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CHAPTER 7

Assessing the Welfare of Orphans in Rwanda: Poverty, Work, Schooling, and Health

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One of the aspects of the orphan crisis in Sub-Saharan Africa relates to time use, namely where orphans end up living and what they spend their time doing in their new household of adoption. While some orphans are welcomed in centres and institutions, many live with relatives or other members of their communities, and others are welcomed by families which are not directly related to them. Orphans are in many ways better off when welcomed by relatives or other families than when living by themselves or in institutions, but there are also concerns that the orphans (and especially girls) that are welcomed in some families may be required to provide more help for the domestic tasks to be performed, with the resulting time pressure in terms of workload preventing them from benefitting from the same opportunities in education and other aspects of their development as other children. The objective of this paper is to conduct preliminary work to test this assumption using recent household survey data from Rwanda, with an attention not only to traditional variables of interest such as school enrollment, child labor and time use, but also with an eye to assessing other dimensions of the children's welfare.

While there have been orphans in much of Africa for a long time in part due to a comparatively high incidence of conflicts, AIDS has swelled their number in many countries. According to a communiqué by UNICEF and UNAIDS (2003), the share orphans in Africa specifically due to HIV/AIDS has increased from 3.5 percent in 1990 to 32 percent in 2001. By 2010, the two agencies estimate that some 20 million

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African children will have lost one or both parents to AIDS. According to UNICEF's Executive Director Carol Bellamy, "the crisis of orphans and other children made vulnerable by HIV/AIDS is massive, growing and long-term. But two-thirds of countries hard-hit by the disease do not have strategies to ensure the children affected grow up with even the bare minimum of protection and care."

Because of the legacy of the Genocide, the situation of orphans is perhaps more dramatic in Rwanda than in other countries. Even as the country has emerged out of conflict, the AIDS pandemic has begun to take a heavy toll of human lives, contributing significantly to adult mortality. How serious is the problem of orphans in Rwanda? Is it threatening the traditionally strong care-giving capacity of households and communities? Are orphans placed in fostering households well-protected, for example in terms of what is required to them for domestic work? Will the crisis of orphans in Rwanda threaten the attainment of human development goals especially the goals set for education, nutrition and poverty reduction? Finally, what is the role of public action to mitigate the crisis of orphans? While qualitative work has been done on the situation of orphans in Rwanda (Dona 2003), good quantitative evidence is still lacking to assess the situation. This paper aims to start to fill the gaps by providing partial answers to the above questions. These questions, in turn, are important for the broader purpose of this volume devoted to gender, time use, and poverty, because of the differences in the treatment of orphan girls and boys especially as it relates to time use, for example in the area of domestic work.

There are several reasons why orphans constitute an important development issue in Africa, and especially in Rwanda. We outline four such reasons here. First, the sheer numbers and the size of the problem threatens the traditional care-giving capacity of communities and households, in part because of the pressure that care-giving puts on the time available for other productive activities. This is already evident from both quantitative studies based on longitudinal data sets for Uganda (Deininger, Garcia, and Subbarao, 2003), and from a number of qualitative studies or situation analyses for various countries documented in Subbarao and Coury (2003).

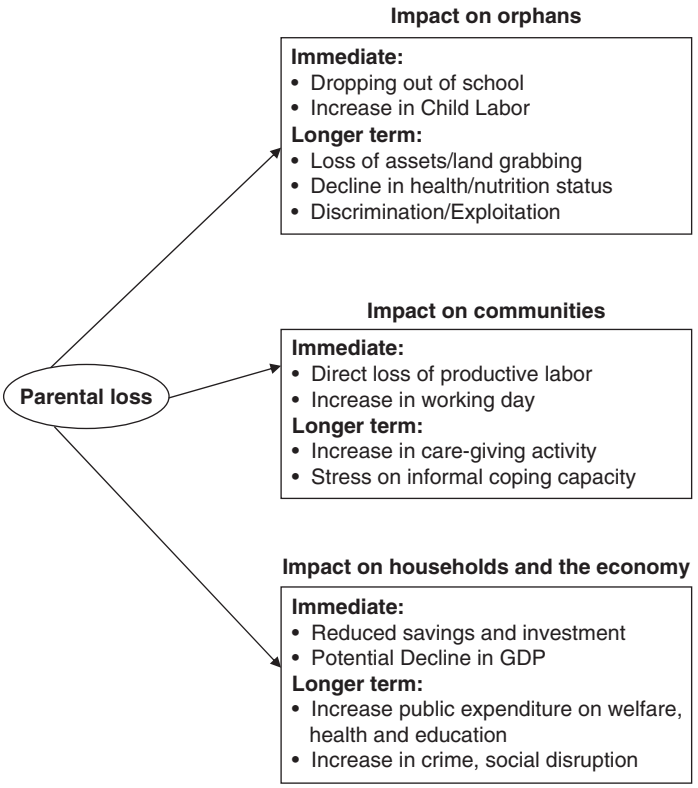
Second, true to the African tradition, most orphans are placed either in extended families or in fostering households. Yet this communal arrangement, laudable as it is, may come at the cost of consumption shock to households who have taken in orphans. If the households that have absorbed orphans are already poor to begin with—and there is evidence to suggest that on average orphans in Africa live in poorer households compared with non-orphans (Case, Paxson, and Ableidinger 2002)—the consumption shock may translate into deeper poverty. Even if orphans are housed in relatively non-poor households as is the case in Rwanda, the consumption shock and consequential welfare loss may persist.

