Dissertation By
MUGABE
ROBERT

MAKERERE
UNIVERSITY

THE IMPACT OF HIV/AIDS ON RURAL HOUSEHOLD WELFARE IN RUKUNGIRI DISTRICT

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BY

MUGABE ROBERT

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DECLARATION

This is to declare that this work is original and has never been presented for any academic award in any University or other institution of learning.

Signature…… Date……

Mugabe Robert

2002/HD06/1265/U

Supervisors

Signature…… Date……

Dr.J. Ddumba Ssentamu

Faculty of Economics and Management

Makerere University, P.O Box 7062, Kampala

Signature…… Date……

Dr. J.W. Muwanga

Faculty of Economics and Management

Makerere University, P.O Box 7062, Kampala

DEDICATION

To them that I'm,

My Parents who introduced me to the formal education system.

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ABSTRACT

Many energetic household members in Rukungiri district have died of HIV/AIDS. One consequence of this has been the existence of many young married household heads where at least one partner has died. This study attempts to investigate the impact of HIV/AIDS on rural household welfare in Rukungiri district.

A control group approach was used. Data was collected by the use of questionnaires, interview schedule and observation from both the affected households and unaffected households. The study aimed at finding out how HIV/AIDS has led to depletion of households' productive assets. A binary logistic regression analysis was used to establish whether there is a significant difference in the sources of income for medical expenses between the affected households and unaffected households with the aim of finding out the extent to which HIV/AIDS has led to depletion of households' productive assets to lead to deterioration in households' welfare.

The study has established that HIV/AIDS has led to deterioration in the welfare of the affected households. This is because HIV/AIDS as a long wave disaster has led to exhaustion of savings and increased borrowing and the end result has been depletion of productive assets leaving the survivors with minimal means of survival. Productive assets commonly depleted include; land, cattle, goats, chicken, sewing machines, wheelbarrows and bicycles.

The study recommends that traditional indigenous groups, which are already operating in the area with the major activities that include; assisting with burial ceremonies, Communal farming, supporting HIV/AIDS patients, rebuilding dwellings and rehabilitating farms, supporting survivors and creating income generating activities as well as providing material support, should be assisted by the government in collaboration with the donor agencies. The assistance should be in the area of training to strengthen their capacities in HIV/AIDS advocacy and home care support as well as providing them with funds to meet their requirements of their activities.

The study also recommends the provision of free anti-retroviral therapies (ARVs) by the government to the affected households, accompanied by provision of food rations for providing nutritional requirements. This will save the depletion of productive assets of the affected households since most of the assets are sold to meet the medical expenses.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is a major impoverishing force and among the leading causes of death in all age groups today. It is estimated that in the world 20 million people are already dead since the first case of HIV/AIDS was identified in 1981most of them from Eastern and Southern Africa. Today, it is estimated that 37.8 million people worldwide are living with HIV/AIDS of which over two-thirds are in sub-Saharan Africa (UNAIDS, 2004).

In 2003, an estimated 4.8 million people worldwide became newly infected with HIV/AIDS of which 3 million were in sub-Saharan Africa and 2.9 million people died. Women accounted for nearly 50 percent of all people living with HIV/AIDS worldwide and for 57 percent in sub-Saharan Africa. Young people of 15-24 years old account for half of all new HIV/AIDS infections worldwide and it is estimated that more than 6000 people contract the virus each day (UNAIDS 2004). This means that HIV/AIDS is spreading throughout the general population rather than being confined to populations at a higher risk, for example, sex workers and their clients, homosexuals and injecting drug users (UNAIDS, 2004). In general, more affected countries are found in Eastern and Southern Africa where it is responsible for the loss of 10-20 years of life expectancy (UNAIDS, 2000).

The effect of the disease has been pervasive, affecting all socio-demographic and economic categories of the population with considerable short and long-term ramifications. The epidemic mainly affects the productive categories of the economically active age bracket. As a result, it affects labour supply in all sectors of the economy especially in the rural households where labour intensive methods of production are mainly employed.

HIV/AIDS is condemning millions to misery and poverty. So far, HIV/AIDS has left behind 13.2 million orphan-children who before the age of 15 lost either mother or father or both parents to HIV/AIDS. Many of these children have died, but many more survive not only in Africa where 95 percent currently live, but also in developing countries throughout Asia and America. In African countries that have had long severe epidemics, HIV/AIDS is generating orphans so quickly that family structures can no longer cope (UNAIDS, 2000). In the absence of effective efforts to mitigate the effect of HIV/AIDS on this generation, all societies will become less functional, with negative consequences for human development and even basic security.

In light of the above, the causes and consequences of the HIV/AIDS pandemic are widely associated with wider challenges to household development such as increase in expenditure, shortage of labour force, loss of income, selling of household assets, increase in borrowing, loss of employment and decline in savings, leading to rural poverty.

These growing linkages between the impact of HIV/AIDS and rural household welfare constitute a formidable challenge to development policy and practice.

