Title of the paper: 'Child and Young Adult Households in the context of the AIDS epidemic in Zimbabwe, 1988-2006'

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Abstract

It has been assumed that the emergence of Child-Headed Households (CHH) and Young Adult Households (YAH) is an indicator of the erosion of the traditional safety nets in sub-Saharan countries and a direct consequence of the increasing number of orphans in the region. However, the initial evidence presented so far suggests the process of formation of CHH and YAH is more complex than it appears to be. Using the four available waves of the Zimbabwe Demographic and Health Surveys (1988, 1994, 1999, and 2005/2006) we find that the proportion of households with no adults have remained stable in the last years, although the number of orphans have increased significantly. In fact, a large number of children living in CHH are non-orphans, which suggests that this kind of living arrangements are not always a direct consequence of parental death. Moreover, our analysis show that CHH and YAH are not only less poor than other vulnerable living arrangements but also children living in them are less likely to have unmet basic needs than children in households headed by working-age adults.

Introduction

A major consequence of the AIDS epidemic in sub-Saharan Africa is the increasing number of orphans and vulnerable children (OVCs) left behind under the care of the extended family. The United Nations has projected the number of orphaned children to reach 15.7 million in 2010 (Unicef 2006). Although the extended family acts as a safety net for majority of orphaned children (Monash and Boerma, 2004), as prevalence rates increase, the capacity of the extended family to provide care and protection to OVCs is threatened (Heymann et al 2007; Kidman & Heymann, 2008; Madhavan, 2004; Foster, 2000; Unicef 2006; Mtika, 2001; Ntozi & Zirimenya, 1999).

In this context, the identification of particularly vulnerable situations is a key challenge for governments and institutions in order to organize effective support systems. In an attempt to achieve this objective many studies have analyzed the gaps between orphans and non-orphans on various outcomes. Although losing a parent (or both parents) can have negative consequences, it does not necessarily constitute a vulnerable situation. The vulnerability of the situation is determined by the living conditions of orphans and the social support they receive afterwards; hence our focus on vulnerable living arrangements.

Thus, the present study is organized in two parts: First, we describe the evolution over time of the proportions of children living in four types of vulnerable living arrangements: CHH, YAH, Skip-generation Households and households with sick adults; as well as the evolution of households with healthy, working-age adults, which are considered less vulnerable. In the first section we use the four available waves of the DHS in Zimbabwe (1988, 1994, 1999, and 2005/2006).

In the second section, we estimate the effect of these living arrangements and the effects of orphanhood on the well being of children using a logistic regression model. The model estimates the extent to which being an orphan, living with no adults (in CHH or YAH), living with older adults, or living with sick adults affects the odds of having unmet basic needs, after controlling for socioeconomic status, urban-rural differences and age. In this second section we use the last available wave of the DHS surveys (2005/6).

Changes in the traditional nets of support: the role of the extended family

In sub-Saharan Africa child-fostering has traditionally been a common function of the extended family, not only in response to the death of biological parents or economic hardship, but also for reasons such as religious training, education, alliance building and kinship obligations (Isiugo-Abanihe, 1985; Madhavan, 2004). It is therefore not uncommon for children in Africa, south of the Sahara, to live in households headed by other relatives and non-relatives, even when their biological parents are still alive (Urassa et al 1997; Foster, 2000). In fact, the existence of purposive fostering has been identified as one of the explanations for the lack of differences between orphans and non-orphans found in many studies; an orphan would not receive differential treatment in a context where a large number of children are reared by adults other than their parents (Urassa, 1997). It is worth noting that purposive fostering is still significant in Zimbabwe, as over one-quarter of children do not live with their biological parents (Central Statistical Office –Zimbabwe, 2007).

Over the last three decades, the safety nets structured around kinship relations have undergone significant changes as a result of the growing number of terminally ill adults and orphaned children in countries with high HIV/AIDS prevalence. In Namibia, for instance, health care practitioners and community leaders have reported that it is becoming more difficult to find caregivers for orphans, both within and outside the extended family (Kuhanen et al, 2008).

