 families with street-connected children and 177 control families) and collected information on 1455 individual

family members. The survey included modules on demographics, health, education, income, HIV impact and shocks (see Appendix for the questionnaires). Given our interest in understanding not only the characteristics of each nuclear family but also the relevance and the quality of extended family networks, we collected additional information on the geographic locations of and strengths of the relationships with 1685 extended family members. Doing so allows us to reconstruct the extended family network of each interviewed family, focusing both on *inter-generational* links with parents and adult children living in other households and on *intra-generational* links with siblings living in other households. This information was provided by each household head interviewed and was part of the same questionnaire. Overall, the questionnaire provides relevant information for a detailed assessment of the situation of nuclear families and their networks in the slums of Ndola.

Our data collection efforts distinguished between two main categories of families that we will refer to as “street” families and “non-street” families throughout the analysis.

## 4. RESULTS

### a. DESCRIPTIVE ANALYSIS

Table 1 provides basic descriptive statistics from our survey of 102 street-connected children. The age profile of street-connected children in the sample shows that most are between 15 and 18 years old, though the youngest is 12 years old. Almost two-thirds of these children are either single or double orphans and a similar share (70 percent) has 3 or more siblings. These figures suggest that street-connected children in the sample tend to come from families with multiple children and at least one missing parent.

Table 1 also sheds light on some of the reported reasons for taking to the street.<sup>vii</sup> Over 40 percent of street-connected children indicate that “lack of food and money” is the main reason for leaving their homes. “Food” is also the item most (68 percent) street-connected children purchase with their daily earnings from street activities, like begging or carrying luggage. The data on education and health as well as those on the sexual behaviour collected through the street-connected children’s questionnaire, provide a picture of high vulnerability and high-risk exposure to sexually transmitted diseases of the sample of street-connected children. For example, over two-thirds of street-connected children report being chronically ill in the past year. Less than 15 percent attend school while on the street and over half are sexually active.

Our results are broadly consistent with the only national survey of street children in Zambia, which was conducted by UNICEF for a 2006 *ad hoc* report and with the 2002 survey of street children in the town of Lusaka. All surveys find that street-connected children are predominantly between 15 and 18 years old and that a lack of food and money are the main reasons for taking to the street. Likewise both find extremely low rates of school attendance – 30 percent in the

national sample and 20 percent in ours. However, while our survey suggests that “abuse at home,” is the second most common reason for going on the street, this had only marginal relevance at the national level. This difference could reflect regional variation or capture the trust established during our work, which may have made these children more comfortable expressing this reason for taking to the streets. In all surveys, money earned on the street is used predominantly for purchasing food. In contrast, whereas 45 percent of the national sample reported giving part of the money to parents or guardians, this pattern does not emerge in our sample. One reason for this difference may be that our survey captures not only children currently living on the street but also some who previously lived there and still maintain a connection. Another important difference relates to HIV awareness: 50 percent of the national sample indicated that they did not know about HIV and AIDS while almost all the respondents in our sample reported a general awareness. This difference could capture increasing awareness over time. But, while our sample is consistent on many dimensions with the national sample, the children in our survey appear to have less attachment to their families and a greater awareness of at least one important health risk, namely HIV.

<b>Table 1 - Descriptive Statistics: Street Children Survey</b>			<b>%</b>
Demographics	Age profile	<=14	7.8
		15-18	62.8
		>=19	29.4
	Orphan status	Non orphan	34.3
		Orphan (single or double)	65.7
	Nr of siblings	<=2	30.4
3 to 5		33.3	
>5		36.3	
Street life	Main reasons for going on the streets	Death of a parent	19.5
		Lack of food and money	41.5
		Abuse at home-escaped	24.4
		Sent by parents	4.9
		"Pulled" by friends	9.8
	Average daily earnings	less than 5000K	53.7
	from 5000K to 15000K	24.4	
	more than 15000K	22.0	
Spending patterns	Food	68.3	
	Clothes	4.9	
	Food, clothes and bostik	24.4	
	Other	2.4	
Education & health	School attendance while on the street	Yes	14.7
		Sometimes	4.9
		No	80.4
	Chronically ill in the past year	Yes	67.7
No		32.4	
Sexual behavior	Sexually active	Yes	52.9
		No	47.1
	Average age at first intercourse	Mean	14.2
	Use of condom at last intercourse	Yes	33.3
		No	66.7
	Awareness of what HIV is	Yes	98.0
No		2.0	
Self-awareness of being at risk of HIV	Yes	51.0	
	No	49.0	

Note: Sample size: 102 children. All children are male.

The information collected through the street-connected children survey provides a rich background and is a useful starting point for our analysis. We next turn our attention to the household survey. We restrict the sample from this survey to those households with at least one child between the ages of 7 and 18, which are the typical school ages in Zambia. This restriction is based on prior reports showing that street-connected children are typically within this age range (e.g., see UNICEF 2002 and UNICEF 2006) and because our sample of street-connected children contains no one under the age of 12. This restriction allows us to better focus on the determinants of the street children phenomenon. However, our findings are not sensitive to this restriction.

The restricted sample is composed of 194 households, of which 24 are street families (i.e. families having at least one child age 7-18 years old who is currently on the street) and the remaining 170 are families whose children either regularly attend school or spend their time within the slum but do not live on the street.

Descriptive statistics for the sample of nuclear families are presented in Table 2.

**Table 2 - Descriptive Statistics Household Level**

		Non-street Families	Street Families	
Average household size		6.84	7.83	*
Share of female headed households (%)		0.36	0.33	
Share with orphans (%)		0.60	0.96	***
Average number of children	Nr. of girls	2.00	2.17	
	Nr. of boys	2.11	3.12	***
<b>Age structure:</b>				
Average age of male head		43.03	47.18	
Average age of female head		39.58	40.83	
Share of children 0-6 yrs (%)		0.31	0.21	**
Share of children 7-13 yrs (%)		0.45	0.43	
Share of children 14-18 yrs (%)		0.24	0.35	**
<b>Education profile:</b>				
Average grade reached by male head		7.24	7.56	
Average grade reached by female head		5.12	3.83	*
Average grade reached by children 7-13		2.56	2.81	
Average grade reached by children 14-18		6.25	3.92	***
<b>Health status</b>				
Share male head reporting poor health in the past year		0.38	0.81	***
Share female head reporting poor health in the past year		0.51	0.71	*
Share of hh reporting poor health of at least 1 child in the past y		0.35	0.54	*
<b>Employment status, male head</b>				
Share with regular employment		0.28	0.25	
Share unemployed		0.18	0.25	
Share self-employed		0.37	0.31	
<b>Employment status, female head</b>				
Share with regular employment		0.04	0.00	
Share unemployed		0.53	0.56	
Share self-employed		0.35	0.35	
<b>Income (%)</b>				
Share of households above poverty line		0.20	0.04	*
<b>Shocks (%)</b>				
Share of household affected by shocks in the past year		0.62	0.79	*
Share of household affected by non death-related shocks		0.15	0.29	*
<b>HIV impact (%)</b>				
Share of hh affected by HIV-deaths in the past 10 years		0.44	0.63	*
Share of hh with HIV orphans		0.60	0.57	
Share of hh subject to financial loss due to HIV-death		0.77	0.93	
<b>Nutritional status</b>				
Nr. of meals per day		1.67	1.42	
Nr. of days without enough food in a week		1.74	2.92	***
Eating meat/chicken/fish in the past week (%)		0.25	0.04	**
<b>Extended family:</b>				
Siblings (average number of)	Wife's sisters	1.63	1.00	*
	Wife's brothers	1.75	1.00	**
	Husband's sisters	1.09	0.21	***
	Husband's brothers	0.92	0.29	*
Parents (average number of)	Wife's side	0.81	0.25	***
	Husband's side	0.51	0.17	**
<b>Number of households</b>		<b>170</b>	<b>24</b>	

**Notes:** The last column reports statistical significance of T-test statistics for street family vs. all other families in the sample.

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

The table clearly shows that non-street families differ substantially from street families on many key dimensions. Non-street families have on average 7 members whereas street families have 8. Non-street families are also less likely to have orphans. The difference in the proportion of families with orphans between the two types of family is large – 96 percent of street family host orphan while only 60 percent of non-street families do - and significant at the 1 percent level. While the number of girls from 0 to 18 years old does not differ significantly between the two categories of families, street families have on average one more boy. The average age of male and female heads of the household is not significantly different between the two types of families but the share of children between 0 and 6 years old is systematically higher and the share between 14 and 18 years old is systematically lower in non-street families. In other words, families with older children in the household are more likely to have street-connected children.

The health status of the head of household also differs systematically across family types. Just over 80 percent of male heads of household in street families reported poor health in the past year compared with 38 percent in non-street families. Although less stark, differential health status is also seen for female heads of households and for children in the household.

Interestingly, employment status, as measured by the share of household heads (by gender) who are regularly employed, self-employed or unemployed does not differ across the two family type. The share of street families living above the poverty line is extremely low in general and significantly lower in street (4 percent) compared non-street (20 percent) families. These families are also subject to many financial shocks, such as business failures, job loss, drought or floods.<sup>viii</sup> The share of household affected by shocks, in the past year and in particular by non-death related shocks is significantly higher in street families than in non-street families

Likewise, the share of households affected by HIV-deaths in the past 10 years is significantly higher in street families. The share of households absorbing HIV orphans or subject to a financial loss due to HIV-related deaths is similar for both categories of families.

