

Impact of HIV/AIDS on Households in Kenya

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1.0 Introduction

Since the onset of HIV/AIDS in the early 1980s, it has become not only the deadliest epidemic in the recent global history but also has far reaching demographic, humanitarian and development crisis. Countries with high HIV prevalence have significantly reversed their levels of social development, quality of life and life expectancy. HIV/AIDS is most severe in developing countries particularly countries in Southern and Eastern Africa, Kenya included. In Kenya the pandemic has taken a downward trail in the last few years. The prevalence in 2009 was estimated at 6.3% a drop from the estimated 8.4% in 2001(UNAIDS 2010).

Households being the basic units of production and reproduction are the first units to be affected by the HIV/AIDS epidemic. AIDS related deaths are selective affecting the most productive and reproductive segments of the population. Households are robbed of prime adults and left with children and the elderly. The death of a breadwinner may lead to the impoverishment of the household. Since HIV/AIDS affects reproduction, this combined with increased mortality reduces the growth rate of the affected populations. These reduced rates imply further changes in the composition of the population and of the household. Affected households may react to their loss by bringing in new relatives or may dissolve and join existing households. The adaptive nature of households is important to understanding the dynamic of the impact of HIV/AIDS epidemic.

The objective of this paper is to explore the impact of HIV/AIDS on household structure and the welfare of such households. Using the census data of 1989, 1999 and 2009 the study will explore household demographic changes and the socio-economic well being of households most likely affected by an AIDS-related adult death. Not all prime-age adult deaths in Kenya can be attributed to HIV/AIDS. The use of a prime-adult death as a proxy for HIV/AIDS related death

in a household is supported by evidence from other researches that suggests a strong relationship between prime-adult mortality and HIV/AIDS.

The rest of the paper is organized as follows; the first part of section 2 shall give an overview of the HIV/AIDS pandemic to justify the significance of the study, while the second part will review existing literature on researches on the socio-economic and demographic impact of HIV/AIDS on households. In Section 3, I shall present the main analysis and it is divided into two parts i.e. (i) description of the characteristics of the data used in the study, and (ii) descriptive analysis.

2.0 Background

2.1 HIV/AIDS Situation in Kenya

1999 is considered the year in which the epidemic reached its peak globally (UNAIDS 2010), four decades of the existence of the epidemic, the world has turned the corner, and it has now halted and begun to reverse the spread of HIV. In 2009, there were an estimated 2.6 million new HIV infections globally, nearly 19% fewer than the 3.1 million people infected in 1999 and 3.2 million in 1997, the year in which annual new infections peaked globally (UNAIDS 2010). In Kenya the estimated number of new infections in 2009 was 92,000 (UNAIDS, 2010).

The availability of antiretroviral therapy, increased care and support for people living with HIV and also decreasing incidence has led to a decrease in the number of AIDS related mortalities particularly in the middle and low income countries. Globally the number of AIDS related deaths is steadily decreasing from the peak of an estimated 2.1 million in 2004, to an estimated 1.8 million in 2009 (UNAIDS, 2010). In Sub-Saharan Africa, AIDS-related mortalities began to decline in 2005. It was estimated that there were 320,000 (20%) fewer AIDS-related deaths in 2009 than in 2004 when antiretroviral therapy was significantly expanded. In Kenya there were

80,000 deaths in 2009 (UNAIDS 2010), a drop from 150,000 in 2003. 46% of the total orphans in Kenya were as a result of HIV/AIDS, and the number of AIDS orphans alive in 2009 was estimated at 1,200,000 in 2009 an increase from 650,00 in 2003(UNAIDS 2010).

HIV/AIDS pandemic has been associated with massive demographic shifts. Its differential mortality impact across age and sex implies significant compositional and structural changes for households. This change may not only be quantitative but also qualitative. This study focuses on the household structure to determine the economic and demographic impact of HIV/AIDS. The focus is on household structure because of the fact that an important indicator of the epidemic on the households is the increasing numbers of households caring for orphans. This growing orphan crisis has in turn led to a rise in the percentage of households headed by children, widows or widowers and grandparents. This study will examine the characteristics and welfare of these households.