Recent data suggests that the HIV/AIDS epidemic is continuing to evolve. In the 45 most affected countries worldwide, it is projected that 68 million people will die prematurely as a result of HIV/AIDS between 2000 and 2020. The projected toll is greatest in sub-Saharan Africa where 55 million additional deaths can be expected (UNAIDS, 2002). This is an indication that HIV/AIDS pandemic is increasing its intensity of infection.

Globally, the epidemic continues to exert a devastating toll on individuals and families. In the hardest-hit countries, it is erasing decades of health, economic and social progress, reducing life expectancy by decades, slowing economic growth, deepening poverty, and contributing to exacerbating chronic food shortages (UNAIDS, 2004).

Like in other developing countries, in Uganda, past studies have shown that HIV/AIDS is significantly depleting the most productive human resource, both technically in terms of skilled personnel trained at a considerable cost, and physically in terms of household labour force, which is critical to a predominantly household agricultural economy.

From an examination of the features of the rapidly increasing HIV/AIDS cases in the annual Aids Control Program reports and the spread of the epidemic to all parts of Uganda, it is apparent that HIV/AIDS is directly and indirectly causing adverse social and economic effects to a significantly large number of households (Nalwadda, 1995) cited by (Tumwine, 2002). Severe as the short-term impact of HIV/AIDS may be at household level, it is the long-term impact

of multiple deaths that are of greatest concern for household survival and overall development. Households may recover overtime from one death but multiple deaths may be crippling.

Planning horizons tend to become short with HIV/AIDS because of immediate needs, including heavy demand on health-related expenditure, particularly on men, just as household incomes are dropping. Medical costs related to HIV/AIDS appear to be higher than those on average for other health problems largely because of the long period of failing health and a range of opportunistic infections. It is worthy noting that spending on males with HIV/AIDS may be particularly high as in the example in Tanzania (UNAIDS, 2004).

HIV/AIDS has devastating effect on food security. Between 1999 and 2001, about 842 million people worldwide were undernourished, of which 95 percent of them were in low and middle-income countries. Sub-Saharan Africa accounts for 11 percent of the world's population. It is also home to 24 percent of the world's undernourished people. This means the epidemic is unfolding in a setting dominated by chronic malnutrition and food shortages. It causes farm labour losses and depletes family income that would normally purchase food. In Zambia, research shows that the poorest economically active households rely heavily on cash income for food (Food Economy Group, 2001) cited by (UNAIDS, 2002). When the price of food increases, poor families are hit hardest.

Poor households are particularly in danger of losing their economic and social viability, eventually being forced to dissolve with the children migrating

elsewhere (Akintola and Quinlan, 2003) cited by UNAIDS (2004). HIV/AIDS-affected households also appear more likely to suffer severe poverty than non-affected households and, older parents who lose adult children to HIV/AIDS are exceptionally prone to destitution (Rugalama, 1998).

This study considered a household to be a group of people that consists of all members of one family related by blood, marriage or adoption and including also other persons such as the house-keeper or farm labourers who normally live together in one house or closely related premises, cook and eat together. In certain cases it also consists of only one member living alone. It also considered welfare to mean a state of well being of the households measured in terms of basic necessities that are enjoyed by the households such as food, clothing, beddings, shelter, basic health care, education, and land as a productive asset.

1.2 Research Problem

HIV/AIDS has led to deterioration of households' welfare by causing loss of employment and household assets. The reduction in labour supply due to ill health and increases in expenditure to cater for the medical expenses and other necessities has led to households to resort to selling of assets (UNAIDS, 1999; Booysen, 2002). Some households have sold off their productive assets such as; land, livestock; investment capital (sewing machines, bicycles, wheelbarrows) hence becoming vulnerable to consequences of small asset base. The reduced asset base limits the ability of households to diversify their productive activities. The extent to which HIV/AIDS has impacted on households' welfare in Rukungiri district is unknown.

1.3 Objective of the study

The objective of the study is to investigate the impact of HIV/AIDS on rural household welfare.

1.4 Scope of the study

This study is restricted to investigating the impact of HIV/AIDS on rural households welfare in Rukungiri district of western Uganda. Rukungiri district was chosen because it is one of the districts where few detailed studies if any have been carried out on the impact of HIV/AIDS on rural households' livelihoods.

1.5 Significance of the study

It is expected that the study will provide understanding of the relationship between HIV/AIDS and rural households' welfare, to guide policy makers and implementers on possible interventions. The study finding will also serve as extra literature for scholars in the area of HIV/AIDS and household welfare.

1.6 Hypothesis

The study tested the hypothesis that there is no significant difference in the state of welfare between the households affected by HIV/AIDS and unaffected households.

1.7 Organisation of the study

There are six chapters in this study. Chapter one presents the background of the study, research problem, objective of the study, scope of the study,

significance of the study, hypothesis, and summary of the methodology and organization of the study.

Chapter two presents the social and economic environment of the area of study, problem of HIV/AIDS and coping mechanism of households affected by HIV/AIDS. Chapter three is the review of literature and it covers HIV/AIDS in Uganda, poverty and welfare in Uganda, HIV/AIDS and household welfare, and the theoretical frame work of the study are all reviewed in this Chapter.