In Zimbabwe, as in other societies predominantly organized around patrilineal kinship systems, paternal aunts and uncles are considered the ”natural” guardians for orphaned children, especially as traditions and customs demands that the wife’s father pays the bride price. (Foster, 2000). Foster (1995, 2000) notes that the traditional fosterage system has witnessed two major adaptive shifts: an increase in the participation of maternal relatives as caregivers of orphan and vulnerable children, and a growing number of grandparents and older adults assuming this responsibility. This has resulted in a significant increase in the number of Skip-Generation Households (households composed of children and older adults only).

The emergence of Child-Headed Households (CHH) and Young Adult Households (YAH) in Zimbabwe is considered one of several indicators of the weakening traditional safety nets. Since the publication of the seminal works of Foster (1995; 1997), the predominant idea has been that this type of household is primarily a result of the increasing adult mortality, mainly due to HIV/AIDS. However, in countries affected by social unrest, as in the case of Rwanda, violent conflict has been identified as one of the major factors contributing to the emergence of child-headed households (MacLellan, 2005; ACORD, 2001). In any case, the existence of CHH is usually considered a particularly vulnerable situation as children and young adults who lack the necessary experience and skills to support a household and meet the basic needs of their siblings are left on their own. Thus, even though the proportion of

households without adults (>24) is still relatively low in countries with high orphanhood prevalence (Monash and Boerma, 2004, UNICEF 2006), a number of studies, mostly qualitative, have depicted these households as representing the lowest range of the vulnerability continuum (Ayieko, 1997; Foster, 1997; Thurman et al, 2006; Chizorro, Undated; Schenk et al 2008; Kuhanen et al, 2008, MacLellan, 2005; ACORD 2001), the last resort of an extended family under strain.

To date, not many studies using large scale quantitative data have been conducted on the evolution of CHH and YAH, and little is known about the health and educational outcomes of children in such living arrangements. The paucity of data in this area might be due to the relatively low proportion of these types of households, although it may also be attributed to data collection problems associated with the absence of adults who can provide accurate information on the household and its members. The latter may be a particularly relevant problem in the case of the DHS, which require the presence of an adult to respond to the household members' questionnaire. However, as we will show subsequently, the DHS have been collecting information on households with no adults in Zimbabwe since 1988. Even though the proportion of CHH and YAH are presumably underestimated, this information is key to improve our understanding of the dynamics behind their emergence and the situation of children living in them.

Initial evidence from South Africa by Ritcher and Desmond (2008) has suggested that children living in CHH and YAH might be equally or less vulnerable than those living in other types of arrangements. The authors showed that CHH were not only less economically vulnerable (measured by household's monthly expenditures) than households with working-age adults, but also less likely to report occasional child hunger (Ritcher and Desmond 2008). Similarly, Germann (2006) reported that almost 70% of 105 children that are heads of a household in Zimbabwe declared to have medium to satisfactory quality of life. In a qualitative study in Namibia, Ruiz-Casares (2009) explains these counterintuitive findings as mainly due to the existence of "functional" CHH and YAH, which in some cases are established to help children from remote areas have access to schools..

Regarding the evolution of CHH and YAH, a recent study in South Africa showed that the numbers of CHH have not increased since 2000 and that a vast majority of children living in them have one or both parents alive (Meintjes et al, 2010). These results contradict the established ideas about CHH and underscore the need to improve our understanding of how living arrangements shape the opportunities and risks of orphans and vulnerable children in sub-Saharan Africa.

Data & Methods:

We used data from the four available waves of the Zimbabwe Demographic and Health Surveys (ZDHS) undertaken by the Central Statistical Office (CSO) in 1988, 1994, 1999 and 2005/6 as part of the Zimbabwe National Household Survey Capability Programme (ZNHSCP) and the worldwide MEASURE DHS programme.

The sample was stratified according to land-use and selected in two stages with enumeration areas (EAs) as the first-stage and households as the second-stage sampling units. The EAs were selected with probability proportional to size, according to the number of households in each EAs in the 1982 Zimbabwe Master Sample (ZMS), the and

the 2002 ZMS respectively. Both the 1994 and 1999 ZDHS used the 1992 ZMS as their sample frame. Institutional populations (army barracks, hospitals, police camps, etc.) were not included in any of the samples.