2.2 Related Literature

2.2.1 Relationship between HIV/AIDS and adult mortality

Studies in Sub-Saharan Africa attribute the increase in adult mortality rates to HIV/AIDS. The typical mortality pattern in pre-AIDS Africa was high mortality rates for ages 0-4 and a subsequent decline until about age 15. Individuals surviving age 15 were not likely to die before age 60. In their comparative studies of African countries of high versus low prevalence, Ngom and Clarke (2003), used the low HIV prevalence groups probability of dying as representative of mortality rate behavior in the absence of HIV/AIDS. They demonstrated that the probability of a 15-year old male dying before reaching the age 60 (45q15) is considerably higher for the high HIV prevalence country group as compared the low HIV prevalence country group. A simple log-linear regression between national HIV prevalence and 45q15 for men explains up to 60% of

the variation in HIV prevalence observed between countries (Ngom and Clarke, 2003). Their study concluded there is a strong correlation between adult mortality rates and HIV prevalence across Sub-Saharan African countries.

In their analysis of adult mortality in rural Mozambique, Mather et al. (2004) compared adult mortality rates from prime age deaths with those from prime age mortality due to illness other than HIV/AIDS-related illness. They established that the prime-age mortality due to illness is slightly lower at 5.2 deaths/1,000 person years compared to 6.2 deaths/1,000 person years. To confirm the correlation between HIV prevalence and adult mortality they carried out an investigation of differences in mortality rates over time by age groups. They found that the highest mortality rates were for the 0-4 and 50+ age groups, with lower but increasing mortality for the age-groups 15 – 49 years in the period 1999-2002 which is matching the dramatic increase in the HIV prevalence rates in Mozambique. The finding is further compounded by the fact that there is negligible increase over time for the group that is least affected by HIV (5-14 years).

2.2.2 Demographic impact of HIV/AIDS on households

Whereas some households may dissolve due to HIV/AIDS related deaths others are likely to undergo changes in structure. There is likely to be more female-headed, single-parent headed, child-headed and elderly-headed households. Dzambukira and Levin's (2007) study findings show that HIV/AIDS affected households have a much different house hold structure than the non-affected households. As can be expected, affected households have a higher number of widows and widowers (27% of affected household heads were widowed as opposed to 11% of non-affected. While 78% of the not-affected household heads were married only 56% affected households were married. Differences also include a higher dependency ratio in the affected

households (higher number of dependants as compared to working age household members and a much higher number of orphans. There were 555 single orphans in affected households as opposed to 188 in not affected households.

Significant mortality experiences primarily affecting the middle-aged adults and children have been realized with the HIV/AIDS pandemic. This differential mortality impact across age categories implies that the age structure of the population and the composition of its households should be significantly altered by severe HIV/AIDS epidemic. Structural changes in the household are more likely to occur due to a significant decrease in the number of children 0-5 years in the households. The effect of the pandemic on fertility is negative as not only does it kill the most reproductive population, but also, women who are HIV positive are more prone to negative pregnancy outcomes such as spontaneous abortions and still births as compared to those who are HIV-negative (De Cock et al., 1994).

In rural South Africa, studies have shown a decrease in household size between 1996-2003, and an increase in extended, complex household types such as multigenerational or related households (Madhavan and Schatz 2007; Wittenberg and Collinson, 2007). Monasch and Boerma (2001) in their comparative analysis of 40 Sub-Saharan Africa surveys conducted between 1999 and 2005, they established the existence of child-headed households though the numbers were very few. The same findings were identified in studies carried out in Malawi, Tanzania and South Africa (Floyd et al., 2005; Hill et al., 2008; Hosegood et al., 2007a; Madhavan & Schatz, 2007; Wittenberg & Collinson, 2007). Households with skip generation just like the child-headed though present are few, as established by various African studies (Bicego et al., 2003, and Ntozi and Zirimenya, 1999).

2.2.3 Economic impact of HIV on households

The welfare of surviving members of affected households is severely affected by the disproportional loss of individuals in their most productive arising from HIV/AIDS. HIV/AIDS starts to impact on the household's economic status with the sickness of the infected adult, the death of such an adult results in a permanent loss of income, less farm labor, lower remittances, and withdrawal of children from school in order to save on educational expenses and increase household labor, resulting in loss of future earning potential.

HIV/AIDS related mortality being concentrated among the prime-aged adults reduces the ability of households to provide for them. Dependency ratios increase, as fewer adults care for children and the elderly. Increasingly, older members of extended families assume a greater role in caring for and supporting remaining family members. The loss of a male adult can leave the remaining women and children with fewer economic opportunities and less control over productive assets, including equipment and land. According to Berkely et al. (1990), this mortality pattern is likely to increase the dependency ratio within the households. The net effect however will depend on the relative effects of HIV/AIDS on the mortality of adults and children, and on the effect of the disease on fertility.