Although the number of meals per day is comparable in both street and non-street families, the former reports a significantly higher number of days without enough food in a week. Only 4 percent of street families reported having a sufficient caloric intake (i.e. by eating meat, chicken or fish) in the past week compared to 25 percent of non-street families.

Finally, to capture the importance of the extended family, Table 2 shows statistics on the number of existing links with close relatives, that usually help each other in times of need, both at the intragenerational level (i.e., brothers and sisters of the head of household and of his/her spouse) and at the intergenerational level (i.e. parents of both spouses). Non-street families look significantly different from street families also on these dimensions, with a higher number of existing links to extended family members than we observe for street families.

## **b. MULTIVARIATE ANALYSIS**

In order to identify the characteristics of the nuclear and extended family which, at the margin, distinguish a family that originates street-connected children from a family that is at risk of originating street children but is still able to keep them inside the family net, we run two separate sets of OLS regressions: one at the household level and one at the individual child level controlling for household fixed effects. We test the robustness of the results from our OLS models to non-linear probability (PROBIT) models.

In Tables 3 (OLS) and 4 (PROBIT), we present estimates from models that use “street families” as the dependent variable and measure the probability that a family gives rise to a street child as a function of household’s structure and the characteristics of the head of household and the extended family. This allows us to distinguish families with street-connected children from families at risk, isolating those features of family structure that, at the margin, contribute to the street children outcome. The second set of regressions in Tables 5 (OLS) and 6 (PROBIT) are estimated at the child level and use “living on the street” as the dependent variable. These models aim to determine the characteristics of a child *within* a family that make him more likely to wind up on the street than others.

Tables 4 and 6 report average marginal effects from the PROBIT models. In all cases, we present robust standard errors. In the child-level models, we cluster the standard errors to allow for an arbitrary covariance structure at the household level.

**Table 3 - Household Level Regressions: OLS estimates***Dependent variable = 1 if the family has at least one child currently on the street*

	[1]	[2]	[3]	[4]	[5]	[6]
Male head age	0.001 [0.002]	0 [0.003]	-0.001 [0.003]	-0.001 [0.003]	-0.002 [0.003]	-0.003 [0.003]
Female head age	0 [0.002]	-0.002 [0.002]	-0.002 [0.002]	-0.003 [0.002]	-0.003 [0.002]	-0.003 [0.003]
Male head education	0.019* [0.010]	0.023** [0.010]	0.021** [0.010]	0.023** [0.010]	0.023** [0.009]	0.022** [0.009]
Female head education	-0.004 [0.007]	-0.008 [0.008]	-0.008 [0.008]	-0.01 [0.008]	-0.009 [0.007]	-0.007 [0.008]
Male head poor health	0.151*** [0.057]	0.133** [0.056]	0.126** [0.054]	0.124** [0.055]	0.123** [0.054]	0.108** [0.054]
Female head poor health	0.046 [0.047]	0.073 [0.048]	0.06 [0.049]	0.065 [0.049]	0.055 [0.050]	0.064 [0.049]
Missing age or educ	0.238** [0.095]	0.213** [0.100]	0.189* [0.098]	0.167* [0.099]	0.174* [0.093]	0.185** [0.093]
Female headed hh		0.022 [0.191]	-0.016 [0.192]	-0.001 [0.192]	-0.143 [0.200]	-0.226 [0.215]
Household size		0.025** [0.011]	0.020* [0.011]	0.020* [0.011]	0.019* [0.011]	0.021* [0.011]
Share of boys		0.213*** [0.071]	0.211*** [0.070]	0.211*** [0.070]	0.221*** [0.071]	0.218*** [0.072]
Share of children (0-6yrs)		-0.361*** [0.125]	-0.327*** [0.119]	-0.333*** [0.122]	-0.314*** [0.120]	-0.299*** [0.119]
Share of children (7-13yrs)		-0.186* [0.107]	-0.181* [0.106]	-0.179* [0.107]	-0.172 [0.109]	-0.166 [0.107]
share children/hh size		0.231 [0.202]	0.251 [0.199]	0.232 [0.194]	0.252 [0.189]	0.246 [0.187]
Presence of orphans in the hh			0.118*** [0.042]	0.104** [0.040]	0.088** [0.041]	0.062 [0.040]
HIV death in past 10yrs				0.073* [0.043]	0.080* [0.043]	0.086** [0.042]
No-death shocks				0.071 [0.073]	0.047 [0.072]	0.038 [0.071]
Nr. of wife's brothers					-0.002 [0.012]	0.008 [0.013]
Nr. of wife's sisters					-0.005 [0.012]	-0.002 [0.012]
Nr. of husband's brothers					-0.021* [0.012]	-0.022* [0.012]
Nr. of husband's sisters					-0.033*** [0.011]	-0.031*** [0.011]
Nr of wife's parents						-0.066** [0.033]
Nr .of husband's parents						-0.023 [0.035]
Constant	-0.154 [0.126]	-0.276 [0.218]	-0.292 [0.216]	-0.277 [0.211]	-0.132 [0.213]	-0.021 [0.221]
Number of observations	194	194	194	194	194	194
R-squared	0.113	0.206	0.23	0.246	0.28	0.298

**Notes:** Robust standard errors in brackets.

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

Several patterns emerge from our analysis. As shown in Table 3, larger household size modestly increases the probability of having children on the street. The share of household members who are below age 14 decreases while the share that are boys raises the likelihood a household has a street child. More specifically, going from zero to 100 percent of children in the 0-6 years range and in the 7-13 years range lowers the likelihood of originating street children by 30 percent and 17 percent, respectively, although the later estimate is not significantly different from zero in almost all specifications. Likewise going from 0 to 100 percent of children who are boys raises the probability the family has street-connected children by almost 22 percent. These results reflect the fact that older, male children are most likely to take to the street.

The presence of orphans in the household also appears to play an important role, implying a 12 percent increase in the probability of generating street children. However, controlling for the extended family network (both inter-generational and intra-generational) reduces the estimated impact of orphans to a (non significant) 6 percent. A family's exposure to HIV-related deaths in the past 10-years further increases the probability of generating street children by 9 percent. Thus, both HIV/AIDS history and the presence of orphans in the household seem to be important factors in understanding street-connected children.

Table 3 also shows a strong and significant impact of the male head of household's health status across all specifications. Households with a sick male head are about 10 to 15 percent more likely to originate street children. The education of a male versus female head of household seem to have differing effects: a higher education level for the male head increases the probability of generating street children, while the opposite is true for female heads, although the latter estimate is not significant. The fact that higher education level of male head is associated with a higher

likelihood of having a street child might be related to Fortson's (2008) findings of a positive education-HIV gradient.

Finally, extended family links prove to play an important role in reducing the probability the nuclear family originates street-connected children. Surprisingly the presence of brothers and sisters from the wife's side does not seem to have any significant impact while presence of maternal grandparents appears to reduce the probability of generating street children by about 67 percent. Similarly, a higher number of husband's sister (and to a lesser extent a husband's brothers) reduces the probability of originating street children.

**Table 4 - Household Level Regressions: Average Marginal Effects Based on Probit Estimates***Dependent variable = 1 if the family has at least one child currently on the street*

	[1]	[2]	[3]	[4]	[5]	[6]
Male head age	-0.001 [0.008]	0 [0.018]	-0.003 [0.017]	-0.006 [0.017]	-0.015 [0.017]	-0.029 [0.022]
Female head age	0.005 [0.009]	-0.017 [0.012]	-0.016 [0.012]	-0.024* [0.013]	-0.023* [0.012]	-0.030** [0.014]
Male head education	0.081 [0.051]	0.103* [0.061]	0.106* [0.061]	0.120** [0.061]	0.113* [0.064]	0.121* [0.068]
Female head educ	-0.004 [0.041]	-0.053 [0.049]	-0.042 [0.052]	-0.078 [0.059]	-0.09 [0.062]	-0.093 [0.069]
Male head poor health	0.790*** [0.305]	0.975*** [0.347]	0.880** [0.366]	0.877** [0.374]	0.777* [0.397]	0.687 [0.476]
Female head poor health	0.25 [0.271]	0.409 [0.306]	0.452 [0.326]	0.461 [0.339]	0.492 [0.360]	0.668* [0.381]
Missing information	1.048** [0.419]	0.872* [0.499]	0.870* [0.514]	0.677 [0.528]	0.595 [0.599]	0.909 [0.694]
Female headed hh		0.724 [1.217]	0.391 [1.189]	0.502 [1.227]	-0.434 [1.143]	-1.383 [1.476]
Household size		0.156*** [0.054]	0.128** [0.055]	0.149*** [0.056]	0.141** [0.056]	0.208*** [0.068]
Share of boys		1.532*** [0.457]	1.635*** [0.479]	1.725*** [0.500]	1.605*** [0.529]	1.810*** [0.605]
Share of children (0-6yrs)		-2.646*** [0.809]	-2.191*** [0.789]	-2.387*** [0.828]	-2.133** [0.882]	-2.074** [0.951]
Share of children (7-13yrs)		-1.205** [0.596]	-0.973 [0.640]	-1.243* [0.678]	-1.062 [0.705]	-0.889 [0.737]
share children/hh size		1.577 [1.204]	1.541 [1.221]	1.47 [1.199]	1.748 [1.195]	1.747 [1.164]
Presence of orphans in the hh			1.118** [0.548]	0.928* [0.516]	0.806 [0.539]	0.791 [0.631]
HIV death in past 10yrs				0.580** [0.282]	0.658** [0.305]	0.707** [0.357]
No-death shocks				0.579* [0.347]	0.421 [0.371]	0.345 [0.404]
Nr. of wife's brothers					0.012 [0.107]	0.101 [0.147]
Nr. of wife's sisters					-0.026 [0.096]	0.037 [0.102]
Nr. of husband's brothers					-0.098 [0.150]	-0.13 [0.177]
Nr. of husband's sisters					-0.456*** [0.155]	-0.381** [0.154]
Nr of wife's parents						-0.888** [0.365]
Nr .of husband's parents						-0.268 [0.427]
Constant	-2.672*** [0.767]	-3.819** [1.597]	-4.668*** [1.620]	-4.395*** [1.577]	-3.438** [1.591]	-3.194* [1.937]
Number of observations	194	194	194	194	194	194
Pseudo R-squared	0.133	0.289	0.331	0.365	0.412	0.466

**Notes:** Robust standard errors in brackets.

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

The results in Table 4, from household level Probit models are quite consistent with the results discussed in Table 3, albeit with a few exceptions: older female heads of household appear to reduce the probability of generating street-connected children. The impact of the male head's health status is no longer significant, when controlling for the presence of both intra- and inter- generational family links.