Chapter four presents methods and procedures, which were used to carry out the study. It gives information on the techniques that were used which include; study design, study area, data collection techniques, data analysis methods and interpretation and hypothesis testing.

Chapter five presents findings and discussions of the study in relation to the problem while Chapter six draws conclusions and recommendations to both the district of the case study and to government.

CHAPTER TWO

HOUSEHOLDWELFARE AND HIV/AIDS STATUS IN RUKUNGIRI DISTRICT

This chapter presents location, physical features and infrastructure of the district, social and economic environment of the district, the problem of HIV/AIDS in the district and poverty situation in the households that lost their household heads.

2.1 Location, physical features and infrastructure

Rukungiri district is located in southwestern Uganda, bordering the districts of Ntungamo in the east, Kabale in the south, Bushenyi in the north and Kanungu to the west. It lies at an approximate altitudinal range of about 615 metres to 1864 metres above sea level. The administrative Headquarters of the district are situated in Rukungiri Town council about 400km from Kampala, the capital city of Uganda (District profile report, 2004).

Rukungiri district has a total area of about 1,524.28sq. Kms, 11 percent of which comprises tropical rain forests, 5.5 percent woodland, 2.6 percent bush land, 21.3 percent grassland, 52 percent farmland and 7.6 percent open water. It is characterized by undulating hills, which are usually smooth in outline, with steep fluted slopes. The hilltops continually rise to over 1846 metres above sea level.

The district has three distinctive topographic zones. These include; the highland area that is associated with rejuvenated landscapes, the plateau area that is associated with gently undulating plains merging into lake Edward and, the rift valley area which is relatively flat with broad tracts of clay swamps. There is an elongated trough-like feature cutting across the district. It is extensive in

Bwambara sub-county, especially the Queen Elizabeth National Park. The district has mean annual rainfall that ranges from 700mm-1200mm, with daily temperatures ranging from 15 degrees to 20 degrees centigrade.

According to the 2002 population and housing census, the district has 69,010 households. Its population density is 220 persons per sq.km. It is the 16th district with the highest population density in the country and the third in the western region. It has a total population of 308,696, of which 144,875 are males and 163,821 are females.

Rukungiri district has two counties namely; Rujumbura and Rubabo with a total of 11 sub-counties including the Town council, 77 parishes and 825 villages. Its geographical location and its physical features especially Lake Edward where fishing takes place in Rwenshama fishing village, gives it a peripheral district status.

2.2 Social and Economic Environment of Rukungiri district

Rukungiri district in general is an agricultural area employing over 90 percent of the working population. Majority of the farmers are small holders using traditional agricultural techniques and keeping some animals. It is endowed with arable land and three lakes, namely; Edward, Kimbugu and Gambunda. But it is Lake Edward where many people fish for both food and trade. Crops like coffee, banana, Irish potatoes, tobacco, sorghum, beans, maize and groundnuts are the core crops for household incomes and food.

The district is one of the few in the country endowed with a great variety of flora and fauna, mainly found in Queen Elizabeth National Park, Kigezi wildlife reserve and Maramagambo forest. Animals found in the park include; Buffalos, Climbing Lions, Elephants, Uganda Kobs, Toppi and many species of reptiles, birds and other animals. These form part of the tourist attractions to the district. However, due to population increase in the district, human activity has encroached on the forests and game reserves, which is causing their destruction.

Communities living near these forests and game reserves are meeting continuous problems caused by animals that escape from protected areas. These animals destroy crops and eat up domestic animals. This has contributed to poverty in the district especially in the sub-county of Bwambara.

According to the district profile report (2004), the district has 3,746 micro and small enterprises engaged in retail trade of agricultural produce and manufactured consumer goods. A few traders are engaged in wholesale of hardware and some are agents of manufacturing industries like Breweries, soft drinks, tobacco and mattresses. Trade is mostly concentrated in Rukungiri Town Council and scattered in 42 rural trading centers. Farmers and traders carry out trade in routine daily, weekly and monthly markets. They also carry out trade in market on a daily, weekly and monthly routine. However, the market infrastructures are in a poor state.

There is cross- border trade in agricultural produce and livestock to and from neighbouring districts of Bushenyi, Kabale, Ntungamo and neighbouring countries of Democratic Republic of Congo and Rwanda.

Public health care in the district for both rural and urban population is provided by two private Hospitals, namely; Nyakibale and Kisiizi hospitals, 38 health centers, 17 private clinics and 43 drug shops. However, the fact that there is not any government hospital in the district that provides free services to the population is an indicator that the poor cannot access sufficient health services (District profile report, 2004).

2.3 The problem of HIV/AIDS in Rukungiri district

The first HIV/AIDS cases were reported in Rakai district around Kasensero landing site in 1982. By 1986, it had spread throughout the country. This is the time when the serious campaigns spearheaded by the president and his government started nationwide. A multi-sectoral approach involving politicians, local leaders, religious leaders and others was applied to combat the epidemic.

The main emphasis was put on the creation of public awareness through health education and, removing the negative image, which would bring about avoidance and stigmatization of the victims. There after, an influx of donors led to the formation of community-based organizations (CBOs) and NGOs as well as research projects.