In Zambia, Haworths (1991) established that households experiencing HIV/AIDS deaths undergo a rapid transition from relative wealth to relative poverty. The survey of HIV/AIDS affected families found that the shift into poverty was most visible in families in which the deceased father was both the breadwinner and tenant of a house. Many such families were forced to move after the death of the father, with a majority of those families reporting economic difficulties.

Another aspect of the impacts of the disease is the change in the structure and composition of households. In many affected regions in developing countries, more and more older persons are taking care of AIDS orphans. This has implications for the welfare of the children as well as for that of their caregivers. Studies conducted in Zimbabwe (WHO, 2002) and Thailand (Knodel et al, 2002) showed that older caregivers are under serious financial, physical and emotional stress due to their care-giving responsibilities. The AIDS epidemic not only puts more stress on older persons, but it also impoverishes them at the very same time they themselves may need to be taken care of. This is especially true in societies where the younger relatives are responsible for the care of older persons.

In rural Kenya the impact of the disease on households is profound. Small holder rural households lost between 58-78 percent of household income following an HIV/AIDS related death of an economically active adult in a three-adult household. In the urban household, the loss ranges between 54-66 percent (Yamano and Jane, 2004).

One of the coping mechanisms that households adopt to respond to a prime-adult death is a change in the household structure and composition. Following an adult, children may join another household. Heuveline (2004) argues that the impact of HIV/AIDS mortality at household level is diffused throughout the entire population through kinship links. Floyd et al, (2003) agree with this line of argument. If this kinship links do exist then it implies that there exists an unjustified bias in the allocation of HIV/AIDS funds and development efforts for orphans who may not necessarily need them. This line of argument forms the basis for this study, which seeks to shed light on coping mechanisms adopted by surviving family members. The study being descriptive in nature forms a strong basis for further empirical analysis on the welfare of households vulnerable to HIV/AIDS mortalities.

3. Analysis

3.1 Data

The data used in this study was collected during the 1989, 1999, and 2009 national censuses.

The three censuses represent different phases of the HIV/AIDS pandemic. 1989 represents the early years of the pandemic, 1999 representing the peak and 2009 representing the years of declining trends in both adult infection rates (attributed to behavior change) and deaths (due to increased access to antiretroviral therapy treatment). The descriptive and empirical analysis in this study is based on data of household structure and characteristics collected in the three censuses. Information is collected about all household members, household living conditions, educational attainment of household members and the vital status of their parents.

3.1.1 Household welfare

Simon Gregson et al. (2007) used ownership of a radio and whether or not a house has a finished floor as a measure for socioeconomic status. These measures have been used in multidimensional scaling techniques as crude but effective measures of the socioeconomic status of households. The 2009 census collected information on ownership of household assets, this together with the information on household size, and the education status of the household head are used as an indicator of the wellbeing of households.

3.1.2 Household structure

Information on the survival status of parents for all children under 18, together with the marital status of the household head and how he or she is related to all the other household members is used to identify each household with various household structures.

Household structure types used in this analysis include:

1. Single Parent households in which the household head is a widow or widower.

2. Child-headed households in which the household head is under 18 years old.
3. “Missing generation” households in which there exists at least one orphaned child who is a grandchild to the household head.

These 3 types of households are considered in this study to be the ones with the highest probability of being affected by an AIDS death.

3.2 Descriptive Analysis

Descriptive analysis is used to determine the prevalence of emerging household structures i.e. single-parent, child-headed and missing generation.

3.2.1 Orphan prevalence rates

The basic unit of this analysis is the household thus households with multiple orphans are treated the same as households with one orphan. Table 1 below presents the prevalence of orphans in the three inter-censal periods. The proportion of households with orphans was 0.151, 0.186, and 0.150 for 1979-1989, 1989-1999 and 1999-2009 respectively. The proportion of households with at least one orphan increased in the period 1989-1999 and a decrease is noted in the period 1999-2009. These results agree with Dzambukira and Levin (2007) whose results using KDHS 1998 and 2003 were 0.0969 (for single orphans), 0.0130 (for double orphans), and 0.1131 (for single orphans) and 0.260 (for double orphans) for the 1998 and 2003 DHS' respectively. For all the three periods, more than 60% of households with orphans were in the rural.