The four waves are nationally representative (excluding the population in communal households), and the 1994, 1999 and 2005/6 waves are representative at the provincial level as well. Sampling weights were used to obtain national level estimates, with the exception of the 1988 ZDHS.

Measures

Child-Headed Households: We define Child-Headed Households as those in which all members are under 18 years of age. An alternative definition would include households in which the person identified as head is under 18 years of age, even when other adults are listed in the household. The DHS datasets have a small number of "CHH with adults". Ritcher and Desmond (2008) report similar problems using South African national surveys, and decided not to include this type of household in their definition since it was considered a data collection problem. Although we acknowledge there might be cases where children actually run households where adults are present (ex. when those adults are too old or sick to be in charge), we privilege the first definition both for comparison purposes and due to the fact that it is not possible to determine the head of households with the information provided in the first wave of DHS surveys.

Although in most countries the age of 18 is the marker of legal majority, we assume that children living in households headed by young adults between 18 and 24 years old face similar difficulties to those of CHH. In fact, many households that start as child-headed may change their status when the head turns 18 years old, without qualitatively changing their situation.

Young Adult Households: Thus, children living in households headed by young adults under 25 years of age have been considered vulnerable in a number of studies, although the label used to describe the living arrangement usually differs, "Adolescent-Headed Households" has probably been the term used in most studies. However, we agree with Kuhanen et al (2008) about the need to redefine this label, taking into account that the concept of adolescence (in a western sense) does not exist in many African cultures, where the transition to adulthood is shorter (Kuhanen et al, 2008). In this paper we use the term "Young Adult Households" for those living arrangements composed exclusively of members less than 25 years of age. However, since analyses are conducted only for children under 18 years old, the heads are not included in the estimations themselves. We also exclude the sons and daughters of these young adults since what we are trying to capture are not independent households headed by young parents (which are generally considered adult-headed households), but young adults taking care of siblings and other children in need of protection. Although these households also represent a vulnerable situation, they should be relatively better positioned than CHH. The older age of the head means not only additional life experience, capacity to work and involvement in the community, but also the capacity of legally represent the children living in the household and have access to grants and other kinds of formal support from government and other institutions.

Skip-Generation Households: as mentioned before, the term refers to households composed exclusively of children under 18 and adults over 59 years of age. This type of living arrangement is increasing in frequency in many sub-Saharan African countries as grandparents assume the responsibility for an ever-growing number of orphans. Having no working-age adults, these households might face especially hard economic conditions and other difficulties related to the advanced age of the heads of household.

Sick Adults Households: Households headed by sick adults are those in which there is at least one working-age adult (25-59) who is chronically ill. Children living in this type of household are also more likely to experience difficulties due to the elevated cost of supporting sick members (frequently affected by HIV/AIDS).

Adult-Headed Households: Include the households headed by working-age, healthy adults.

Child-Headed Households (CHH): All household members are under 18 years of age.

Young Adult Households (YAH): All household members are under 25 years of age, excluding households with parent-child relationships.

Skip Generation: All household members are under 18 or over 59 years of age.

Sick Adults: One or more household members are chronically ill (18-59 years of age).

Adult Headed (reference category): Households with healthy working-age adults (25-59) and young adults (18-24) living with their biological children.

Orphans: We use the conventional definition of orphan, which includes three categories: Maternal orphan – every child under 18 years old whose mother has died but whose father is alive; Paternal orphan – every child under 18 years old whose father has died but whose mother is still alive; Double orphan – a child under 18 years who has lost both biological parents.

SES: The Wealth Index is a composite measure included in the DHS surveys. It is used to measure the cumulative living standard of a household. The index considers ownership of selected assets by the household, as well as materials used for housing construction and types of water access and sanitation facilities. The index aggregates the households in five categories that we comprised into two categories: Poorest, poor (Poor), middle, rich, richest (Not Poor) and three categories: Poor, middle, rich, for the multivariate analysis.

Number of children in the household: Households were divided into three categories according to the number of children living in them: <1, 2 to 4 and >5.