Similar to Tables 3 and 4, Table 5 shows OLS coefficients for the set of regressions run at the individual street child level and Table 6 reports average marginal effects based on Probit models. As mentioned above, the dependent variable in this set of regressions is a dummy variable indicating whether the child is currently on the street. These regressions include household fixed effects, to isolate those characteristics of a child in terms of age and the sex, orphan status, health status over the past year and the role in the family (e.g. whether he is a son, grandson, nephew or stepchild with reference to the head of the household) that are associated with living on the street.

According to Table 5, the age and sex of the child have a strong and significant impact across all specifications. In particular, older children have a higher probability of ending up on the streets (+6 percent) while girls are much less likely than boys to become street-connected children (-30 percent).<sup>ix</sup>

**Table 5 - Children Level Regressions: OLS Estimates**

	<i>Dependent variable = 1 if the child is currently on the street</i>					
	[1]		[2]		[3]	
Age	0.063	***	0.063	***	0.065	***
	[0.015]		[0.015]		[0.014]	
Female	-0.307	***	-0.307	***	-0.290	***
	[0.067]		[0.068]		[0.069]	
Orphan	0.042		0.040		0.388	*
	[0.193]		[0.195]		[0.220]	
Poor Health			0.066		0.077	
			[0.129]		[0.130]	
Nephew/Niece					-0.385	**
					[0.160]	
Grandchild					0.037	
					[0.456]	
Brother/Sister					-0.477	**
					[0.181]	
Stepchild					-0.709	***
					[0.203]	
Constant	-0.383		-0.392		-0.456	*
	[0.266]		[0.267]		[0.234]	
Number of observations	94		94		94	
Adj. R-squared	0.29		0.28		0.29	

**Notes:** Regressions include household fixed effects. Robust standard errors, clustered at the household level, in brackets.

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

**Table 6 - Children Level Regressions: Average Marginal Effects Based on Probit Estimates**

*Dependent variable = 1 if the child is currently on the street*

	[1]	[2]	[3]	
Age	0.088 *** [0.014]	0.087 *** [0.015]	0.080 *** [0.013]	
Orphan	-0.234 [0.223]	-0.234 [0.225]	0.456 [0.256]	*
Poor Health		0.002 [0.162]	-0.006 [0.161]	
Nephew/Niece			-0.472 [0.044]	***
Grandchild			-0.082 [0.350]	
Brother/Sister			-0.419 [0.024]	***
Stepchild			-0.508 [0.052]	***
Number of observations	57	57	57	
Pseudo R-squared	0.33	0.33	0.37	

**Notes:** Regressions include household fixed effects. Robust standar errors, clustered at the household level, in brackets.

\*Significance at 10% level. \*\*Significance at 5% level. \*\*\*Significance at 1% level.

Controlling for relationship and health status, orphan status increases the likelihood the child ends up on the street. Most interestingly, though clearly suggestive of selection issues, are the relationship variables. Relative to sons/daughters (the omitted category in these regressions), step-children, nephews/nieces and brothers/sister's are less likely to end up on the street. We interpret this finding as suggestive of the possibility that a child is unlikely to end-up living with an extended family unless this family is likely to "keep" him. The results of the probit regression analysis shown in Table 6 confirm these results<sup>x</sup>.

## 5. CONCLUSIONS

Our analysis highlights several interesting features of the role of family structure on the street-connected children phenomenon.

Contrary to common belief, income is not a main determinant of the street-connected children phenomenon as most families in this setting live below the poverty line. Looking at both set of regressions (i.e. those at household level, assessing the probability a family originates street-connected children, and those at the individual child level, assessing the characteristics of a child within a street family that make him more likely to end up on the street) the following elements emerged: the health status of the male head of the household plays a fundamental role in determining the probability of the street outcome. Moreover the extended family net matters. A higher number of husband's sisters and the presence of maternal grandparents reduce the probability of originating street-connected children. Finally a younger composition of children in the household, a lower presence of orphans as well as a higher share of girls in the household are all associated with a lower probability of the street-connected children outcome. In addition, the role of the child within the family matters: nephews, stepchildren and household heads' siblings are less likely to end up on the street compared to natural son and daughters, thus indicating that when an extended family accepts nephews and stepchildren, it is because there is the intention to keep and protect them.

Overall these results seem to confirm the importance of the extended family safety net as well as the key role of the female presence in the household in reducing the likelihood that children end up on the street. They suggest that promoting the role of women in the household and supporting

extended family links may represent an important avenue for policies aimed at reducing the risk of street life.

Because street-connectedness could have a long lasting negative impact for the economy through the loss in human capital of prime age individuals, we consider the potential impact of one general type of policy – improving the health of the male head of household. According to our estimates, (see Table 3) having the male head of household in poor health increases the probability that the household produces a street child by 12 percent to 15 percent. Moreover, based on our data, street-connected children tend to have 1.88 to 1.56 fewer years of schooling than children living at home. Using cross-country estimates based on the Barro and Lee data set (see Barro 2001) showing that, all else equal, an additional year of schooling raises the growth rate of an economy by 0.44 percent per year,<sup>xi</sup> times the 1.56 (or 1.88) fewer years of education of a street child, times the range of coefficients for the health of the head of household from Table 1, moving the self-reported health of the household head from poor to good would imply an increase in the growth rate of the economy by 0.08 to 0.12 of a percentage point per year. Although this calculation makes some strong assumptions (e.g. a child living at home is in school), it seems to suggest that policies aimed at improving the health of the male head of household could have meaningful economic benefits not only in the short run but, more importantly, in the long run.

Despite this calculation, we urge some caution in interpreting our results too strongly. In our analysis, we focus on those characteristics that distinguish street-connected children or street families from families that, based on observable characteristics, look quite similar. But, there could be unobservable factors that are correlated with these characteristics and the drive the

likelihood that children end up on the street. Nonetheless, we think these unique data and the characteristics they point to as predictors of street-connectedness identify important areas for future research. Specifically, we envisage two major research directions -- one testing the robustness of our methodology and generalizability of our findings to other countries and contexts and the other pilot-testing policies designed on the basis of our findings, such as the impact of dedicated healthcare programs for the male head of the household, on the street-connected children phenomenon.<sup>xii</sup> More generally, this work should highlight the importance of a holistic approach to research aimed at understanding children's connections to the street in addition to their broader familial and social network.

## APPENDIX 1

The largest set of variables exploited in our multivariate analysis comes from the extended families survey. The survey is divided into four sections organized as follows:

- The first section aims to provide a detailed overview of the family's structure in terms of the number of household members, their role with respect to the head of the household as well as their characteristics in terms of education, employment and, for those members who are less than 18 years old, their orphan status. The questionnaire also provides information related households that have inter-and/or intra-generational links with the head of the household. In particular, the structure of the questionnaire enabled us to collect information on the number of links, their strength and geographical proximity as well as their possible differences due to gender bias and to the distinction between relatives on the wife's side versus the husband's side.
- The second section focuses on health by looking at individual members' illnesses over the past year and their possible impact on work activity and therefore income generation. This section also includes a specific set of questions on the presence of HIV positive members in the household, on their eventual use of ARV and on deaths due to HIV in the extended family during the past 10 years, which may have contributed to either a direct absorption of HIV orphans by the household at the centre of the analysis or by the extended family, as well as an adverse effect on income through the loss of a breadwinner.
- The third section focuses on the external support for those orphans taken in by the surveyed families. We investigate the type and the provider of support offered, as well as the adequateness of the support relative to the actual needs. Similar questions were posed to families with chronically ill members.
- The fourth and last section focuses on the household's economic situation. We assess the household's main sources of income, the types of job held, the amount of income received and its periodicity. We further assess the household's economic situation through information on the number of meals consumed the day before the interview, caloric intake during the past week and the average number of days spent without eating during a typical week over the past month. We also study the role of credit on the extended family's situation by asking whether the household has received any loans during the past year, from whom and for what purpose. We ask an analogous set of questions in the context of household lending over the past year. Finally, this section considers shocks faced by the household over the past year such as theft, business failures or deaths in the family and their role on household wellbeing.