The proportions of households with at least one orphan and the changes in the proportion of such households over time as summarized in table 1 mirror epidemiological data on the level and trend of HIV epidemic in Kenya. The prevalence rates were low in the 80s, between 1983 and 1985 there were 26 cases of HIV/AIDS reported to WHO, and 286 cases in 1987. In 1990 the prevalence rate was 3.1%, through to the mid 1990s infection rates rose steeply. 1993 was the

peak of new adult infections in the country at 200,000. The HIV/AIDS pandemic reached its peak in 1997/1998, prompting the president to declare it a national disaster in 1999, making it a top political and development agenda. This decree resulted in drops in infection rates, in 2005, the infection rates dropped from the late 1990s registering a drop of 10% to about 6.5% in 2005 (WHO/UNAIDS). These findings strongly support the assumption in this paper that majority of the prime-adult deaths are attributable to AIDS and as a result, HIV/AIDS is the single most important determinant of observed changes in household structure.

Table 1: Orphan prevalence

Year	Proportion of households with at least one orphan		
	Total	Rural	Urban
1989	0.151	0.821	0.179
1999	0.186	0.609	0.391
2009	0.150	0.774	0.226

3.2.2 Household Structure

This section looks at the changes in the proportions of different household structures among the households with orphans. The frequency of these emerging household structures however is still very low in the country with none of them making up 10% of the proportion of households in Kenya (see table 2 below). These results are in agreement with studies carried out in other parts of Sub-Saharan Africa including South Africa, Kenya, Malawi, Tanzania, Zimbabwe and Uganda which found low prevalence of these types of household structures. In all these Sub-Saharan African studies the child-headed households were found to have the lowest prevalence.

Throughout the period under observation, the missing generation households had the highest proportion of households with orphans (0.545, 0.570 and 0.618 in 1989, 1999 and 2009

respectively) followed by the single parent households (0.35, 0.317, and 0.352 in 1989,1999 and 2009 respectively). The proportions of child headed households have been decreasing throughout the period while the missing generation households have recorded an increase through the three periods. The proportions of single parent households increased in the period 1989-1999 and decreased in the period 1999-2009. The child-headed households recorded a decline in proportions from 0.083 to 0.052 to 0.245 for 1989, 1999 and 2009 respectively (see table 3 below).

Like in the above findings on orphan prevalence all of these household structures are more predominant in the rural than in the urban. The single-parent household in the rural declined from 0.905 to 0.570 the rose again to 0.752. In urban this type of household has been declining. The child-headed household recorded a downward trend in the rural throughout the period under observation but in the urban the proportions increased in 1999 (0.436 from 0.284) then dropped to 0.402 in 2009. The proportions of missing generation households dropped from 0.785 in 1989 to 0.639 in the rural then increased to 0.795 in 2009. In the urban the proportions of these households increased in 1999 to 0.361 from 0.215 then dropped again in 2009 to 0.205 (see table 3 below)

The single-parent household captures best the changes and development of HIV/AIDS pandemic in Kenya. With few reported deaths from 1984 when the first case was reported, 38 AIDS related mortalities were reported in 1987. In 1994, AIDS had claimed an estimated 100,000 lives. AIDS related mortalities peaked in 2003, in 2009 an estimated 80,000 deaths were due to AIDS (WHO/UNAIDS).

Table 2: Household structure

Year	Single-Parent	Child-headed	Missing Generation
1989	0.053	0.013	0.086
1999	0.070	0.010	0.106
2009	0.053	0.005	0.093

Table 3: Household structure

Year	Single-Parent			Child-Headed			Missing Generation		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1989	0.350	0.905	0.095	0.083	0.716	0.284	0.565	0.785	0.215
1999	0.377	0.570	0.430	0.052	0.564	0.436	0.570	0.639	0.361
2009	0.352	0.752	0.248	0.030	0.598	0.402	0.618	0.795	0.205

3.2.3 Household Welfare

This section looks at the 2009 census data to assess the well being of orphans in the different household structures. The gender of the household head is an important indicator of the well-being of the household. The absence of a mother could impact negatively on the nutritional status of an infant, while larger households tend to be poorer. Education status of the household-head is used as a proxy for socio-economic well-being while ownership of household assets in this paper is a proxy for economic well-being.