Third, faced with limited resources, one may expect fostering households to favor their biological children over fostered ones, denying orphans proper access to basic needs such as education, health care and nutrition. In Kampala, Uganda, 47 percent of households assisting orphans lacked money for education compared with 10 percent of apparently similar households not charged with the responsibility of caring for orphans (Muller and Abbas 1990). One out of seven children face this risk in Rwanda, with the potential of an erosion of the country's human capital, thereby jeopardizing the realization of millennium development goals.

Fourth, orphaned children face other related risks including child labor. Children living with sick parents, even before they are orphaned, may be pulled out of school to engage in household chores or economic activities. This risk may be particularly the case for orphaned girls. Evidence also suggests that the lack of parental protection and supervision may leave an open door for abuse, neglect and exploitation, and even violation of rights such as property grabbing (Subbarao and Coury 2003). Moreover, following parental deaths, some children may become household heads often with little skills to conduct the activities of a household head.

The implication of the above is that parental loss can have negative consequences for a household, the orphans, and the community at large. Figure 7.1 provides a simple diagrammatic representation of the key short- and longer-term impacts of parental loss on orphans themselves, the community, the host household as well as the broader economy. The costs to children include the strong possibility of dropping out of school, a decline in nutritional status, possible increase in child labor, potential loss of assets including land,

Figure 7.1. Impacts of Parental Loss



Source: Subbarao and Coury (2003).

and discrimination and exploitation. The costs to households and communities include the extra burden associated with the care-giving activity, a potential decline in available productive labor, and a general weakening of informal coping capacity. Few studies have set out to describe and quantify these impacts, especially the ones that arise in the short term (for example, the adverse schooling outcomes).

Full quantification of the different outcomes and channels through which the presence of orphans may affect welfare would require panel data that are not available for Rwanda. However, with the available data, namely a recent nationally-representative living standard measurement-type household survey, we are able to quantify the impacts of welcoming orphans on household consumption of fostering families, and the impact of being an orphan on schooling outcomes and work burden. The medium and longer term impacts on growth of orphans in Rwanda are beyond the scope of this paper.

The paper is structured as follows. The first section presents a broad quantitative picture of orphans in Rwanda, including a profile of orphans by age, gender and other characteristics. The second section assesses the impact of fostering orphans on the household consumption (and thereby on poverty) of foster families, and the impact on the child's education and nutrition outcomes of being an orphan. Conclusions and policy options are briefly discussed in the last section.

Number of Orphans and Qualitative Findings

Number of Orphans

As mentioned earlier, there are two main reasons explaining the high incidence of orphans in Rwanda. First, at least 800,000 people (10 percent of the population) died in the Genocide of 1994. While many of those who were left orphaned by the war have now reached adulthood, some are still under 15 years of age today, and since we use survey data for 1999–2001 for our analysis, the number of orphans from these events probably[26] remains large in our data. Second, AIDS in Rwanda as in much of Africa is also contributing to a high incidence of orphans.

Our empirical work is based on an analysis of the unit level data of Rwanda's *Enquête Intégrale sur les Conditions de Vie des ménages*. This is an Integrated Household Living Conditions Survey conducted between October 1999 and July 2001. Data collection in urban areas was carried out between October 1999 and December 2000. In rural areas, where 90 percent of the population lives, the survey was implemented from July 2000 to July 2001. When reporting results, we will consider the survey as representative of conditions as they stood in 2000–2001.

We will consider as orphans children who do not live with their mother, nor with their father. While this group may include some children who are not orphans, qualitative knowledge from the situation on the ground and a few simple data tests make us confident that this is a relatively good proxy. For example, although still very low overall, the share

26. Although we have a good handle on how to identify orphans in our survey data, we do not know why they are orphans, hence the use of "probably" in the above sentence.

Table 7.1. Incidence of Orphanhood by Age, Area, and Poverty Status, Rwanda 2000–01

	All	Urban	Rural	Poor	Non poor
			Age 0 to 6		
Double orphan	7.2%	7.3%	7.1%	7.2%	7.1%
Father is not in household	19.3%	21.9%	19.0%	23.2%	16.7%
Mother is not in household	1.6%	2.5%	1.5%	1.5%	1.8%
Both parents are in the household	71.9%	68.3%	72.3%	68.2%	74.5%
All children	100.0%	100.0%	100.0%	100.0%	100.0%
			Age 7 to 15		
Double orphan	18.4%	32.6%	16.9%	13.4%	23.1%
Father is not in household	28.4%	25.7%	28.6%	31.9%	25.1%
Mother is not in household	4.8%	4.7%	4.8%	4.1%	5.4%
Both parents are in the household	48.5%	37.0%	49.7%	50.6%	46.5%
All children	100.0%	100.0%	100.0%	100.0%	100.0%

Note: A child is defined as a double orphan when neither his father or his mother live in the same household.