Multivariate analysis

The 2005/6 wave of the DHS surveys in Zimbabwe included a series of modules that allow for a better assessment of the general well being of children, taking into account several dimensions such as school attendance, nutrition, use of mosquito net and basic needs. However, given the relatively small number of CHH and YAH it is not possible to draw

statistically sound comparisons between different types of living arrangements, with the exception of the satisfaction of basic needs.

Thus, basic needs satisfaction was used as our dependent variable. To collect information on basic needs coverage respondents were asked whether or not each child (between 5 and 17 years of age) listed in the household had a blanket, a pair of shoes and at least two sets of clothes. Using this information we created an index of unmet basic needs that is equal to 0 when children have all three elements and 1 when at least one of the basic needs is unmet.

We use a binary logit model to estimate the effects of different types of living arrangements on the odds of having unmet basic needs. The control variables included in the model were: Place of residence (0=rural, 1=urban), orphan status (0=both parents alive, 1=orphan), SES (0=poor, 1=middle, 2=rich), age group (0=5-9, 1=10-14, 3=15-17). Clustering at the household-level was accounted for obtaining robust standard errors. Analyses were done using STATA.

Results:

The proportion of orphans in Zimbabwe has increased steadily over the ten-year period as shown in Table 1. The number of double orphans went from less than 1% to 5.5%, and 13 percent of children have lost their father by 2006. It has been argued that the gap between paternal and maternal orphans, which is the norm in the region, is probably overestimated due to misreporting: in some cases fathers that are not in contact with their families might be reported as dead (Udjo, 1998 in Ritcher & Desmond, 2009); it has been also observed that widows sometimes declare children conceived with brothers of their deceased husband as having lost their fathers (Nyamukapa et al, 2003). However, more substantial reasons also explain the gap between maternal and paternal orphans, like the older average age of fathers, the higher prevalence among males during the initial phase of the epidemic and the higher (not AIDS-related) mortality of men (Nyamukapa et al, 2003).

Table 1 – Proportion of children by orphan status 1994-2006 –Children aged 0-14-

	1994	1999	2005/6
Both parents alive	90.9	85.7	78.1
Maternal Orphans	2.0	2.9	3.4
Paternal Orphans	6.4	9.3	13.0
Double Orphans	0.7	2.1	5.5
Total	100.0	100.0	100.0

Source: Own calculations based on DHS data

Although the proportion of children living in CHH has increased since 1988, they still represent a small portion of the total children. The proportion of children in YAH has doubled since 1994, although these numbers are also small and have remained stable since 1999. Skip generation households increased significantly from 1988 to 1999 but they have also remained stable since then. A significant proportion of children (nearly 6%) live in households with chronically ill adults, a number that is likely to increase in the next years.

Table 2- Percentage of Children in Living Arrangements 1988-2006

Household Type	1988	1994	1999	2006
CHH	0.3	0.5	0.6	0.7
YAH	---	0.6	1.1	1.2
Skip Generation	3.7	4.5	6.5	6.5
Sick Adults	---	---	---	5.5
Adult-Headed	---	---	---	86.0

Source: Own calculations based on DHS data

Table 3 (below) shows the proportion of children in living arrangements by poverty level in 2005. Of the living arrangements considered as vulnerable, children living in CHH, Skip generation households and households with sick adults are notably poorer than those in households headed by adults, although the differences are not as stark in the case of CHH. Surprisingly, members of YAH seem to have better material living conditions than those living in AHH.

Table 3- Percentage of Children in Living Arrangements by SES- 2005

	CHH	YAH	Skip Generation	Sick Adults	AHH
Poor	25.9	11.8	23.8	53.5	16.2
Not Poor	74.1	88.3	76.2	46.5	83.8
Total	100.0	100.0	100.0	100.0	100.0

Source: Own calculations based on DHS data

In line with the findings of Meintjes et al (2010), table 4 shows that a high proportion of children that report having both parents alive and live in CHH and YAH, in both cases more than half of the total number of children living in this type of household. Contradicting the established idea about CHH, the proportion of double orphans living in them is relatively small, less than 10%. This could be a result of data collection problems, as orphaned children in CHH might tend to misreport the status of their parents for fear of being dispossessed or separated from their siblings. On the other hand, it might be the case that a significant proprotion of CHH and YAH are in fact established for reasons other than parental death.