The missing generation household type has the largest average size 5.4, followed by single parent 4.97. Of the households with one or more orphans, 0.722 are headed by women (table 3 below).

The education status of most of the household heads for households with orphans is primary complete accounting for 0.067 of all households. Majority of the single parent household heads

have primary complete as their highest level of education reached, majority of the child headed household heads have primary incomplete while for the missing generation type majority have primary complete as highest level of education attained. The missing generation has the least number of primary complete and heads with education above secondary.

The most owned asset by households with orphans is the mobile phone (0.352) followed by radio (0.271) while only 0.010 own a TV. The child headed household leads the rest in ownership of household assets. 0.845 of these households own a radio, 0.789 own a mobile while 0.031 own a TV. The least proportions owning various household assets are the single-parent household. Of these 0.240 own a radio, 0.008 own a TV and 0.407 own a mobile phone. TV is the least owned household item by all household types.

Table 4: Households Socio-Economic Status

i. Proportions of households by size				
Household Type	Average household Size			
Child-headed	2.55			
Single-parent	4.97			
Missing generation	5.4			
ii. Proportions of households by gender of household head				
Household Type	Male	Female		
Households with orphans	0.278	0.722		
Child-headed	0.583	0.417		
Single-parent	0.366	0.634		
Missing generation	0.098	0.902		
iii. Proportions of households by household head's education status				
Household Type	None	Primary incomplete	Primary complete	Secondary and above
Households with orphans	0.413	0.398	0.067	0.122
Child-headed	0.074	0.443	0.209	0.275
Single-parent	0.388	0.363	0.085	0.165
Missing generation	0.444	0.415	0.050	0.090
iv. Proportions of households by asset ownership				
Household Type	Radio	TV	Mobile Phone	
Households with orphans	0.271	0.010	0.352	
Child-headed	0.845	0.031	0.789	
Single-parent	0.240	0.008	0.407	
Missing generation	0.261	0.010	0.299	

4.0 Discussion

4.1 Findings

In this paper I sought to explore the changes in HIV/AIDS affected households and the welfare of such households. The orphan prevalence rate declined in 2009 and most households that have orphans tend to be concentrated in the rural than in the urban in the entire period under study.

The higher prevalence of households with orphans in the rural could possibly imply that following the death of the head, as a coping mechanism, the orphans usually migrate from urban to join their rural relatives mostly their grandparents. The missing generation household type has the highest proportions (above 50%) of households with orphans except in 1999. The child-headed households are rare accounting for less than 2% of all households with orphans, strongly supporting the rural-urban migration theory. Another plausible explanation for the predominance of households in the rural could be that following the death of a male sole breadwinner, as a coping strategy the wife relocates with the children back to their rural home.

The emerging household structures still make a small proportion of the entire household populations. The missing generation households accounts for the predominant household type among the three. Child-headed households are very few less than 2% percent implying that orphans are mostly absorbed in other types of households following the demise of their parents. Households with orphans are headed mostly by women, and the highest level of education reached by the heads is mostly primary complete. Only 27% of these households own a radio and 1% owns a TV. These findings suggest that households with orphans are not well-off economically and socially. With the heads highest level of education being primary incomplete, they are unable to secure good jobs. Households headed by women with low education

attainment, are more likely to record poor infant and child health indicators. The missing generation households have the biggest household size while the child-headed have the smallest. Most of the heads of missing generation households 44.4% have no education and 41.5% have primary incomplete and 26% of them own a radio while 0% own a TV. They are thus poorer than the single and child-headed households.

4.2 Conclusion

There is general decline in the prevalence of orphanhood, widowhood, single parent and missing generation households. The trends in their prevalence echo the trends in the prevalence and development of HIV/AIDS. The study findings agree with the hypothesis that social networks through extended kinship play a major role to cushion the orphans from the impact of HIV/AIDS evidenced by the very low prevalence of child-headed households.

The above findings indicate the tremendous gains that Kenya has gained from efforts put in to mitigate the spread and impact of HIV/AIDS. Behavior change and antiretroviral treatment have succeeded in mitigating the orphan crisis as the orphan prevalence is now on the declining path. The socio-economic status of household with orphans is not good although the findings of this study are not conclusive. They only insinuate the fact that given the level of education of the heads and the ownership of assets, these households are more likely to be poor. With this basis an empirical study can be undertaken using the same data to determine how well being of households with orphans.

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