Source: Authors' estimation using EICV 2000/01.

of so-defined orphans who benefit from a grant from Rwanda's Genocide Fund, a fund set up in the late 1990s to help the victims of the Genocide, is much higher among that group than among children who live with their mother, their father, or both. In any case, our definition implies that we are focusing our analysis on "double" orphans, that is, those that are likely to have lost both parents.[27]

In Table 7.1, the proportion of double orphans, as well as of orphans who are assumed to have lost only one parent (living with either their mother or their father, but not both) are shown in two age groups: 0–6 and 7–15. In these two age groups, respectively 7.2 percent and 18.4 percent are orphans. Thus, as in other countries, a large majority of orphans in our data fall in the age group 7–15. As mentioned earlier, this is due to both adult mortality due to AIDS and to the impact of the Genocide which was also felt at the time of the survey mostly in that age group.

A much higher percentage of children (19.3 percent and 28.4 percent respectively for the two age groups) have lost their father but not their mother, whereas the proportion of maternal orphans appears to be smaller (1.6 percent and 4.8 percent respectively). The reason

27. This does not mean that we minimize the adverse consequences on the child of loss of a single parent. A recent study for Zimbabwe had shown that children in the age group 13–15 who had lost their mothers were less likely to have completed primary school than children who lost their fathers, after controlling for other factors that influence primary school completion (Nyamukapa and Gregson 2003).

for a much higher percentage of paternal orphans is clearly the result of conflict which typically leads to higher adult male mortality in much of Africa, including in Rwanda. There are also rural-urban differences in the location of the 7 to 15 years orphans. In that age groups, a much higher percentage of orphans happen to be in urban areas than in rural areas, whereas there are no significant rural-urban differences in the proportion of children who have lost either parent under both age groups.

How do these estimates of the share of orphans compare with other estimates? According to UNAIDS, there could be up to 613,000 orphans due to AIDS only in the age group 0 to 14, or 17.5 percent of the child population. These estimates, which are very high, take into account both double and single orphans, and they would need to be increased further to take into account other orphans, mainly due to the Genocide. Using data from UNICEF's Multiple Indicator Cluster Survey for the year 2000, a recent World Bank report (2002) on education in Rwanda estimates that 28.5 percent of children were orphans, a proportion slightly below that of the UNAIDS estimate when Genocide orphans are taken into account.

Our own estimates in Table 7.1 are broadly similar to the estimates provided by UNAIDS and the World Bank education report, but because we will concentrate on double orphans in this paper, we will focus on a subset of the orphan population. Also, it is worth emphasizing that the AIDS prevalence may not have reached the high rates that were used until recently associated with Rwanda. Preliminary data from the 2004/05 Demographic and Health Survey suggests much lower rates of HIV prevalence than previously expected. This reduction in prevalence may reflect both an improvement in the quality of information and an indication that infection rates may actually have declined over time, especially in urban areas.

The bottom line is that the number of orphans in Rwanda is subject to debate, and the above estimates may actually be on the high side, essentially because the way to capture orphans in the survey used here relies on identifying children who do not live with any of their parents, but clearly some of these children may very well have one or both parents alive. The rest of the paper, which compares indicators of well-being between orphans and non-orphans and the key arguments made regarding these differences do not hinge on the actual number of orphans.

Qualitative Evidence on Living Conditions

A qualitative study of orphans was recently prepared for the Government of Rwanda, UNICEF and Save the Children Alliance (Dona 2003). According to this study, fostering a child can be a very spontaneous and informal decision but it can also take place through official placement networks. The likelihood of success is possibly higher in the case of organized fostering because it offers higher visibility and foster parents may have a longer-term vision for the child. Nevertheless, motivations and obligations are the same in both cases and, eventually, the impact for the parents will depend on their personal attitudes toward the child, on the child's integration with the siblings and on the child's own attitude.

Among the reasons why parents decide to foster, pity, social responsibility, loss of their own children, a desire to have children, and loneliness are frequently reported. After so much terror and pain in the country, people feel a common responsibility for each other.

"Children belong to us because all Rwandans have lost their own," said a parent. Apart from cultural, humanistic, and personal reasons, the need for assistance is also mentioned as a key reason for fostering. As a woman explained it, "As a widow, and only with boys, I needed a young girl that helped me in small domestic chores; you know, at a certain age, boys wander around [and] I was alone at home." While it is likely that the impact of fostering on the household will depend on the original motivations for fostering, the study suggests that "the fact that parents want to foster a child for help does not necessarily mean that the child was abused or exploited."