2008 SITUATION ANALYSIS OF  
EXTENDED FAMILIES' SAFETY NETS IN NDOLA, ZAMBIA

TOWN: _____	
LOCATION (compound): _____	
DATE: _____	
TIME STARTED INTERVIEW: _____	TIME ENDED INTERVIEW: _____
INTERVIEWER'S NAME: _____	
HOUSEHOLD CODE: _____	RESPONDENT NAME: _____

Hello my name is \_\_\_\_\_ I am working with the Rainbow office, collecting information about your household and the people who usually live with you. The information is to help us get a better idea about the socio-economic situation in your area. **Any information you share is completely confidential and your name or names of household members will not be shared with anyone or attached to information you give.** Please may I proceed with the interview? IF YES, CONTINUE.

INTERVIEWER SIGN HERE TO ACKNOWLEDGE THAT CONSENT WAS GIVEN

\_\_\_\_\_ Date \_\_\_\_\_.

**INSTRUCTIONS:**

ALL QUESTIONS SHOULD BE ANSWERED BY THE HEAD OF THE HOUSEHOLD.  
ANSWERS GIVEN BY THE RESPONDENTS HAVE TO BE WRITTEN IN THE BOX PROVIDED.  
ALL THE INFORMATION IS CONSIDERED STRICTLY CONFIDENTIAL AND WILL BE TREATED AS SUCH.

**SECTION 1: FAMILY'S GENERAL OVERVIEW**

**Table 1.1 – Household members' main characteristics**

Name of each household member (Please give me the names of persons who usually live in your household)	F110. Relationship to the head of household: (see list below)	F111. Sex?	F112. Does (name) usually sleep here? 1.Yes 2.No	F113. Age of each household member? (Years)	PARENTAL SURVIVORSHIP AND RESIDENCE FOR MEMBERS LESS THAN 18 YEARS OLD				F118. What is the level of education of each household member?  (specify the last completed grade. Write 0 if never gone to school)	F119. What is the employment status of each household member? 1. Employed 2. Unemployed 4. Retired 4. Self employed 5. Don't know 6. Not Applicable	CHILDREN'S ACTIVITIES		
					F114. Is [NAME's] natural or "birth" mother alive? 1.Yes 2.No	F115. If Yes, does she live in this household? 1.Yes 2.No	F116. Is [NAME's] natural father alive? 1.Yes 2.No	F117. If Yes, does he live in this household? 1.Yes 2.No			F120. What each child in the household does as main activity? 1.Go To School 2.Work on the street 4.Other,(specify)	F120A. During the past week, on a school day, did (child's name) helped with one or more of the activities listed below?	F120B. Has any of these activities prevented the child from going to school? 1.Yes 2.No
1													
2													
3													
4													
5													
6													
7													
8													
9													

**CODES FOR RELATIONSHIP TO HEAD OF HOUSEHOLD**

- |                                  |                      |                               |
|----------------------------------|----------------------|-------------------------------|
| 1= HEAD                          | 5= GRANDCHILD        | 10= OTHER RELATIVE            |
| 2= WIFE / HUSBAND                | 6= PARENT            | 11= ADOPTED/FOSTER/STEP CHILD |
| 3= SON / DAUGHTER                | 7= PARENT-IN-LAW     | 12= NOT RELATED               |
| 4= SON-IN-LAW OR DAUGHTER-IN-LAW | 8= BROTHER OR SISTER | 0= DON'T KNOW                 |

**LIST OF ACTIVITIES (F120A):**

- |  |                             |                           |           |         |
|--|-----------------------------|---------------------------|-----------|---------|
| 1=SHOPPING, CLEANING, COLLECTING WATER | 2=CARING FOR OTHER CHILDREN | 3=CARING FOR OTHER ADULTS | 4=DO IGAs | 5=OTHER |
|--|-----------------------------|---------------------------|-----------|---------|

**Table 1.2 – Extended family links (= OUTSIDE the household)**

Nr.	SIBLINGS				PARENTS (if applicable)			CHILDREN (if applicable)			
	F121. Could you please list the names of your siblings (and those of your spouse, if applicable)	F122. Male or Female?	F123. Where do they live? 1. In this compound 2. In Ndola but different compound 3. In another town 4. In another country	F124. Do you usually help each other in times of need? 1. Yes, always. 2. Sometimes 3. Never	F125A. Are your parents alive? 1. Yes both 2. Mother only 3. Father only  F125B. Are your parents in law alive? 1. Yes both 2. Mother in law only 3. Father in law only	F126. Where do they live? 1. In this compound 2. In Ndola but different compound 3. In another town 4. In another country	F127. Do you usually help each other in times of need? 1. Yes, always 2. Sometimes 3. Never	F128. Could you please list the names of your children, living in their own household?	F129. Male or Female ?	F130. Where do they live? 1. In this compound 2. In Ndola but different compound 3. In another town 4. In another country	F131. Do you usually help each other in times of need? 1. Yes, always 2. Sometimes 3. Never
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

**SECTION 2: HOUSEHOLD MEMBERS' HEALTH AND HEALTHCARE**

**Table 2.1 – Illnesses and care practices**

Name of each household member	F210. In general, how would you rate (name's) health over the past year?  1. Excellent 2. Good 3. Fair 4. Poor	F211. Has (name) been sick during the last month?  1. Yes 2. No (go to F213)	F212. What main illness did (name) suffer from in the last month?  (See list below)	F213. Has (name) been sick for more than one month in the past year?  1. Yes 2. No (go to F215)	F214. What main illness did (name) suffer from in the past year?  (See list below)	F215. During (name) last illness, did he/she have to stop normal activities?  1. Yes 2. No	F216. Did anyone else have to stop activities to care for (name) during his/her last illness?  1. Yes 2. No
1							
2							
3							
4							
5							
6							
7							
8							
9							

**List of the main illnesses:**

- 1=Malaria (tested?)
- 2=Chest pain
- 3=TB
- 4=Asthma
- 5=Bronchitis/Sore throat
- 6=Diarrhea
- 7=Abdominal pains
- 8=Anemia
- 9= Dark patches on skin
- 10=Other Skin infection
- 11=Shingles
- 12=Pneumonia

- 13=AIDS
- 14=High blood pressure
- 15=Diabetes
- 16=Eye infection
- 17=Ear infection
- 18=Mouth infection
- 19=Cough
- 20=Vomiting
- 21=Athrits/Rheumatism
- 22=Fever
- 23=headache
- 24=Other (specify)
- 25=Do not know

**Table 2.2 – HIV/AIDS**

NO	QUESTIONS	ANSWER CODE
F220	Is one or more member of the household living with HIV/AIDS? 1. Yes 2. No (go to Q334)	
F221	How many members of the household live with HIV/AIDS?	
F222	Are members living with HIV/AIDS on ARV? 1. Yes 2. No (go to 334)	
F223	If yes, how many are on ARV?	
F224	Has one or more household member died due to HIV/AIDS in the past 10 years? 1. Yes 2. No	
F225	Has the household absorbed children from other households because caregivers or others died of HIV/AIDS? 1. Yes (Specify the number) 2. No	
F226	Has the household absorbed adults from other households because caregivers or others died of HIV/AIDS? 1. Yes (Specify the number) 2. No	
F227	Has the household ever lost financial support due to the death of a person who provided money/food etc? 1. Yes 2. No	

**SECTION 3: EXTERNAL SUPPORT**

**Table 3.1 – Support for orphans and chronically ill household members**

<b>NO</b>	<b>ORPHANS</b>	<b>ANSWER CODE</b>
F310	Are there any orphaned children in this household? 1.Yes                      2.No (go to F455)	
F311	In the past year have you received any external support to care for orphans? 1.Yes 2.No	
F312	If yes, what kind of support did you receive? 1.medical (supplies of medicines)    2.counselling/psychological support    3.material (food, clothing)    4.financial (loans) 5. school costs    6. Other	
F313	Who provides the support? 1.CBOs    2.Local church    3.NGO    4.Government    5.Village head    6.Other	
F314	Is the support adequate to meet the needs? 1. Yes    2. No	
<b>NO</b>	<b>CHRONICALLY ILL MEMBERS</b>	<b>ANSWER CODE</b>
F315	Are there any adults in this household who have been sick for more than 1 month out of the past year? 1.Yes                      2.No (go to table 4.6)	
F316	In the past year have you received any external support to care for sick adults? 1.Yes 2.No	
F317	If yes, what kind of support did you receive? 1.medical (supplies of medicines)    2.counselling/psychological support    3.material (food, clothing)    4.financial (loans) 5. Other	
F318	Who provides the support? 1.CBOs    2.Local church    3.NGO    4.Government    5.Village head    6.Other	
F319	Is the support adequate to meet the needs? 1. Yes    2. No	

**SECTION 4: HOUSEHOLD'S ECONOMIC SITUATION**

**Table 4.1 – Sources of income**

Item nr.	In the past 12 months, did your household or anyone in your household obtain income or support from any of the following sources?	Item nr.	F410.Received by household? 1.Yes 2.No	F411. What amount in Zambian Kwacha and per what period? 0.Day 1.Week 2.Month 3. Year		F412. In the past year, how many (days/weeks/months) did your household earn this income?
				Amount	Period	
1	Paid job with an organization (salaries, wages, etc)	1				
2	Profit from rental property of your own	2				
3	Domestic service in someone else's house	3				
4	Self-employment (selling things, doing repairs etc)	4				
5	Payment for work on a commercial farm	5				
6	Selling your own agricultural products	6				
7	Grants from government	7				
8	Remittances from family employed elsewhere	8				
9	Gift from family/friends/others	9				
10	Loan from family/friend/other	10				
11	Grants from NGO, CBO or religious organization	11				
12	Loan from NGO, CBO or religious organization	12				
13	Loan from a bank or other financial institutions	13				
14	Sale of assets (livestock, land)	14				
15	Any other source (specify)	15				