Table 4-Percentage of Children in Selected Living Arrangements by Orphan Status - 2005

Orphan Status	CHH	YAH	Skip Generation	Sick adults	AHH
Both parents alive	65.3	52.4	47.5	70.6	79.1
Maternal Orphans	6.8	8.7	9.7	5.6	3.1
Paternal Orphans	19.9	19.3	20.3	19.3	12.8
Double Orphans	8.0	19.6	22.5	4.5	5.0
Total	100.0	100.0	100.0	100.0	100.0

Source: Own calculations based on DHS data

Children as young as 13 years of age are reported as head of households although the majority (44%) of heads in CHH are 17 years old. In general, members of CHH and YAH are older than children living in households with adults: 80% of children in CHH are between 10 and 17 years old.

In terms of their size, both CHH and YAH present a higher proportion of households composed by one children only (14.9 and 28.3 respectively) than households with adults, as shown in table 5. As observed by Kuhanen et al (2008), in a large number of cases only a portion of all siblings stayed at their parent's house to establish a CHH, while the rest (especially the younger ones) are taken in by members of the extended family. However, in the case of CHH the proportion of households with more than five children is relatively high (more than 25%).

Table 5- Number of Children in Living Arrangements 2005/6

	CHH	YAH	Skip Generation	Sick adults	AHH
1	14.9	28.3	12.8	5.5	7.9
2 to 4	58.7	58.0	66.0	57.8	60.7
>5	26.4	13.6	21.2	36.7	31.5
Total	100.0	100.0	100.0	100.0	100.0

Source: Own calculations based on DHS data

Multivariate Analysis

Table 6 presents the odds ratios for basic needs coverage. Contrary to expectation, living in households with no adults (CHH and YAH) significantly reduces the odds of having unmet basic needs[1] by 36% in comparison with children living in households headed by working-age adults. On the other hand, children living in skip generation households and households with sick adults are significantly less advantaged than children living in households with healthy adults. The odds of having at least one unmet basic need are 44% higher for children living in a skip generation household and more than two times higher for children living in households with sick adults.

Table 6- Basic Needs Odds Ratios - Zimbabwe 2005/6

Sample size: 15077	*Unmet Basic Needs (5-17)*		
Variable	Odds Ratio		Robust Std. E
Living Arrangements			
Adult-Headed Households (Ref)			
CHH & YAH	0.64	*	0.133
Skip Generation Households	1.44	**	0.152
Sick Adult Households	2.19	**	0.278
Orphan Status			
Both Parents Alive (Ref)			
Orphans	1.67	**	0.099
SES			
Poor (ref)			
Middle	0.47	**	0.033
Rich	0.16	**	0.019
Age			
5 to 9 (ref)			
10 to 14	0.95		0.037
15 to 17	0.59	**	0.034
Place of Residence			
Rural (ref)			
Urban	0.34	**	0.050

** significant at 1% * significant at 5%

The effects of the different types of living arrangements are significant after controlling for orphan status, SES and age. The odds of having unmet basic needs for poor children and orphans are higher than for children living in more advantaged households and non-

[1] Not having a blanket or a pair of shoes or two sets of clothes.

orphans. Younger children also have increased odds of lacking basic material resources, although the difference between the two younger groups is not statistically significant.

Discussion and Conclusions

As it has been found in other countries in Sub-Saharan Africa (Meintjes et al, 2010; Ruiz-Casares 2009), a significant number of CHH and YAH in Zimbabwe are not direct consequences of parental death. Besides, in spite of rapid increases in the number of orphans their number has remained relatively stable since 1999. Hence, the link between the growing number of orphans and the increase in CHH and YAH is, at the very least, ambiguous.

Our results also suggest that children living in CHH and YAH are in a better position than children living with healthy adults in terms of the satisfaction of their basic needs, while skip generation and sick adult households proved to be distinctly more vulnerable living arrangements.