Fostering a child also has implications for household dynamics. The relationship with the siblings is most of the time perceived as good. Generally speaking, if there are adjustment difficulties, they are most prevalent at the beginning of the fostering process. Parents complain about the financial burden caused by fostering and about the lack of external assistance, but they seem to be generally happy and positive about the experience. They insist that the child is much better off with them than within a center. Still, foster parents are concerned about education and health, issues of identity, and the long-term future of the children they adopt, with some concerns about the financial resources needed to bring a child to maturity.

Overall, the study is rather positive regarding the ability of the fostering system to protect orphans. The study concludes that "the introduction of organized fostering programs has proved to be an appropriate means of providing family care for separated children unable to return to their own families," and adds that the "general impression [is] of fostered children being happy and well-integrated into their families." As we will see in the next section, the results of our own quantitative analysis are somewhat less optimistic, but this does not mean that they contradict the qualitative findings reported in Dona (2003). While orphans in foster homes may be at a disadvantage versus other children, they may still be much better off within foster homes than in orphanages. Interestingly, while spontaneous fostering was most prominent immediately after the Genocide, it gradually became less important than organized fostering. In the case of organized fostering, children who had been placed in a center are chosen by parents and must follow them and integrate a new family. Children in centers are waiting to be chosen, hoping to be well treated, to continue their studies, and to not be exploited. Dona's study thus concludes that in general children "find household chores a pleasant and rewarding activity." It helps them to be integrated in their new family. Of course, "Problems arise when children indicate that they work hard and when they say that they feel treated as unpaid servants." In other words, in some cases, foster children are clearly exploited or abused.

Living Conditions of Orphans: Quantitative Empirical Results

Household Consumption

An interesting aspect of the profile of orphans in Rwanda is that, no matter which age group one considers, a higher proportion lives in relatively non-poor households. This can be seen in Table 7.2. In fostering households as compared to households without orphans, consumption per equivalent adult, as well as the number of years of education of the head and spouse are all higher, while the unemployment rate for the household head is lower.

Table 7.2 Selected Characteristics of Households with and Without Orphans, Rwanda 2000–01

	Households with double orphans	Households without double orphans
Average yearly consumption per equivalent adult (Francs)	99,452	67,850
Population share in extreme poverty	32.0%	47.8%
Population share in poverty	45.8%	67.1%
Average size of land holdings (hectares)	0.8	0.7
Average number of infants (aged 0–4)	1.2	1.3
Average number of children (aged 4–14)	2.0	2.0
Average number of adults (aged 15 and above)	3.8	3.4
Share of households with female heads	28.2%	20.6%
Share of households without a spouse	32.4%	24.1%
Average number of years of education of household head	4.3	2.9
Average number of years of education of spouse	2.3	1.9
Share of household heads searching for employment	1.4%	2.8%
Population share living in urban areas	19.3%	8.4%

Note: A child is defined as a double orphan when neither his father or his mother live in the same household.

Source: Authors' estimation using EICV 2000/01.

Households with orphans are more often urban, female headed or more generally without a spouse for the household head. In fact, many double orphans are living in female-headed households where the female head is self-employed. This means that "self-selection" is going on, namely female-headed households working in informal sectors are probably the ones who are volunteering the most to take in orphans, presumably to get some help in domestic and economic work.

The fact that consumption is higher in households with orphans means that the probability of being poor is lower among those households. The poverty estimates used in Rwanda follow the measurement method adopted by the Government of Rwanda for the preparation of its Poverty Reduction Strategy. The method is explained in details in Ministry of Finance (2002). The share of the population in extreme poverty among households with orphans was 32.0 percent, versus a much higher 47.8 percent among households without orphans. Similarly, the respective shares of the population in poverty among the two groups are 45.8 percent and 67.1 percent. Addition all comparisons are given in the table in terms of landholdings and family size.

While households with orphans tend to be richer, welcoming an orphan is still likely to induce a loss in consumption for a household. According to preliminary estimates by Siaens and Wodon (2003), the marginal impact of having one orphan in the household on consumption is negative—estimated at the sample mean, there is a net reduction in per

capita consumption of 5.2 percent and 11.5 percent in urban and rural areas respectively. Yet, some fostering households are fostering more than one orphan. When estimated for all orphans rather than for the addition of one orphan, the consumption shock is more severe: the net reductions in per capita adult equivalent consumption are 9.1 and 18.6 percent respectively for urban and rural areas. While these results should be considered as preliminary only,[28] they are in line with findings for Uganda, where Deininger, Garcia, and Subbarao (2003) also find a significant decrease in per capita consumption of fostering households in comparison with similar households not fostering orphans.