**Table 4.2 – Nutritional status of the household**

<b>NO</b>		<b>ANSWER CODE</b>
F420	How many meals did this household take <b>yesterday</b> ? 0.No meals                      1.One meal 2.Two meals                      3. Three meals                      4. Four meals	
F421	In the <b>past week</b> did you eat meat or fish or chicken meals?	
F422	Over the past month, on a typical week, how many days did your household not have enough food to eat? 0.None, enough food all days                      1.One day                      2. Two days                      3.Three days 4. Four days                      5. Five days                      6. Six days                      7. Seven days                      8. More than seven	

**Table 4.3 – Credit**

<b>NO</b>	<b>RECEIVED</b>	<b>ANSWER CODE</b>
F430	Has anyone in the household borrowed money in the past year? 1.Yes                      2.No (go to F446)	
F431	Where was the largest loan from? 1.relative (specify)   2.neighbor   3.money lender   4.employer   5.religious group   6.NGO   7.Other (specify)	
F432	What was the reason for obtaining the loan? 1.to buy land   2.to buy farming inputs   3.to buy food   4.pay for healthcare   5.schooling   6.business   7.Other	
<b>NO</b>	<b>GIVEN</b>	<b>ANSWER CODE</b>
F433	Has anyone in the household lent money in the past year? 1.Yes                      2.No (go to table 5.5)	
F434	Who was the money lent to? 1.relative (specify)   2.neighbor   3.friend   4.Other (specify)	
F435	What was the reason for giving the loan? 1.to buy land   2.to buy farming inputs   3.to buy food   4.pay for healthcare   5.schooling   6.business   7.Other	

**Table 4.4– Shocks in the household**

Item Nr	Item category	F440. Over the past year, has your household experienced any of these events? 1. Yes 2. No	F441. If yes, did this result in a loss of income or assets? 1. Yes 2. No	F442. Did this result in any children having to leave school for more than one week? 1. Yes 2. No	F443. Did this result in a reduction of the number of meals per day? 1. Yes 2. No
1	Household business failure				
2	Loss of salaried employment				
3	End of regular assistance, aid or remittances from outside				
4	Large rise in price of food				
5	Illness or accident of household member				
6	Birth in household				
7	Death in household				
8	Death of working member household				
9	Theft				
10	Damage to house				
11	Lower crop yields due to drought or floods				
12	Crop disease or crop pests				
13	Livestock died or stolen				
14	Marriage				
15	Other (specify)				

## APPENDIX 2

### INDIVIDUAL CHILD SURVEY 2008

TOWN: _____	
LOCATION (compound): _____	
DATE:	
TIME STARTED INTERVIEW: _____	TIME ENDED INTERVIEW: _____
INTERVIEWER'S NAME: _____	
CHILD CODE: _____	RESPONDENT NAME: _____

Hello, My name is \_\_\_\_\_ and I am collecting information on children status in Ndola in collaboration with the Rainbow Office and the Cicetekelo Youth Project. I would like to ask some questions about you and your family of origin, the life on the street, your education, your health and your sexual behaviour.

**Please be assured that this discussion is strictly confidential and that the information you provide is all completely private and anonymous and cannot be linked to you.**

May I continue?

*INTERVIEWER SIGN HERE TO ACKNOWLEDGE THAT CONSENT WAS GIVEN*

\_\_\_\_\_  
*Date* \_\_\_\_\_.

**INSTRUCTIONS:**

**ALL QUESTIONS SHOULD BE ANSWERED BY THE CHILD.**

**ANSWERS GIVEN BY THE RESPONDENTS HAVE TO BE WRITTEN IN THE BOX PROVIDED.**

**ALL THE INFORMATION IS CONSIDERED STRICTLY CONFIDENTIAL AND WILL BE TREATED AS SUCH.**

**Table 1.1 – General Information**

NO	QUESTIONS	ANSWE R CODE
C11 0	SEX 1. Male 2. Female	
C11 1	How old are you?	
C11 2	Where were you born? 1. In this town in Zambia 2. In another town in Zambia 3. In a village in Zambia 4. In another country (Name of Country.....) 5. Don't know	
C11 3	How long have you been living in this town?	

**Table 1.2 - Orphan Status**

NO	QUESTIONS	ANSWE R CODE
C120	Are both of your parents alive? 1. Yes (go to Q124) 2. No	
C121	if <b>NO</b> , is it your father or mother that has died? 1. Father 2. Mother 3. Both	
C122	Do you know what caused the death of your Parent(s) 1. Yes 2. NO 3. Don't know	
C123	If YES, could you specify what caused the death of your Parent(s) _____	
C124	How many brothers/sisters do you have? (number and age)	
C125	What does each one of them do? 1. Go To School 2. Work 3. Other (specify)	
C126	Are your grandparents alive? 1. Yes, all 2.No, all 3. maternal grandmother only 4. maternal grandfather only 5. paternal grandmother only 6. paternal grandfather only 7. maternal grandparents only 8. paternal grandparents only 9. don't know	
C127	Who do you live with in this town? 1. alone 2. with both parents 3. with mother only 4. with father only 5. with maternal grandmother 6. with maternal grandfather 7. with paternal grandmother 8. with paternal grandfather 9. with maternal grandparents 10. with paternal grandparents 11. with siblings 12. with uncles/aunts 13. Other (specify)	

C128	Where do you sleep? 1. At home with parents 2. At home with grandparents 3. At home with uncles/aunts 4. At the centre 5. On the street 6. Other (specify)	
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**Table 1.3 Life on the street**

NO.	QUESTIONS	ANSWER CODE
C130	Why do/did you go on the streets? 1. Sent by parents 2. To earn money 3. To meet friends 4. Abuse at home 5. Poverty 6. Other (specify)	
C131	How long have you been going on the streets?	
C132	How often do/did you go on the streets? 1. Everyday full time 2. Everyday part time 3. Weekends full time 4. Weekends part time 5. Other (specify)	
C133	What type of activities do/did you engage in while on the streets? MULTIPLE RESPONSE 1. Selling 2. Delivering goods 3. Washing cars 4. Begging 5. Playing 6. Sex 7. Other (specify)_____	
C134	How much do/did you get per day from these activities on the streets? _____	
C135	What do/did you do with the money that you earn on the streets? 1. Spend it immediately 2. Give it to parents/guardians 3. Deposit in the bank 4. Share with friends 5. Food 6. Clothes 7. Education 8. Entertainment 9. Other (specify)	
C136	Who introduced you to the activities you engage(d) in on the streets? 1. Parents 2. Guardian 3. Friends 4. Other (specify)_____	

**Table 1.4 – Educational Status**

NO	QUESTIONS	ANSWER CODE
C140	Did you attend school while you were on the street? 1. Yes 2. No 3. Sometimes	
C141	Do you attend school now? 1. Yes 2. No	
C142	What Grade are you in?	

C143	If you are not in school what is the last Grade that you completed? 0. Never been to school 1. Specify grade	
C144	Can you read any written material, such as a letter or newspaper? 1. Yes 2. No	
C145	If you have never been to school or dropped out, could you explain why you left school? _____	

**Table 1.5 - Health and healthcare**

NO	QUESTIONS	ANSWE R CODE
C15 0	What common health problems do you experience? _____	
C15 1	In general, how would you rate your health over the past year? 1. Excellent 2. Good 3. Fair 4. Poor	
C15 2	Have you been sick during the last month? 1. Yes 2. No	
C15 3	If yes, what are the two most important illnesses or symptoms you suffered from in the last month? (see list below)	
C15 4	Have you been ill for most than 1 month in the past year? 1. Yes 2. No	
C15 5	If yes, what did you suffered from in the past year? (see list below)	
C15 6	Have you visited any health centers during your last illness? 1. Yes 2. No	
C15 7	If YES, where do you go? 0. Government Hospital 1. Private Health Facility 2. Local dispensary 4. Traditional healer 5. Other (specify)	
C15 8	If NO, why? 0. No time 1. No money 2. No transport 3. Illness not serious 4. Other (specify)	

**List of the main illnesses:**

1=Malaria (tested?)  
2=Chest pain  
3=TB  
4=Asthma  
5=Bronchitis/Sore throat  
6=Diarrhea

7=Abdominal pains  
8=Anemia  
9= Dark patches on skin  
10=Other Skin infection  
11=Shingles  
12=Pneumonia  
13=AIDS

14=High blood pressure  
15=Diabetes  
16=Eye infection  
17=Ear infection  
18=Mouth infection  
19=Cough  
20=Vomiting

21=Athritus/Rheumatism  
22=Fever  
23=headache  
24=Other (specify)  
25=Do not know



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*reference point, playing a significant role in their everyday lives and identities*'. As implied by the term, our study includes both children currently living on the street and children who once lived on the street and still have strong connections to the street even if they may sleep elsewhere.