Much as Uganda is regarded as a success story in reducing the sero-prevalence rate from 30.5 percent in 1990's to 6.1 percent in 2004, in Rukungiri district,

according to District Director of Health Services, the infection rate is still high. In the age category of less than 15 years, 37.5 percent of males are infected, while 40 percent of the females are infected. In the age category of 15-24 years, 14.6 percent of males are infected by HIV/AIDS, while17 percent of females are infected. In the age category of 25-49 years, 40.3 of males are infected, while 45 percent of females are infected. In the category of 50 years and above, 32.4 percent males are infected, while 24.1 percent of females are infected, making an overall HIV/AIDS sero-prevalence in the district as 30.4 percent, which is far higher than the national average.

HIV/AIDS is by far much more than just a medical problem. Its effects extend to social, economic and political aspects of life. Economically, HIV/AIDS problem affects mainly the productive age. This results into a vicious circle of poverty with low productivity and low income. This is because when these people contract the HIV/AIDS, they fall sick such that they are no longer as productive as before. They end up getting less income and therefore cannot get enough medical care, which further leads to even lower productivity, and the circle continues. The HIV/AIDS scourge has also caused re-allocation of resources from economically viable projects to HIV/AIDS prevention and care.

Socially, HIV/AIDS is associated with family disruption, which manifests its self mainly in rising numbers of orphans, widows and widowers. HIV/AIDS has also threatened the district in regard to her present and future political leaders, voters, as well as the militarily eligible young men and women.

2.4 Poverty situation in households that lost their household heads in the district

According to Poverty Eradication Action Plan (PEAP) (2000) cited in Plan for Modernisation of Agriculture (PMA) (2003), at the level of the household, poverty is related to rural residence and specifically to living in the North or East; to land shortage, to low levels of education, to living in households headed by females, widows, or by someone old and limited access to markets. But, there seems to have been an oversight of not including poverty as being related to even widowers who abandon their jobs to look after their children whose mothers have died. As their incomes reduce, they are forced to sell off their productive assets and live with almost no productive resources.

Poverty is reflected in the form of lack of basic necessities such as access to health units, good shelter, enough food, sufficient clothing, access to land, agricultural in puts, seeds and tools, inability to take children to schools and lack of security (LWF, 2000).

In trying to devote more time taking care of the sick person, land becomes over grown with weeds and coffee and banana plantations are left unattended. While the family's food supplies and incomes are falling, the need for money increases, especially to pay for medical treatment. To obtain cash, family savings, family possessions, for example livestock, furniture and even land are sold. This makes the households not able to meet the basic necessities of life that leads to deterioration in their welfare.

Mention is also made of poverty in terms of educational needs. There is widespread lack of school fees especially at the secondary level. There is also a failure to meet other school requirements like uniforms and building funds, making it hard for orphans to benefit from Universal Primary Education (PE).

CHAPTER THREE

LITERATURE REVIEW

This section presents discussion of a review of what is so far known about HIV/AIDS and its effects on household welfare. The section reviews existing literature and empirical studies on the impact of HIV/AIDS on rural household welfare and it identifies the gaps in the literature that the study will attempt to fill.

3.1 HIV/AIDS in Uganda

Uganda was one of the first countries in sub-Saharan Africa to experience the epidemic spread of HIV/AIDS. The first HIV/AIDS cases were identified in Uganda in 1982 in Rakai district on the shores of Lake Victoria (Serwadda et al, 1985) cited by (Namusisi, 2003). Since the identification of the first cases, the number of HIV/AIDS infections increased rapidly throughout the country.

HIV/AIDS is a serious health hazard in Uganda and the leading cause of death of the age from 24 to 45 (UNAIDS, 2000). The report from Uganda AIDS Commission show that by the end of December 2001, the number of people living with HIV/AIDS in Uganda was estimated at 1,050,555; of whom 945,500 were adults and 105,055 children under 15 years old. On the other hand, the cumulative number of reported HIV/AIDS cases as of the end of December 2001 was 60,173, both children and adults. The cumulative HIV/AIDS deaths since the epidemic began is estimated at 947,552 out of which 852,797 are adults, 427,153 being women, 425,644 men and 94,755 children (UAC, 2001).

HIV/AIDS has been termed a "household disease" in Uganda because nearly every household has lost a relative or friend to the disease (UDHS, 2001).

Despite the countries progress in the fight against HIV/AIDS, the success remains vulnerable. Surveillance data shows that an estimated 10 percent of the adult population is HIV-infected (Musinguzi, 2000). The infection of the people most of whom play key roles in society as parents in the family, and labourforce in the economy, has an adverse impact on the quality of life of the population. This is because HIV/AIDS reduces income sources and hits the productive labourforce (15-25) years, increases household expenditure on health related issues, diverts labour from income generating activities to care for the sick, and increases dependency as the number of orphans rises. This poses the most serious challenge to future success in reducing poverty in the country. Currently HIV/AIDS is responsible for up to 12 percent of annual deaths and the leading cause of death among individuals aged 15-49 years.