Thus, while fostering by households is an extremely important traditional safety net pervasive in Rwanda as in most other most African countries, its immediate consumption shock for the households who agree to foster cannot be ignored. Rwanda's Genocide Fund which provides grants to victims of the Genocide, including orphans, in order to help them with housing, education, and relocation expenditure may be a source of relief for fostering households, but unfortunately the data on such grants in the survey is weak, so that it cannot be used at this stage to assess the impact of the Fund on the fostering families and on the orphans' well-being.

Education and Child Labor

Being an orphan is associated with a lower probability of school enrollment. For the country as a whole, 76.4 percent of boys and 73.8 percent of girls in urban areas, and 67.7 percent and 67.2 percent in rural areas, are enrolled in school. The proportions for orphans are lower: 62.7 percent and 55.8 percent for boys and girls respectively in urban areas, and 61.5 percent and 62 percent in rural areas. Both male and female orphans have a lower probability of being enrolled in school, but the gap between orphans and non-orphans is larger for girls than for boys. Also, although present in rural areas, the gap in schooling for orphans is larger in urban areas, for both boys and girls. Table 7.3 also shows that a much higher proportion of both boys and girls are engaged in some form of non-domestic work, paid or unpaid, if they are orphans. In urban areas, the proportion of orphans engaged in work is twice as large for girls (31.6 percent) than for boys (18.4 percent). Orphans work also more at home in terms of hours per week than non-orphans. The difference between both groups of children is again higher in urban than in rural areas. Overall, it seems that some orphans, especially girls, are being fostered by female-headed households to share their work burden.

The fact that school enrollment is lower and the probability of working higher for orphans does not necessarily means that orphans are discriminated against in their foster

28. The results in Siaens and Wodon (2003) are based on regressions for the logarithm of consumption per equivalent adult on a wide range of household characteristics, including the presence of orphans. However, the number of orphans fostered by a household may itself depend on the level of well-being of the household before fostering, in which case we would have bias due to endogeneity. Nonetheless, controlling for other variables (education, age and gender of head, employment, location, and so forth), welcoming an orphan is still very likely indeed to reduce consumption per equivalent adult in a household because most of the impact on consumption comes through the increase in the number of equivalent adults due to fostering (that is, the number of infants and children increase).

Table 7.3. School Enrollment and Child Labor for Children Aged 7–15, Rwanda 2000–01

	All		Orphans		Non orphans		Head female				Head male	
							All kids		Orphans			
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	Urban areas											
School enrollment rate	76.4%	73.8%	62.7%	55.8%	81.8%	84.1%	79.5%	74.5%	71.8%	58.8%	74.9%	73.5%
Working, paid or unpaid (except domestic work)	6.2%	12.3%	18.4%	31.6%	1.4%	1.3%	3.4%	11.5%	5.2%	25.3%	7.6%	12.7%
Domestic work (Hours/week)	6.38	14.80	10.03	22.76	4.94	10.27	5.90	15.14	6.85	20.56	6.61	14.62
	Rural areas											
School enrollment rate	67.7%	67.2%	61.5%	62.0%	68.9%	68.2%	68.3%	67.9%	62.4%	64.3%	67.3%	66.7%
Working, paid or unpaid (except domestic work)	7.5%	7.2%	14.4%	10.6%	6.1%	6.5%	8.4%	7.5%	10.3%	10.4%	7.0%	7.1%
Domestic work (Hours/week)	6.84	10.34	7.48	11.46	6.71	10.11	6.71	10.36	7.14	11.17	6.91	10.32

Note: A child is defined as a double orphan when neither his father or his mother live in the same household.

Source: Authors' estimation using EICV 2000/01.

family. For example, orphans are on average older than other children, and this may explain part of the observed differentials in schooling and work. In order to assess whether orphans are less likely to be enrolled in school than other similar children who are not orphans, regression analysis is needed. Table 7.4 provides the results of probit regressions for the probability of enrollment in urban and rural separately, for boys and for girls. Controlling for a variety of child, household and community characteristics together with the education level and activity of the biological father and mother, the negative impact of being a double orphan is still strong.

Thus, with the important caveat that we cannot control for the orphan's life conditions just before fostering (for example, at the time of the parental loss, orphans may have dropped out of school and start working out of necessity, and it might be very difficult for these children to return to school even once they have found a foster family), the results in Table 7.4 are an indication that there is indeed some level of discrimination against the schooling of orphans in foster families.

Nutrition

Table 7.5 provides comparisons between orphans and non-orphans for selected health indicators, with a focus on children below five years of age. There are few differences in the probabilities of being sick, or to have had diarrhea over the last two weeks. However, orphans are less likely to have been vaccinated than any of the other groups identified in the table, and they are also less likely to benefit from a nutrition program. They are also less likely to have benefited from a postnatal consultation, or to have received vitamins A, than non-orphans children in the same households. Finally, the incidence of malnutrition (the probability of being stunted, wasted, or underweight) is also higher among orphans than among other children in the same households, but the measures are on par with the two other groups identified in the table.