<sup>ii</sup> The percentages are calculated using CIA World Factbook estimates of the Zambian population of children ages 0 to 14 of 3.9 million and 4.8 million in 1991 and 2004, respectively.

<sup>iii</sup> The other two situational analyses, conducted in 1999 and 2004 by UNICEF, USAID and GRZ, tackle the issue of street children only as part of the wider problem of orphans and vulnerable children in Zambia.

<sup>iv</sup> An informed consent to the collection of personal information about the children was conducted and obtained from either the family of origin or the guardian (when available) or by the responsible member of the organization taking care of the children.

<sup>v</sup> Approaching children on the street and their families of origin required investing a fair amount of time to establish a relationship of mutual trust with the respondents by adapting to the unwritten rules of the slums as well as partially and temporarily sharing life conditions and cultural habits. In this sense, the relationships already established by our hosting NGO allowed us to conduct the fieldwork in areas that are normally considered off-limits to non-locals.

<sup>vi</sup> Note that household heads could be male or female. In all cases, however, based on local customs, spouses were female. In other words, females were coded as head of household only in cases where a male was not present in the home, otherwise the male is usually considered to be the head of household.

<sup>vii</sup> Results on questions related to street life (e.g. reasons for taking to the street) are conditional on reporting having lived on the street for at least one week.

<sup>viii</sup> Other non-death related shocks include: loss of remittances, increases in food price, birth in the household, illness or accident to a household member, theft, house damage, crop loss, death of livestock, marriage.

<sup>ix</sup> The latter result needs to be interpreted with caution given that we only had one girl on the street. From what we could observe during the field research, boys and girls living on the street tend to stay separated and the former are more visible than the latter. This does not mean that girls are less likely to end up in the streets but rather that they end up in a different way (e.g. prostitution) to the streets and therefore, being this a different phenomenon, this was not captured by the type of research approach used in the paper. Moreover, there is also some stigma attached to the idea of a girl ending up on the street. Families tend to admit more easily if a son is living on the street (that can mean he engages in lots of different activities) rather than admitting that a girl lives on the street (which tends to be immediately associated with the idea of prostitution).

<sup>x</sup> The Probit regressions in Table 6 are based on 57 observations as the only female in the sample (and the associated observations) is dropped because the outcome is perfectly predicted.

<sup>xi</sup> Barro (2001) actually provides a range of estimates, from 0.23 to 0.84 of a percentage point per year, for the effect of schooling on growth. The upper bound of this range is obtained for the sample of poor-countries. Because Barro (2001) discusses 0.44 as a benchmark estimate, we use it as the basis for our back-of-the-envelope calculation.

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<sup>xii</sup> In terms of follow up actions, we plan to disseminate the results of this research to the children attending the shelter and that have been part of the individual survey. Further activities will be discussed with the hosting NGO for a deeper involvement of the children in the results of our research through specific group activities and games that can help children to reflect and discuss about their family networks. Finally, initiatives with the families of the slums will also be considered, to raise awareness on the importance of family links to avoid the risk of children ending up on the streets.

## References

- Abraham, A., Baland, J-M. and Platteau J-P. (1998) Groupes informels de solidarité dans un bidonville du Tiers-Monde: Le cas de Kibera, Nairobi. *Non-Marchand* (Editions De Boeck Université, Bruxelles), 2, pp. 29-52.
- Ainsworth, M. and Filmer, D. (2006) Inequality in children's schooling: AIDS, orphanhood, poverty, gender. *World Development* 34(6), pp. 1099-1128.
- Barro, R. J. (2001) Education and economic growth, available at <http://www.oecd.org/dataoecd/5/49/1825455.pdf>
- Beegle, K., De Weerdt, J. and Dercon, S. (2006) Adult mortality and consumption growth in the age of HIV/AIDS. World Bank Policy Research Paper vol. 4082.
- Case, A. and Ardington, C. (2006). The impact of parental death on school enrollment and achievement: longitudinal evidence from South Africa. *Demography* 43(3), pp. 401-420.
- Case, A., Paxson, C. and Ableidinger, J. (2004) Orphans in Africa: parental death, poverty, and school enrollment. *Demography* 41(3), pp. 483–508.
- Conticini, A. and Hulme, D. (2007). Escaping violence, seeking freedom. Why children in Bangladesh migrate to the street. *Development and Change* 38(2): pp. 201–227.

- 
- De Walque, D. (2006). Who gets AIDS and how? The determinants of HIV infection and sexual behaviour in Burkina Faso, Cameroon, Ghana, Kenya and Tanzania. World Bank Policy Research Working Paper, vol. 3844.
- Iorio, D. and Santaaulàlia-Llopis, R. (2011). Education, HIV status and risky sexual behaviour: How much does the stage of the HIV epidemic matter? “ Manuscript, Washington University in St. Louis. <http://rsantaaulalia.wustl.edu/pdfs/DHS14.pdf>
- Evans, D. (2005). The spillover Impacts of Africa’s Orphan Crisis. Mimeo.
- Evans, D. and Miguel, E. (2007) Orphans and schooling in Africa: A longitudinal analysis. *Demography* 44(1), pp. 35-57.
- Fortson J. G. (2008). The gradient in Sub-Saharan Africa: socioeconomic status and HIV/AIDS, *Demography*, 45(2), pp. 303-3232
- Foster, G. (2000). The capacity of the extended family safety net for orphans in Africa. *Psychology, Health and Medicine* 5(1), pp. 55-62.
- GRZ (1999). Orphans and Vulnerable Children: A situation analysis. Joint USAID, UNICEF, SIDA Study Fund Project, Lusaka ([http://pdf.usaid.gov/pdf\\_docs/PNACJ999.pdf](http://pdf.usaid.gov/pdf_docs/PNACJ999.pdf))
- Ksoll, C. (2007) Family networks and Orphan Caretaking in Tanzania. *Oxford University Discussion Paper Series*, No. 361.
- La Ferrara, E. (2002) Self help groups and income generations in the informal settlements of Nairobi. *Journal of African Economies* 11(1), pp. 61-89.
- Lungwangwa, G. and Macwan’gi, M. (1996). Street children in Zambia – a situation analysis. UNICEF, Lusaka.
- Ministry of Community Development and Social Services et al. (2006). Report on survey and

---

analysis of the situation of street children in Zambia. Supported by UNICEF, PCI and RAPIDS.

Ministry of Sport, Youth and Child Development (2004). Orphans and vulnerable children in Zambia – a situational analysis. Supported by USAID, UNICEF, SIDA and FHI, Lusaka.

Naidu, V. and G. Harris (2005). The Impact of HIV/AIDS morbidity and mortality on households: A review of household studies. *South African Journal of Economics* 73(s1), pp. 533-544.

Ncube, N. (2008). Progress Report for Zambia: People's Process on Housing and Poverty in Zambia. Slum Dwellers International (SDI), Lusaka.

Project Concern International Zambia (2002). Rapid Assessment of Street Children in Zambia. Supported by UNICEF Zambia, Netaid and The West Foundation.

Rodgers, D. (1999) Youth gangs and violence in Latin America and the Caribbean: a literature survey. *LCR Sustainable Development Working Paper No 4*. The World Bank, Washington DC.

Tacon, P. and Lungwangwa, G. (1991) Street children in Zambia. Institute for African Studies. University of Zambia, Lusaka.

UNAIDS, UNICEF, and USAID (2006). Africa's Orphaned and Vulnerable Generations. Children Affected by AIDS. UNICEF, New York.

([http://www.unicef.org/publications/index\\_35645.html](http://www.unicef.org/publications/index_35645.html))

UNAIDS, UNICEF, and USAID (2004). Children on the Brink 2004. A Joint Report of New Orphan Estimates and a Framework for Action. UNICEF, New York.

([http://data.unaids.org/publications/External-Documents/unicef\\_childrenonthebrink2004\\_en.pdf](http://data.unaids.org/publications/External-Documents/unicef_childrenonthebrink2004_en.pdf))

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UNICEF (2000). Poverty reduction begins with children. UNICEF, New York.

([http://www.unicef.org/publications/files/pub\\_poverty\\_reduction\\_en.pdf](http://www.unicef.org/publications/files/pub_poverty_reduction_en.pdf))

Yamano, T. and Jayne, T. S. (2005) Working-age adult mortality and primary school attendance in rural Kenya. *Economic Development and Cultural Change*, 53(3), pp. 619-653.

## ONLINE APPENDIX 1

The largest set of variables exploited in our multivariate analysis comes from the extended families survey. The survey is divided into four sections organised as follows:

- The first section aims to provide a detailed overview of the family's structure in terms of the number of household members, their role with respect to the head of the household as well as their characteristics in terms of education, employment and, for those members who are less than 18 years old, their orphan status. The questionnaire also provides information related households that have inter and/or intra-generational links with the head of the household. In particular, the structure of the questionnaire enabled us to collect information on the number of links, their strength and geographical proximity as well as their possible differences due to gender bias and to the distinction between relatives on the wife's side versus the husband's side.
- The second section focuses on health by looking at individual members' illnesses over the past year and their possible impact on work activity and therefore income generation. This section also includes a specific set of questions on the presence of HIV positive members in the household, on their eventual use of ARV(anti-retro viral drugs) and on deaths due to HIV in the extended family during the past 10 years which may have contributed to either a direct absorption of HIV orphans by the household at the centre of the analysis or by the extended family, as well as an adverse effect on income through the loss of a breadwinner.
- The third section focuses on the external support for those orphans taken in by the surveyed families. We investigate the type and the provider of support offered, as well as the adequateness of the support relative to the actual needs. Similar questions were posed to families with chronically ill members.
- The fourth and last section focuses on the household's economic situation. We assess the household's main sources of income, the types of job held, the amount of income received and its periodicity. We further assess the household's economic situation the rough information on the number of meals consumed the day before the interview, calorific intake during the past week and the average number of days spent without eating during a typical week over the past month. We also study the role of credit on the extended family's situation by asking whether the household has received any loans during the past year, from whom and for what purpose. We ask an analogous set of questions in the context of household lending over the past year. Finally, this section considers shocks faced by their effects on household wellbeing.