Life expectancy is currently estimated to be 43 years, 20 percent lower than a life expectancy of 54 years that would be expected in the absence of HIV/AIDS (US Census Bureau, 2000). Since HIV/AIDS affects the productive labourforce, it represents one of the causes of deterioration in households' welfare in Uganda.

3.2 Poverty and welfare in Uganda

From the results of Uganda Participatory Poverty Assessment Project (UPPAP) (1999) cited in PMA (2003), poverty is defined by the poor people as more than

just the lack of income. It is also lack of the means to satisfy basic social needs, as well as a feeling of powerlessness to break out of the cycle of poverty, insecurity of persons and property.

Common features of a poor household include; few assets for production, insufficient food, vulnerability and various forms of exclusion, inadequate income to meet health care and education costs and to obtain basic household necessities, many dependants, poor health and lack of social support. This illustrates the complexity and multi-dimensional nature of poverty, emphasizing that poverty is about more than income and expenditure data.

According to the Household survey data (1997), 44 percent of Ugandans were unable to meet their basic needs and they were living below the absolute poverty line, while 25 percent of the population could not even meet their daily food requirements and therefore live below the food poverty line.

Poverty is mainly a rural phenomenon as 48 percent of the rural population is below the absolute poverty line, compared with 16 percent of urban dwellers. Further, poverty has decreased by 43 percent in urban areas and only by 18 percent in rural areas in Uganda since 1992 (Appleton, 1999) yet more than 85 percent of the populations live in rural areas.

It is important to note that factors influencing poverty impact on other factors, producing vicious cycles of poverty. For example, poor health leads to decreased household income due to health expenditure, reduced food availability, poor

nutrition, further poor health, low income and productivity and worsening poverty (UPPAP, 1999) cited in PMA (2003). This study shall analyse how HIV/AIDS affects welfare indicators to create rural poverty.

3.3 HIV/AIDS and Household welfare

The detrimental impact that HIV/AIDS has on rural households productive capacity is felt in many ways. First, household labour quality and quantity are reduced initially in terms of productivity when the HIV/AIDS infected person is ill, and later the supply of labour falls with the death of that person. Moreover, the probability that more than one adult per family being infected is high, given the heterosexual nature through which HIV/AIDS is transmitted, it affects negatively the levels of incomes in the household. A compound factor is that infection rates are higher among women who account for 70 percent of the agricultural labour force and 80 percent of food production. In addition, other household members will devote productive time to caring for the sick persons and traditional mourning customs, which can take a minimum of 40 days for some family members. This can adversely affect labour availability (UNAIDS, 2000).

Secondly, illness of household members means suffering loss of productive labour, loss of income, loss of food reserves, savings and assets that are diverted to meet health care and funeral costs. Additionally, educational opportunities are reduced, as children are withdrawn from school to care for the sick or to do odd jobs for extra income. Yet, the withdraw of children out of school, depletion of productive assets and savings used up, the household loses its long-term

security. Reduced levels of nutrition have been found in poor households (Tumwine, 2001). To cover increased HIV/AIDS-related medical costs, households often reduce spending on food, housing, clothing and toiletries (World Bank, 1999). On average, HIV/AIDS care-related expenses can absorb one-third of a household's monthly income (Steinberg et al, 2002) cited by (UNAIDS, 2002).

Studies conducted by Tibaijuka (1997) and Rugalama (1998) in Tanzania, show that households that did not have enough income to buy food or to pay for health care, funeral expenses or education costs, sold assets in response to the crises though the amount and type of assets so disposed vary across households. Evidence shows that a wide variety of assets, except land were disposed off to generate cash for use in seeking treatment. The range of assets most commonly sold include; cattle, bicycles, chicken, furniture, carpentry tools, radios and wheelbarrows.

Asset liquidation usually begins with the sale of non-essential items but can quickly progress to selling key productive assets. In Chiang Mai, Thailand, 41 percent of households affected by HIV/AIDS reported having sold land, and 24 percent were in debt. Among rural households in Burkina Faso, selling livestock and re- organizing household labour were usual responses to serious illness (Sauerbon et al, 1996). Once rid of productive assets, the chances diminish that households can recover and rebuild their livelihoods. This leads to the threat of a terminal slide towards destitution and collapse. It is also noted that HIV/AIDS pushes people deeper into poverty as households lose their breadwinners,

livelihoods are compromised and savings are consumed by the cost of health care and funerals.

Research shows that in two-thirds of Zambian families where the father died, monthly disposable income fell by more than 80 percent (UNAIDS, 2001). In Coted'lvore, when a family member has HIV/AIDS, the average household income falls by a range of 52 percent to 67 percent and the health costs quadruple and as a family income plummets and the cost of caring for patient escalates, food consumption drops (UNAIDS, 1999). In Thailand, a 1997 study showed that when a person with steady employment died of HIV/AIDS; the household's lifetime income loss was more than 20 percent greater than a household with non-HIV/AIDS-related deaths (Pitayanon et al, 1997). A study of three countries; Burkina Faso, Rwanda and Uganda, has calculated that HIV/AIDS will increase the percentage of people living in extreme poverty from 45 percent in 2000 to 51 percent in 2015 (UNAIDS, 2002). From all these studies done, one concludes that HIV/AIDS epidemic has caused catastrophes in households' welfare and the crisis continues.