The specific targeting of CHH by social programs has been questioned before, both on the grounds of low prevalence (Hosegood, 2007) and relatively low vulnerability (Ritcher and Desmond, 2008). However, we insist on the need to exercise caution in the interpretation of our findings. Due to the nature of the phenomenon, it is hard to tell to what extent these results reflect data collection problems and to what extent they accurately describe the current situation of children in Zimbabwe. In the case of CHH in particular, misreporting is likely to occur regarding the living status of parents, not only for lack of accurate information but also because children might be afraid of being separated from their siblings and losing their land and property.

Selection issues might also explain the better conditions of children in CHH and YAH. Given the strains experienced by the extended family, the establishment of CHH and YAH would likely be tolerated by the community in the case of children in a relatively solid position (preventing sibling separation). Thus, children from more advantaged backgrounds would be more likely to be found in households with no adults.

In the same line, the influence of formal and informal support networks should not be underestimated. As has been observed in the past (Foster,1997; Kuhanen, 2008; Ayieko, 1997), CHH are not completely without the supervision of relatives and adults from the community who might not live in the household but certainly help support it. Unfortunately, the information on support collected by DHS only covers households with OVCs, which makes it impossible to estimate the effect of external support on the well being o children living in different types of households.

Lastly, the labels CHH and YAH might be including two utterly different situations. On one hand, households composed only of children or young adults that have both parents alive and living in a separate household for reasons other than economic hardship or family crisis; the “functional” CHH found by Ruiz Casares (2009). These households would not necessarily be vulnerable as they probably count on the protection and support of parents, even when they are not official members of the household. On the other hand, the situation that has being frequently depicted in qualitative studies on CHH, where orphans are left to

live by themselves with or without sporadic supervision and support from relatives, other members of the community, or formal organizations.

In sum, it is clear that the situation of children living in CHH and YAH is more complex than it has been usually depicted in the media. However, the evidence presented so far in any case implies that CHH and YAH should not be a target for social programs and aid schemes. What they are pointing to is the need to collect more (and more exhaustive) information that would help us having a clearer picture of the vulnerabilities and risk faced by children in communities hardly affected by HIV/AIDS.

References

Agency for Cooperation and Research in Development -ACORD- (2001) Research Into the Living Conditions of Children Who are Heads of Household in Rwanda.

Ayieko, M. (1997). *From single parents to child-headed households: The case of children orphaned by AIDS in Kisumu and Siaya districts*. Study Paper No 7. UNDP. HIV and Development Programme Available: www.undp.org/hiv/publications/study/english/sp7e.htm

Bicego, G., S. Rutstein, K. Johnson. (2003) *Dimensions of the emerging orphan crisis in sub-Saharan Africa*. Social Science and Medicine 56(6): 1235 1247.

Central-Statistical-Office – Zimbabwe (2007) *Zimbabwe Demographic and Health Survey 2005-06*. Calverton, Maryland: CSO and Macro International Inc.

Chizorro, M. Orphanhood, childhood and identity dilemma of child headed households in rural Zimbabwe in the context of HIV/AIDS pandemic. Available at https://research-repository.standrews.ac.uk/bitstream/10023/454/4/M%2BFrancisChizororo%2BPhD%2thesis.pdf

Foster, G., Shakespeare, R., Chinemana, F., Jackson, H., Gregson, S., Marange, C. & Mashumba, S. (1995) *Orphan prevalence and extended family care in a peri-urban community in Zimbabwe*. AIDS Care 7(1), pp. 3-18-

Foster, G., Makufa, C-, Drew. R. & Kralovec, E. (1997) *Factors leading to the establishment of child-headed households: the case of Zimbabwe*. Health Transition Review 7(supplement 2), pp. 155-168.

Foster, G. (2000) *The capacity of the extended family for orphans in Africa, Psychology, Health & Medicine*, 5, pp 55–62.