The fact that many health indicators for young orphans are below those observed for other groups, especially other (biological) children living in foster families, again does not necessarily mean that there is a systematic discrimination against orphans in terms of healthcare and nutrition. It could be that orphans faced harsher situations before being welcomed in foster families. Malnutrition indicators often result from events early in life, which may have occurred before fostering. Still, the fact that orphans have lower rates of participation in nutrition programs than biological children in the same households, and that they have a lower probability of receiving vitamins A, begs questions as to whether they indeed receive equal treatment.

Conclusion

Because of the combined impact of the Genocide and the AIDS pandemic, the number of orphans (defined here as the children who live with neither their father nor their mother) is high in Rwanda. The results presented in this paper suggest that although orphans tend to live in foster households that are comparatively richer than the rest of the population, they are also less likely to go to school, more likely to work both at home and outside of the

Table 7.4. Determinants of School Enrollment among Children Aged 7–15, Rwanda 2000–01

	Urban areas				Rural areas			
	Boys		Girls		Boys		Girls	
	Coeff.	St. Er.	Coeff.	St. Er.	Coeff.	St. Er.	Coeff.	St. Er.
Characteristics of the Child								
Age	0.330*	0.056	0.341*	0.062	0.510*	0.032	0.535*	0.031
Age squared	–0.016*	0.003	–0.016*	0.003	–0.024*	0.001	–0.025*	0.001
Double orphan (no father and no mother)	–0.318*	0.096	–0.165*	0.079	–0.175*	0.063	–0.243*	0.061
No father only	–0.259*	0.107	–0.002	0.079	–0.015	0.061	–0.149*	0.060
No mother only	–0.208*	0.126	–0.159	0.152	–0.134*	0.053	–0.119*	0.056
Characteristics of the Household								
Migration (by the head, 5 years ago or more)	0.020	0.033	0.040	0.034	–0.003	0.018	0.014	0.017
Number of infants	0.041	0.047	–0.071	0.047	–0.048	0.026	–0.072*	0.024
Number of infants squared	–0.015	0.016	0.017	0.015	0.013	0.010	0.022*	0.009
Number of children	–0.048	0.042	0.044	0.036	–0.080*	0.027	–0.045	0.026
Number of children squared	0.013	0.007	–0.002	0.006	0.010*	0.005	0.006	0.005
Number of adults	0.026	0.024	–0.012	0.031	–0.023	0.020	–0.024	0.020
Number of adults squared	–0.002	0.002	0.002	0.003	0.004	0.003	0.007*	0.003
Household head female	0.153*	0.052	–0.004	0.079	0.138*	0.047	0.100*	0.048
No spouse in household	0.012	0.070	0.029	0.091	–0.103*	0.051	0.042	0.049
Education of Household Head								
Primary, not completed	0.088*	0.035	0.076	0.043	0.042*	0.019	0.059*	0.018
Primary completed	0.093*	0.035	0.067	0.047	0.086*	0.025	0.058*	0.025
Secondary, not completed	0.121*	0.038	0.110*	0.046	0.199*	0.032	0.104*	0.040
Secondary completed or superior	0.131*	0.035	0.092	0.054	0.196	0.075	0.154	0.079

Education of Spouse								
Primary, not completed	−0.032	0.063	−0.015	0.066	0.021	0.023	0.060*	0.022
Primary completed	−0.040	0.075	0.046	0.061	0.077*	0.034	0.100*	0.032
Secondary completed/superior	0.072	0.053	0.111	0.051	0.182*	0.043	0.103*	0.044
Employment of Household Head								
Does not work	0.067	0.041	−0.035	0.066	0.003	0.021	0.027	0.020
Works in industry/transport	0.044	0.049	−0.062	0.073	−0.075	0.070	0.047	0.062
Works in banking sector, or as professional	−0.013	0.061	−0.091	0.078	−0.033	0.077	0.098	0.057
Works in commerce	0.031	0.048	−0.135*	0.070	0.080	0.066	0.133	0.057
Works in other sectors, but not agriculture	−0.020	0.082	−0.156	0.106	−0.025	0.083	0.052	0.082
Education/Work of Biological Parents								
Biological father, primary not completed	0.045	0.058	0.054	0.057	0.087*	0.029	0.087*	0.028
Biological father, primary completed	0.100*	0.035	0.095	0.042	0.161*	0.026	0.118*	0.028
Biological father, secondary or superior	0.177*	0.029	0.117	0.049	0.175*	0.052	0.145*	0.052
Biological father, unstated education level	−0.031	0.080	−0.080	0.093	0.049	0.041	0.042	0.038
Biological mother, primary not completed	0.054	0.056	0.041	0.068	0.095*	0.040	0.077	0.040
Biological mother, primary completed or more	0.011	0.056	0.130*	0.040	0.154*	0.037	0.122*	0.039
Biological mother, unstated education level	0.059	0.069	0.051	0.075	0.039	0.053	−0.029	0.063
Biological father was in agriculture	−0.117*	0.059	−0.227*	0.056	−0.074	0.048	−0.016	0.044
Other Household Characteristics								
Number of hectares of exploited land	0.024	0.025	0.071*	0.032	0.017	0.012	0.035*	0.012
Number of hectares squared	−0.001	0.002	−0.007*	0.003	−0.001	0.001	−0.002	0.001
Head has health problems	−0.257*	0.159	0.153	0.052	0.007	0.039	−0.085*	0.041
Spouse has health problems	0.119	0.062	−0.001	0.157	0.057	0.066	−0.019	0.065