Women are also invariably left bearing even bigger burdens as workers, care givers, educators and mothers. At the same time, their legal, social and political status often leave them more vulnerable to HIV/AIDS (UNAIDS, 2002). Young women widowed by HIV/AIDS may lose their land and property after their husbands' die whether or not inheritance laws are designed to protect them. Widows are often responsible for producing their families' food and may be

unable to manage alone. As a result, some are driven to transactional sex in exchange for food and other commodities (UNAIDS, 2004).

HIV/AIDS has increased a number of orphans who are denied a chance of attending schools. A study carried out in Kampala, found that 47 percent of households with orphans did not have enough money to send the children to school, while only 10 percent of households without orphans did not have enough money (Muller and Abbas, 1990). The increasing number of HIV/AIDS orphans means that soon their needs will be beyond the capacity of the surviving guardians (TRAMADEC, 1993).

Another impact of HIV/AIDS pandemic on households' economy is increase in debts as the sick household member stops earning an income and as savings are exhausted. The research carried out in South Africa, found that the use of savings and borrowing appears to be a common strategy to cope with illness and death. The sale of assets is less common mainly due to households being relatively poor and asset ownership being low. The amount of savings utilized and money borrowed by affected households in the recent past are considerable when expressed relative to current savings and considerably strain on household (Bachmann and Booysen , 2002). The danger in the long run is that this will push households deeper into poverty as more resources are crowded out in favour of debt repayments in the absence of improved household income.

According to Booysen (2002), the incidence, depth and severity of poverty are relatively worse amongst affected households with HIV/AIDS, especially,

affected households that have suffered illness or death in the recent past. The intensity of income mobility increases as the probability of households being affected by illness or death increases. Affected households, particularly those facing a greater burden of morbidity or mortality, are more likely to experience variations in income and to experience chronic poverty. Not only conventional determinants of poverty (human capital, access to labour market and physical capital), but also HIV/AIDS-related determinants (mortality and orphaned crisis) play a role in explaining why some households remain poor while other households are upwardly mobile and can escape poverty. Poverty, moreover, is likely to deepen as the epidemic takes its course.

The impact of HIV/AIDS combine to create a vicious cycle of poverty in which households affected by HIV/AIDS are caught up. As adult members of the households become seriously sick, they are forced to give up their jobs leading to a fall in their income.

To cope with the change in income and the need to spend more on health care, children are often taken from school to assist in caring for the sick or to work so as to contribute to household income. Because expenditure on food comes under pressure, malnutrition often results, while access to other basic needs such as health care, housing and sanitation also come under threat. Consequently, the opportunities for children' physical and mental development are impaired. This acts to further reduce the resistance of household members and children (particularly those that may also be infected) to opportunistic

infections, given lower levels of immunity and knowledge, which in turn leads to increased mortality (World Bank, 1998; Bonnel, 2000 and Wekesa, 2000).

Households headed by HIV/AIDS widows are also particularly vulnerable, because women have limited economic opportunities and traditional norms and customs may see them severed from their extended family and denied access to an inheritance (UNDP, 1998).

In many third world situations, therefore, HIV/AIDS exposes already vulnerable, resource – poor households to further shocks. These are all ways in which HIV/AIDS can cause poverty to increase. Whiteside (2001/2002) describes the above linkages between HIV/AIDS and poverty in considerably more detail, but then goes on to point out that poverty can also result in increased vulnerability to HIV/AIDS, which in turn can aid the spread of the disease.

The standard of living is measured at the household rather than the individual level, given that the focus here is on the HIV/AIDS impact on the household. Poverty is here interpreted in terms of command over commodities that people afford via income and consumption (Lipton and Ravallion, 1995). The concern therefore is with "poverty proper" (resource adequacy) and not with physiological, sociological or political dimensions of poverty (Kgarimetsa, 1992; Woolard and Leibbrandt, 1999).

Income based estimates are likely to represent a reliable measure of the standard of living of these households and are likely to be a better proxy of the impact of HIV/AIDS on households welfare. Households with the same level of

income do not necessarily enjoy the same level of welfare. The larger the household, the lower the level of welfare at similar levels of households' income. Measures of equivalent income are employed to allow for these differences in standard of living related to household characteristics (Lipton and Ravallion, 1995).

The loss of labour supply brought about by HIV/AIDS will cause household income to decline (Topouzis, 2000). Consequently, affected households (and in particular ones affected by morbidity or mortality) become poorer than non-affected households.

All the literature reviewed agreed that HIV/AIDS affects the productive capacity of the affected households by reducing the labour quality and quantity, which results into loss of food reserves; savings and assets are diverted to meet health care and funeral costs. Additionally, children educational opportunities are reduced as children are withdrawn from school for lack of school fees and to care for the seek and to do odd jobs for extra income.

CHAPTER FOUR

METHODOLOGY

This chapter presents study design, study area, study population, sample selection, data collection, data analysis and problems encountered during data collection.