2008 SITUATION ANALYSIS OF  
EXTENDED FAMILIES' SAFETY NETS IN NDOLA, ZAMBIA

TOWN: _____	
LOCATION (compound): _____	
DATE: _____	
TIME STARTED INTERVIEW: _____	TIME ENDED INTERVIEW: _____
INTERVIEWER'S NAME: _____	
HOUSEHOLD CODE: _____	RESPONDENT NAME: _____

*Hello my name is \_\_\_\_\_ I am working with the Rainbow office, collecting information about your household and the people who usually live with you. The information is to help us get a better idea about the socio-economic situation in your area. **Any information you share is completely confidential and your name or names of household members will not be shared with anyone or attached to information you give.** Please may I proceed with the interview? IF YES, CONTINUE.*

*INTERVIEWER SIGN HERE TO ACKNOWLEDGE THAT CONSENT WAS GIVEN*

\_\_\_\_\_ *Date* \_\_\_\_\_.

**INSTRUCTIONS:**

**ALL QUESTIONS SHOULD BE ANSWERED BY THE HEAD OF THE HOUSEHOLD.  
ANSWERS GIVEN BY THE RESPONDENTS HAVE TO BE WRITTEN IN THE BOX PROVIDED.  
ALL THE INFORMATION IS CONSIDERED STRICTLY CONFIDENTIAL AND WILL BE TREATED AS SUCH.**

**SECTION 1: FAMILY'S GENERAL OVERVIEW**

**Table 1.1 – Household members' main characteristics**

Name of each household member (Please give me the names of persons who usually live in your household)	F110. Relationship to the head of household: (see list below)	F111. Sex?	F112. Does (name) usually sleep here? 1.Yes 2.No	F113. Age of each household member? (Years)	PARENTAL SURVIVORSHIP AND RESIDENCE FOR MEMBERS LESS THAN 18 YEARS OLD				F118. What is the level of education of each household member?  (specify the last completed grade. Write 0 if never gone to school)	F119. What is the employment status of each household member?  1. Employed 2. Unemployed 4. Retired 4. Self employed 5. Don't know 6. Not Applicable	CHILDREN'S ACTIVITIES		
					F114. Is [NAME's] natural or "birth" mother alive?  1.Yes 2.No	F115. If Yes, does she live in this household?  1.Yes 2.No	F116. Is [NAME's] natural father alive?  1.Yes 2.No	F117. If Yes, does he live in this household?  1.Yes 2.No			F120. What child in the household does as main activity?  1.Go To School 2.Work 3. Stay on the street 4.Other,(specify)	F120A. During the past week, on a school day, did (child's name) helped with one ore more of the activities listed below?	F120B. Has any of these activities prevented the child from going to school?  1.Yes 2.No
1													
2													
3													
4													
5													
6													
7													
8													
9													

**CODES FOR RELATIONSHIP TO HEAD OF HOUSEHOLD**

- |                                  |                      |                               |
|----------------------------------|----------------------|-------------------------------|
| 1= HEAD                          | 5= GRANDCHILD        | 10= OTHER RELATIVE            |
| 2= WIFE / HUSBAND                | 6= PARENT            | 11= ADOPTED/FOSTER/STEP CHILD |
| 3= SON / DAUGHTER                | 7= PARENT-IN-LAW     | 12= NOT RELATED               |
| 4= SON-IN-LAW OR DAUGHTER-IN-LAW | 8= BROTHER OR SISTER | 0= DON'T KNOW                 |

**LIST OF ACTIVITIES (F120A):**

- |  |                             |                          |           |         |
|--|-----------------------------|--------------------------|-----------|---------|
| 1=SHOPPING, CLEANING, COLLECTING WATER | 2=CARING FOR OTHER CHILDREN | 3=CARING FOR OTHER ADULS | 4=DO IGAs | 5=OTHER |
|--|-----------------------------|--------------------------|-----------|---------|



**SECTION 2: HOUSEHOLD MEMBERS' HEALTH AND HEALTHCARE**

**Table 2.1 – Illnesses and care practices**

Name of each household member	F210. In general, how would you rate (name's) health over the past year?  1. Excellent 2. Good 3. Fair 4. Poor	F211. Has (name) been sick during the last month?  1. Yes 2. No (go to F213)	F212. What main illness did (name) suffer from in the last month?  (See list below)	F213. Has (name) been sick for more than one month in the past year?  1. Yes 2. No (go to F215)	F214. What main illness did (name) suffer from in the past year?  (See list below)	F215. During (name) last illness, did he/she have to stop normal activities?  1. Yes 2. No	F216. Did anyone else have to stop activities to care for (name) during his/her last illness?  1. Yes 2. No
1							
2							
3							
4							
5							
6							
7							
8							
9							

**List of the main illnesses:**

- 1=Malaria (tested?)
- 2=Chest pain
- 3=TB
- 4=Asthma
- 5=Bronchitis/Sore throat
- 6=Diarrhea
- 7=Abdominal pains
- 8=Anemia
- 9= Dark patches on skin
- 10=Other Skin infection
- 11=Shingles
- 12=Pneumonia

- 13=AIDS
- 14=High blood pressure
- 15=Diabetes
- 16=Eye infection
- 17=Ear infection
- 18=Mouth infection
- 19=Cough
- 20=Vomiting
- 21=Athrits/Rheumatism
- 22=Fever
- 23=headache
- 24=Other (specify)
- 25=Do not know

**Table 2.2 – HIV/AIDS**

<b>NO</b>	<b>QUESTIONS</b>	<b>ANSWER CODE</b>
F220	Is one or more member of the household living with HIV/AIDS? 1. Yes 2. No (go to Q334)	
F221	How many members of the household live with HIV/AIDS?	
F222	Are members living with HIV/AIDS on ARV? 1. Yes 2. No (go to 334)	
F223	If yes, how many are on ARV?	
F224	Has one or more household member died due to HIV/AIDS in the past 10 years? 1. Yes 2. No	
F225	Has the household absorbed children from other households because caregivers or others died of HIV/AIDS? 1. Yes (Specify the number) 2. No	
F226	Has the household absorbed adults from other households because caregivers or others died of HIV/AIDS? 1. Yes (Specify the number) 2. No	
F227	Has the household ever lost financial support due to the death of a person who provided money/food etc? 1. Yes 2. No	

**SECTION 3: EXTERNAL SUPPORT**

**Table 3.1 – Support for orphans and chronically ill household members**

<b>NO</b>	<b>ORPHANS</b>	<b>ANSWER CODE</b>
F310	Are there any orphaned children in this household? 1.Yes                      2.No (go to F455)	
F311	In the past year have you received any external support to care for orphans? 1.Yes 2.No	
F312	If yes, what kind of support did you receive? 1.medical (supplies of medicines)    2.counselling/psychological support    3.material (food, clothing)    4.financial (loans) 5. school costs    6. Other	
F313	Who provides the support? 1.CBOs    2.Local church    3.NGO    4.Government    5.Village head    6.Other	
F314	Is the support adequate to meet the needs? 1. Yes    2. No	
<b>NO</b>	<b>CHRONICALLY ILL MEMBERS</b>	<b>ANSWER CODE</b>
F315	Are there any adults in this household who have been sick for more than 1 month out of the past year? 1.Yes                      2.No (go to table 4.6)	
F316	In the past year have you received any external support to care for sick adults? 1.Yes 2.No	
F317	If yes, what kind of support did you receive? 1.medical (supplies of medicines)    2.counselling/psychological support    3.material (food, clothing)    4.financial (loans) 5. Other	
F318	Who provides the support? 1.CBOs    2.Local church    3.NGO    4.Government    5.Village head    6.Other	
F319	Is the support adequate to meet the needs? 1. Yes    2. No	

**SECTION 4: HOUSEHOLD'S ECONOMIC SITUATION**

**Table 4.1 – Sources of income**

Item nr.	In the past 12 months, did your household or anyone in your household obtain income or support from any of the following sources?	Item nr.	F410. Received by household? 1. Yes 2. No	F411. What amount in Zambian Kwacha and per what period? 0. Day 1. Week 2. Month 3. Year		F412. In the past year, how many (days/weeks/months) did your household earn this income?
				Amount	Period	
1	Paid job with an organization (salaries, wages, etc)	1				
2	Profit from rental property of your own	2				
3	Domestic service in someone else's house	3				
4	Self-employment (selling things, doing repairs etc)	4				
5	Payment for work on a commercial farm	5				
6	Selling your own agricultural products	6				
7	Grants from government	7				
8	Remittances from family employed elsewhere	8				
9	Gift from family/friends/others	9				
10	Loan from family/friend/other	10				
11	Grants from NGO, CBO or religious organization	11				
12	Loan from NGO, CBO or religious organization	12				
13	Loan from a bank or other financial institutions	13				
14	Sale of assets (livestock, land)	14				
15	Any other source (specify)	15				