(*continued*)

Table 7.4. Determinants of School Enrollment Among Children Aged 7–15, Rwanda 2000–01 (*Continued*)

	Urban areas				Rural areas			
	Boys		Girls		Boys		Girls	
	Coeff.	St. Er.	Coeff.	St. Er.	Coeff.	St. Er.	Coeff.	St. Er.
Geographic Characteristics								
Kigali geographic dummy variable	–0.022	0.033	–0.048	0.033	0.015	0.029	0.062*	0.027
Population in locality (in millions)					0.000*	0.000	0.000*	0.000
Access to water in community					0.029	0.018	0.018	0.018
Access to electricity in community					0.046	0.031	0.051	0.028
Distance to market (in 100 km)					–0.002	0.002	0.000	0.002
Distance to road (in 100 km)					–0.016	0.009	–0.023*	0.009
Distance to primary school (in 100 km)					–0.018*	0.005	–0.017*	0.005
Distance to health center (in 100 km)					0.005*	0.002	–0.002	0.002

Note: A child is defined as a double orphan when neither his father or his mother live in the same household. Coefficients with * are significant at the 5 percent level. Coefficients underlined are significant at the 10 percent level. Omitted variables are: no education, agriculture, other regions than Kigali. Specification: probits.

Source: Authors' estimation using EICV 2000/01.

Table 7.5. Selected Health Indicators for Children Below 5 Years of Age, Rwanda 2000–01

	Single parent	Double orphan	Biparental child in fostering family	Biparental child in other families
	0–5 Years old			
Was sick in last 2 weeks	33.9%	30.1%	35.7%	33.3%
Received DTC vaccine	19.3%	13.9%	21.0%	16.9%
Received polio vaccine	24.0%	18.2%	25.4%	21.7%
Received rougeole vaccine	24.2%	19.8%	23.3%	24.4%
Received BCG vaccine	27.0%	15.1%	36.7%	31.0%
Received postnatal consultation	8.0%	8.8%	12.0%	8.1%
Had diarrhea in last 2 weeks	20.3%	19.1%	20.5%	20.5%
Receives A vitamins	9.4%	10.1%	13.2%	10.8%
Participates in nutrition program	19.9%	18.6%	28.8%	22.8%
	3–59 Months old			
Stunted (height for age)	38.4%	40.4%	26.0%	40.4%
Wasted (weight for height)	8.8%	6.8%	5.2%	6.6%
Underweighted (weight for age)	24.1%	23.5%	16.2%	26.6%

Note: A child is defined as a double orphan when neither his father or his mother live in the same household.

Source: Authors' estimation using EICV 2000/01.

home, less likely to be vaccinated, and more likely to suffer from health deficiencies. Thus, there is clear evidence that orphans are an especially vulnerable group of children in Rwanda.

The Government of Rwanda is aware of the plight of orphans, and policy interventions have been set up to help them. Funding for the Genocide Fund, which was created to benefit orphans from the Genocide as well as other victims from the conflict, is substantial, but it is unclear whether it reaches those who need help the most. The amounts in principle disbursed by the Fund are high, at about 10 percent of total recurrent spending for primary education, an amount also roughly similar to the total private spending on primary education in the country, including school fees. Yet, while some of this funding is supposed to provide schooling grants for orphan children, we do not find much evidence in the data that coverage is high.

The Government as well as NGOs are also aware that not all vulnerable children share the same history and face the same problems, and that this calls for differentiated policy responses. As noted in a recent Government report (MINALOC 2003), the war, the Genocide, poverty, and HIV/AIDS have created different forms of vulnerability. Some children lost their family and live in another household, or in special institutions or centers, or in the street. Others are disabled or affected by HIV/AIDS, and still others have problems with the justice, are mistreated, or are victims of sexual abuse. Some vulnerable children are working, live in an extremely poor household or are refugees. Each group faces specific problems

and programs must be designed accordingly. General strategies to help meeting the needs of these various groups of children should also be implemented, but they are not enough by themselves. Such general strategies include actions for sensitization of the children, their parents and tutors, for example by promoting children's rights and informing on the existing policies and laws. Information campaigns can also help to show the impact of HIV/AIDS on the children. General strategies also involve building the necessary structures and human capacity to provide social protection and quality services to vulnerable children, with good coordination mechanisms between the different actors, in order to facilitate access for vulnerable children to basic services such as education, health, housing, income generating activities and credit (MINALOC 2003). In addition, inclusive sectoral level policy changes such as abolition of school fees may go a long way to promote enrollment of all children including orphans.