4.1 Study design

The study took a cross sectional design that included people from two different categories of households: the affected households and unaffected households. Unaffected households were used in comparative analysis. Both qualitative and quantitative methods of data collection and analysis were used. Information was collected on nature and form of effects of HIV/AIDS on rural household welfare, how households are coping and surviving in the face of HIV/AIDS.

4.2 Study Area

The study was conducted in Rujumbura County in Rukungiri district of Western Uganda. Out of seven sub-counties, only four were covered that is Kayunga, Nyakagyeme, Bugangari and town council. This is because according to district HIV/AIDS report (2000), these sub-counties are the most affected by HIV/AIDS.

4.3 Study Population

The population of the study included: 80 households as key study respondents, five local leaders, five district administrators, five non-governmental organizations, and five community based organizations operating in the area as key informants. Purposive sampling technique was used to select the required

sampling frame in each category and then simple random sampling was used to select the required sample size.

4.4 Sample Selection

The study households were purposively selected and comprised of two categories of members of households; the affected by HIV/AIDS and unaffected neighbouring households. Affected household for this study is defined as all residents (members) of a dwelling in which at least one member is known to have HIV/AIDS at the start of the study, or to have had HIV/AIDS and/or have died. Affected households were got by identifying HIV/AIDS infected individuals obtaining care from the local HIV/AIDS information centers (main community based HIV/AIDS counseling and testing services). Eighty respondents were selected from the categories of affected households and unaffected households using simple random sampling technique.

4.5 Data Collection

The study combined both qualitative and quantitative data collection techniques. Participatory rural appraisal tools were used to collect data. These include focus group discussion, interviews and administered questionnaire.

4.5.1Focus Group Discussion (FGD)

The separate FGDs for women, men, and youth were organized to explore more issues concerning HIV/AIDS epidemic and households' coping mechanisms. It helped to get diversified perception and opinion about the topic, generated information about households' structures (household dissolution, household mortality), economic changes (changes in school attendance, changes in

incomes and expenditures, changes in savings and debts), household coping mechanisms, source of resilience and what people have relied on to make a living when struck by HIV/AIDS linked death.

4.5.2Questionnaires

Structured questionnaires were used to carry out interviews with key informants. These interviews were carried out in January 2005. Two research assistants were used to carry out the interviews. The research assistants spoke the local languages, which are mainly Runyankole and Rukiga quite well.

In the month of October 2004, the questionnaires were pre-tested. Two sets of questionnaires had been prepared. One for affected households and unaffected households and another for the heads of HIV/AIDS counseling and testing organizations in the area. It was discovered that some of the questions were monotonous in that they needed the same answers, so they were eliminated.

Some of the items that had been included for the purpose of identifying the assets possessed by households were found to be completely out of reach of households. An example was a motor vehicle. These were also eliminated. It was also discovered at this stage that the questionnaires for both the affected households and unaffected households should be the same. One would only answer the relevant questions.

Pre-testing the questionnaire was very helpful in determining whether the households who were going to be interviewed would understand the kind of questions put to them, and it also helped to know the kind of items to expect to

find in their homes, such that the questionnaire is not over ambitious. The average length of time taken to interview a particular household was also ascertained. This was useful in planning the research.

After incorporating the necessary adjustments, a final questionnaire for household heads that was to be used was designed (see appendix)

4.5.3Interviewing

An interview schedule was used to collect information from the key informants that included local leaders, district administrators, NGOs and community based organizations operating in the area. These provided the general information on the magnitude of HIV/AIDS morbidity and mortality in the area, how HIV/AIDS has affected the households' incomes, expenditure on health care, and many others and the coping mechanisms/livelihood strategies adopted by the households.

4.5.4Observations

The physical assets of the affected and un-affected households were observed.

4.5.5 Secondary data

The information on the magnitude of HIV/AIDS mortality, demographic structure, HIV/AIDS and household welfare were obtained from documents and records. This supplemented the findings of the study.

4.6 Data Analysis

Both qualitative and quantitative techniques were used. Survey questionnaires were edited before leaving the field in order to ensure consistency among the

answers given. The edited data were classified into meaningful categories and then coded. Data was analysed using STATA package.

The impact of HIV/AIDS on household welfare was analyzed using logistic regression analysis. In a household where the breadwinner falls sick, there is permanent loss of employment, which leads to loss of income, and the alternative source could be exhaustion of savings or constant sale of household assets, which were fitted in a logistic regression equation by assigning 1 and 0 to the dependent variable. Multivariate determinants were used because of dichotomous outcome of the variable indicating the source of income for household expenditure, which can be either from household savings or from depleting household assets. In a logistic regression model, we assign the probability p, the household uses savings as the source of income to meet the house expenditures given by;

$$p = \frac{e^z}{1+e^z} \quad \text{----------(1)}$$

Therefore, the probability of a household depleting assets as a source of income to meet the household expenditures is;

$$1-p = \frac{1}{1+e^z} \quad \text{----------(2)}$$

Dividing equation (1) by (2), we obtain

$$\frac{p}{1-p} = e^z \quad \text{----------(3)}$$

Taking the natural logarithm both sides, we obtain

$\ln(\frac{p}{1-p}) = z$, Where $z = \beta_1 + \beta_i x_i + \varepsilon_i$

$$\ln(\frac{p}{1-p}) = X\beta + \varepsilon$$

Where X is the vector comprising of explanatory variables and ε is the vector of the error term and

$\ln(\frac{p}{1-p})$ Is logarithm of the odds ratio.