Germann, Stefan E.(2006) 'An exploratory study of quality of life and coping strategies of orphans living in child-headed households in an urban high HIV-prevalent community in Zimbabwe, Southern Africa', Vulnerable Children and Youth Studies, 1: 2, 149 — 158

Heymann, J., Earle, A., Rajaraman, D., Miller, C. and Bogen, K.(2007) *Extended family caring for children orphaned by AIDS: balancing essential work and caregiving in a high HIV prevalence nations.* AIDS Care, 19:3,337

Hosegood, V., Floyd, S., Marston, M, Hill, C., McGrath, N., Isingo, R., Crampin, A., Zaba, B. (2007) *The effects of high HIV prevalence on orphanhood and living arrangements of children in Malawi, Tanzania, and South Africa*. Population Studies, 61:3,327 — 336

Isiugo-Abanihe, U. (1985) *Child Fosterage in West Africa.* Population and Development Review, Vol. 11, No. 1 (Mar., 1985), pp. 53-73

Kidman R, and Heymann SJ (2008) *The extent of community and public support available to families caring for orphans in Malawi*. AIDS Care:1-9.

Kuhanen, j. Shemeikka, R. Notkola, V. Nghixulifwa M. (2008) *Junior-headed households as a possible strategy for coping with the growing orphan crisis in northern Namibia.* Joumal of AIDS Researct) 2008. 7(1): 123-132

Madhavan, S. (2004) *Fosterage patterns in the age of AIDS: Continuity and change. Social Science and Medicine* , 58 (1), 1443 /54.

MacLellan, M. (2005) *Child Headed Households: Dilemmas of Definition and Livelihood Rights*. Paper presented at the 4th World Congress on Family Law and Children's Rights, Cape Town.

Meintjes, Helen, Hall, Katharine, Marera, Double-Hugh and Boulle, Andrew(2010) 'Orphans of the AIDS epidemic? The extent, nature and circumstances of child-headed households in South Africa', AIDS Care, 22: 1, 40— 49.

Monasch, R. and J. Boerma (2004) *Orphanhood and childcare patterns in subSaharan Africa: An analysis of national surveys from 40 countries*, AIDS, vol. 18, suppl. 2, pp. S55–S65

Mtika M (2001) *The AIDS epidemic in Malawi and its threat to household food security. Human Organization*, 60:178 – 188.

Mishra, Vinod, Simona Bignami-Van Assche. (2008) *Orphans and Vulnerable Children in High HIV- Prevalence Countries in Sub-Saharan Africa*. DHS Analytical Studies No. 15. Calverton, Maryland, USA: Macro International Inc.

Narayan, D. (2002) *Household food economy analysis and the effect of HIV/AIDS on food security at the household level*. Study conducted by Save the Children/UK Food Economy Group in conjunction with FEWS-NET in Kenya and Zambia.

Ntozi, J. P.M. and Zirimenya, S. (1999) *Changes in household composition and family structure during the AIDS epidemic in Uganda*. The Continuing African HIV/AIDS Epidemic. Health Transition Centre, Canberra, 193-209.

Nyamukapa, D., Foster, G., Gregson, S. (2003) *Orphans' household circumstances and access to education in a maturing HIV epidemic in eastern Zimbabwe. Journal of Social Development in Africa. Vol 18 No 2.*

Richter, L. and Desmond, C. (2008) *Targeting AIDS orphans and child headed households? A perspective from national surveys in South Africa, 1995–2005*. AIDS Care, 20:9,1019 — 1028

Ruiz-Casares, Mónica (2009) 'Between adversity and agency: Child and youth-headed households in Namibia', Vulnerable Children and Youth Studies, 4: 3, 238 — 248

Schenk, K., Ndhlovu, L., Tembo, S., Nsune, A., Nkhata, C., Walusiku, B. and Watts, C.(2008) *Supporting orphans and vulnerable children affected by AIDS: using community-generated definitions to explore patterns of children's vulnerability in Zambia*. AIDS Care,20:8,894 — 903

Thurman, T., Snider, L., Boris, N., Kalisa, E., Mugarira, E. N., Ntaganira, J., Brown, L.(2006) *Psychosocial support and marginalization of youth-headed households in Rwanda*. AIDS Care, 18:3,220 — 229

UNICEF (2006) *Africa's Orphaned and Vulnerable Generations. Children Affected by AIDS*. The United Nations Children Fund, New York.

Urassa M., Boerma, J.T., Ng'weshemi, J.Z.L., Isingo, R., Schapink, D. and Kumogola, Y. (1997) *Orphanhood, child fostering and the AIDS epidemic in rural Tanzania.* Health Transition Review, 1 Supplement 2. 141-154