**Table 4.2 – Nutritional status of the household**

NO		ANSWER CODE
F420	How many meals did this household take <b>yesterday</b> ? 0.No meals                      1.One meal 2.Two meals                      3. Three meals                      4. Four meals	
F421	In the <b>past week</b> did you eat meat or fish or chicken meals?	
F422	Over the past month, on a typical week, how many days did your household not have enough food to eat? 0.None, enough food all days                      1.One day                      2. Two days                      3.Three days 4. Four days                      5. Five days                      6. Six days                      7. Seven days                      8. More than seven	

**Table 4.3 – Credit**

NO	RECEIVED	ANSWER CODE
F430	Has anyone in the household borrowed money in the past year? 1.Yes                      2.No (go to F446)	
F431	Where was the largest loan from? 1.relative (specify)   2.neighbor   3.money lender   4.employer   5.religious group   6.NGO   7.Other (specify)	
F432	What was the reason for obtaining the loan? 1.to buy land   2.to buy farming inputs   3.to buy food   4.pay for healthcare   5.schooling   6.business   7.Other	
NO	GIVEN	ANSWER CODE
F433	Has anyone in the household lent money in the past year? 1.Yes                      2.No (go to table 5.5)	
F434	Who was the money lent to? 1.relative (specify)   2.neighbor   3.friend   4.Other (specify)	
F435	What was the reason for giving the loan? 1.to buy land   2.to buy farming inputs   3.to buy food   4.pay for healthcare   5.schooling   6.business   7.Other	

**Table 4.4– Shocks in the household**

Item Nr	Item category	F440.Over the past year, has your household experienced any of these events? 1.Yes 2.No	F441. If yes, did this result in a loss of income or assets? 1.Yes 2.No	F442. Did this result in any children having to leave school for more than one week? 1.Yes 2.No	F443. Did this result in a reduction of the number of meals per day? 1.Yes 2.No
1	Household business failure				
2	Loss of salaried employment				
3	End of regular assistance, aid or remittances from outside				
4	Large rise in price of food				
5	Illness or accident of household member				
6	Birth in household				
7	Death in household				
8	Death of working member household				
9	Theft				
10	Damage to house				
11	Lower crop yields due to drought or floods				
12	Crop disease or crop pests				
13	Livestock died or stolen				
14	Marriage				
15	Other (specify)				





## APPENDIX 2

### INDIVIDUAL CHILD SURVEY 2008

TOWN: _____	
LOCATION (compound): _____	
DATE:	
TIME STARTED INTERVIEW:	TIME ENDED INTERVIEW:
INTERVIEWER'S NAME:	
CHILD CODE:	RESPONDENT NAME:

Hello, My name is \_\_\_\_\_ and I am collecting information on children status in Ndola in collaboration with the Rainbow Office and the Cicetekelo Youth Project. I would like to ask some questions about you and your family of origin, the life on the street, your education, your health and your sexual behaviour.

**Please be assured that this discussion is strictly confidential and that the information you provide is all completely private and anonymous and cannot be linked to you.**

May I continue?

*INTERVIEWER SIGN HERE TO ACKNOWLEDGE THAT CONSENT WAS GIVEN*

\_\_\_\_\_ *Date* \_\_\_\_\_.

**INSTRUCTIONS:**

**ALL QUESTIONS SHOULD BE ANSWERED BY THE CHILD.**

**ANSWERS GIVEN BY THE RESPONDENTS HAVE TO BE WRITTEN IN THE BOX PROVIDED.**

**ALL THE INFORMATION IS CONSIDERED STRICTLY CONFIDENTIAL AND WILL BE TREATED AS SUCH.**

**Table 1.1 – General Information**

NO	QUESTIONS	ANSWE R CODE
C11 0	SEX 1. Male 2. Female	
C11 1	How old are you?	
C11 2	Where were you born? 1. In this town in Zambia 2. In another town in Zambia 3. In a village in Zambia 4. In another country (Name of Country.....) 5. Don't know	
C11 3	How long have you been living in this town?	

**Table 1.2 - Orphan Status**

NO	QUESTIONS	ANSWE R CODE
C120	Are both of your parents alive? 1. Yes (go to Q124) 2. No	
C121	if <b>NO</b> , is it your father or mother that has died? 1. Father 2. Mother 3. Both	
C122	Do you know what caused the death of your Parent(s) 1. Yes 2. NO 3. Don't know	
C123	If YES, could you specify what caused the death of your Parent(s) _____	
C124	How many brothers/sisters do you have? (number and age)	
C125	What does each one of them do? 1. Go To School 2. Work 3. Other (specify)	
C126	Are your grandparents alive? 1. Yes, all 2.No, all 3. maternal grandmother only 4. maternal grandfather only 5. paternal grandmother only 6. paternal grandfather only 7. maternal grandparents only 8. paternal grandparents only 9. don't know	
C127	Who do you live with in this town? 1. alone 2. with both parents 3. with mother only 4. with father only 5. with maternal grandmother 6. with maternal grandfather 7. with paternal grandmother 8. with paternal grandfather 9. with maternal grandparents 10. with paternal grandparents 11. with siblings 12. with uncles/aunts 13. Other (specify)	

C128	Where do you sleep? 1. At home with parents 2. At home with grandparents 3. At home with uncles/aunts 4. At the centre 5. On the street 6. Other (specify)	
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**Table 1.3 Life on the street**

NO.	QUESTIONS	ANSWER CODE
C130	Why do/did you go on the streets? 1. Sent by parents 2. To earn money 3. To meet friends 4. Abuse at home 5. Poverty 6. Other (specify)	
C131	How long have you been going on the streets?	
C132	How often do/did you go on the streets? 1. Everyday full time 2. Everyday part time 3. Weekends full time 4. Weekends part time 5. Other (specify)	
C133	What type of activities do/did you engage in while on the streets? MULTIPLE RESPONSE 1. Selling 2. Delivering goods 3. Washing cars 4. Begging 5. Playing 6. Sex 7. Other (specify) _____	
C134	How much do/did you get per day from these activities on the streets? _____	
C135	What do/did you do with the money that you earn on the streets? 1. Spend it immediately 2. Give it to parents/guardians 3. Deposit in the bank 4. Share with friends 5. Food 6. Clothes 7. Education 8. Entertainment 9. Other (specify) _____	
C136	Who introduced you to the activities you engage(d) in on the streets? 1. Parents 2. Guardian 3. Friends 4. Other (specify) _____	

**Table 1.4 – Educational Status**

NO	QUESTIONS	ANSWER CODE
C140	Did you attend school while you were on the street? 1. Yes 2. No 3. Sometimes	
C141	Do you attend school now? 1. Yes 2. No	
C142	What Grade are you in?	

C143	If you are not in school what is the last Grade that you completed? 0. Never been to school 1. Specify grade	
C144	Can you read any written material, such as a letter or newspaper? 1. Yes 2. No	
C145	If you have never been to school or dropped out, could you explain why you left school? _____	

**Table 1.5 - Health and healthcare**

NO	QUESTIONS	ANSWE R CODE
C15 0	What common health problems do you experience? _____	
C15 1	In general, how would you rate your health over the past year? 1. Excellent 2. Good 3. Fair 4. Poor	
C15 2	Have you been sick during the last month? 1. Yes 2. No	
C15 3	If yes, what are the two most important illnesses or symptoms you suffered from in the last month? (see list below)	
C15 4	Have you been ill for most than 1 month in the past year? 1. Yes 2. No	
C15 5	If yes, what did you suffered from in the past year? (see list below)	
C15 6	Have you visited any health centers during your last illness? 1. Yes 2. No	
C15 7	If YES, where do you go? 0. Government Hospital 1. Private Health Facility 2. Local dispensary 4. Traditional healer 5. Other (specify) _____	
C15 8	If NO, why? 0. No time 1. No money 2. No transport 3. Illness not serious 4. Other (specify) _____	

**List of the main illnesses:**

- 1=Malaria (tested?)
- 2=Chest pain
- 3=TB
- 4=Asthma
- 5=Bronchitis/Sore throat
- 6=Diarrhea

- 7=Abdominal pains
- 8=Anemia
- 9= Dark patches on skin
- 10=Other Skin infection
- 11=Shingles
- 12=Pneumonia
- 13=AIDS

- 14=High blood pressure
- 15=Diabetes
- 16=Eye infection
- 17=Ear infection
- 18=Mouth infection
- 19=Cough
- 20=Vomiting

- 21=Athrits/Rheumatism
- 22=Fever
- 23=headache
- 24=Other (specify)
- 25=Do not know

**Table 1.6 – Sexual behaviour**

NO	QUESTIONS	ANSWER CODE
C160	Have you ever had sexual relationships? 1. Yes 2. No (go to 165)	
C161	At what age did you <i>first</i> have sex?	
C162	In the last 12 months with how many people overall have you had sex?	
C163	Do you use condoms when you have sex? 1. Yes 2. No 3. Not applicable	
C164	If NO, why not? _____	
C165	Do you know what HIV/AIDS is? 1. Yes 2. No	
C166	In your view are you at risk of getting HIV/AIDS? 1.Yes 2. No 1. Yes 2. No	
C167	If you think you are at risk of getting HIV/AIDS can you explain why? _____	
C168	What can you do to help prevent of HIV/AIDS? _____	