International experience can help in designing appropriate social protection mechanisms for orphans. Given the identified risk patterns, how can further changes in policy or programs ameliorate the observed vulnerabilities of orphans? Many questions regarding the appropriate type of assistance and the way it should be channeled remain open. Who should be targeted: the orphan, the fostering household, or communities? On what basis: the level of poverty, or risks of unmet basic needs including schooling? How should the transfer be channeled: cash or in-kind, and what would be an appropriate amount of transfer, and should transfer amount be uniform or adjusted to the needs? International experience especially in post-conflict countries such as Burundi and Eritrea suggest that publicly funded cash transfer program should be carefully designed to avoid stigma and adverse incentives (Subbarao and Coury 2003).

Based on this experience, and on Rwanda's own circumstances, at least four options seem to merit the attention of policymakers: (a) consider modifying the prevailing grant program into a conditional cash transfer program; (b) consider the scope for geographic targeting, using the school as the focal point for identification of eligible beneficiaries and transfer of assistance; (c) consider the scope for fostering grants to communities rather than directly to households; and (d) remove potential school-level barriers such as school fees and uniforms.

One way to improve the grant program would be to make it a conditional upon all children in the household, including fostered children, attending the school. There is now ample evidence from both low and middle income countries that transferring small amounts of cash to households conditional upon school attendance work, with small errors of exclusion and inclusion and cost-effective impacts. For a review of Mexico's PROGRESA, see for example Wodon and others (2003).

The risk of orphans dropping out of school or engaging in paid and unpaid work is more prevalent in urban areas than in rural areas, and in some provinces in rural areas. Given regional variations in the risks of orphanhood, another policy option could be to adopt a geographic targeting, or other forms of targeting. Resources could for example be transferred to schools located in the region/area in which orphans are at most risk of dropping out of school, with the responsibility to administer the grant program. Identification of eligible beneficiaries could then be done by a committee comprising of community leaders, school authorities, and the local government. This is along the lines of a program currently being administered in Zimbabwe. Information requirements for such a regional approach are reasonable.

Targeting "needy" orphans could be done based on (a) an enumeration of all needy children within a community, and (b) a devolution to the community of the selection of vulnerable children through some transparent process. Selection of needy children can be done through workshops and home visits by grassroots actors with the help of external support including prominent non-governmental agencies. In Burundi, for example, after a census of all needy children, communities came up with four categories of children: (a) double orphans who do not have any external support, (b) children separated from their parents and currently living in refugee camps or camps for displaced children, (c) single orphans that received no support from their surviving parent, and (d) double orphans living in very poor fostering households. Communities then began to prioritize and channel assistance to the above categories ranked by the degree of vulnerability. The main advantage of this type of channeling for assistance is that it avoids stigmatization; it does not, for instance, identify orphans by the nature of death of their parents (AIDS orphans are often stigmatized). Often the needy children need not necessarily be orphans; in South Africa "needy" children identified by communities turned out to be children of one important stigmatized group: teenage mothers. This method of channeling assistance may not work however where communities are divided along ethnic lines or if there is no community cohesion.

In a situation where the average access to education and other services is high, but there are differences in access between the poor and the non-poor, measures are needed at the sectoral/school level to improve access to services. Waiving school fees and uniform obligations has proven extremely helpful in Uganda; following this policy change, the discrimination against orphans in school enrollment has been completely wiped out in a period of five years. Similarly in the health sector, vaccination campaigns and nutrition supplementation programs would improve the general health of all orphans and vulnerable children.

Finally, beyond actions directly targeting orphans, it is also possible to think about the issues in a very different way, alongside the time use approach used in this volume. It has been argued that in at least some dimensions orphans may be better off when welcomed by relatives or other families than when living by themselves or in institutions. However, there are also concerns that the orphans (and especially girls) that are welcomed in some families may be required to provide a lot of help for the domestic tasks to be performed, with the resulting time pressure in terms of workload preventing them to benefit from the same opportunities in education and other aspects of their development as other children. If time is a key constraint in some of the households welcoming orphans, then policies aiming to reduce the time constraint may indirectly help orphans as well. The idea would be to investment in programs that would reduce the burden of domestic tasks, for example through the provision of infrastructure services (access to water and electricity) as well as labor-saving technology, among others for food processing. Policies reducing the transport time faced by households could also help to relax their time constraint.

All these suggestions should not be construed as recommendations for the Government of Rwanda. More detailed work would be needed before making such recommendations. The above suggestions are merely options among others, but the findings from this paper clearly suggest that something more should be done in order to better protect orphans in Rwanda, and part of this effort could deal with the time constraints faced by households welcoming orphans.

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