The estimated odds ratio was used to estimate the relative likelihood of occurrence of effect tested at 95 percent confidence interval. The marginal effects were used to find out the rate of change of probability of the occurrence of dependent variable per unit change in the independent variable.

4.7 Problems encountered during data collection

There were a number of problems encountered during data collection and these included; the fear of some respondents to talk and give the correct information freely. This was especially so for those affected households and it was mainly because they did not want to talk about their dead dear ones, and even the sick with the HIV/AIDS were not willing to give information due to stigmatization.

There was again reluctancy of respondents to readily give information on their assets holdings. For the affected households they could not tell that they have some assets with them thinking that they would attract sympathy from government and Non-governmental organizations while for the unaffected households they thought that government wants to know how rich they are such that it taxes them more. So most of them would tend to under declare their assets.

To overcome this problem, the researcher took the time to explain to them that the research was for academic purposes; and in some cases the researcher would move with local leaders and non- governmental organisations' personnel to make sure that the interviewed person feels at ease. The problem of asset holdings under declaration was overcome by actual stock taking where possible. This research was conducted in a rural setting where the infrastructure is very poor. The households are scattered and very far apart and so transport was very difficult and callbacks were extremely very expensive.

The AIDS information centers and Non-governmental organizations that provide testing and counseling services were not willing to release their information, as it was confidential. Such information was vital for identifying households affected by HIV/AIDS under their care. This was overcome by explaining to them that the information was purely for academic purposes.

CHAPTER FIVE

EMPIRICAL ANALYSIS

5.1 Characteristics of the sample

Various characteristics of the sample were examined to see whether they could be having an effect on the impact of HIV/AIDS on rural household welfare.

5.1.1 Gender distribution of households heads

The sex of the various heads of the households was among the characteristics analysed. Most of the heads of these families are females (57.1%) compared to males (42.9%). This could be because in unaffected households, men are far away from their homes looking for employment opportunities in other areas leaving spouses at home and in the affected households; HIV/AIDS has claimed more males than females.

5.1.2 Age distribution of household heads

There was a need to establish whether HIV/AIDS is related to age of the various heads of the households. The ages of the household heads in a grouped form is shown in the table 5.1

Table 5.1: Age of Household Heads in relation to category

Age	Affected	Percent	Unaffected	Percent	Total	Percent
18-22	1	2.6	8	19.5	9	11.3
23-27	4	10.3	3	7.3	7	8.6
28-32	6	15.4	7	17.3	13	16.3
33-37	8	20.5	3	7.3	11	13.8
38-42	7	17.9	5	12.2	12	15.0
43-47	3	7.7	1	2.4	4	5.0
48-52	2	5.1	5	12.2	7	8.6
53-57	2	5.1	3	7.3	5	6.3
58-62	2	5.1	1	2.4	3	3.8
63-67	0	0.0	3	7.3	3	3.8
68-72	1	2.6	1	2.4	2	2.5
73-77	2	5.1	1	2.4	3	3.8
78-82	1	2.6	0	0.0	1	1.3
83+	0	0.0	0	0.0	0	0.0
Total	**39**	**100**	**41**	**100**	**80**	**100**

Source: Survey

The highest percentage of these households is aged between 28-32 years old, being 16.3 percent of all the household heads. Those of between 38-42 years and 33-37 years at 15 percent and 13.8 percent respectively closely follow these.

In the affected households, 7.7 percent of household heads were old people aged between 73-82 years old. These are grand parents who have lost their sons and daughters to HIV/AIDS and are looking after their grand children.

There was a particular home where a very old woman of 75 years is heading the household of seven grand children of whom `three were adopted from her daughter and four adopted from her son who had both died of HIV/AIDS. The most saddening bit was that she depends on agriculture for livelihood yet land was not enough having sold off a big part of it to get money for treating her children who later died. Besides, she does not have energy to cultivate the garden. Generally, there was serious shortage of food. Even the old woman confessed herself "we take porridge in the morning as breakfast and wait for supper in the evening before we go to sleep". Four of the children are of school age but they are at home. Even UPE has not assisted them because they lack school uniforms and other scholastic materials. All the children sleep on mats on the floor with three of them sharing one blanket. Therefore, deteriorating welfare in this household was in an alarming state.

5.1.3 Household size

The number of people living in each of the households studied was also determined. This was to ascertain whether there was any relationship between welfare and the household size. This would in turn mean that the impact of HIV/AIDS pandemic would be more experienced in households with large number of people since it takes away some of the income that would provide for other necessities. Table 5.2 shows this.

Table 5.2: Household size distribution in relation to category

Members in households	**Affected**	**Percent**	**Unaffected**	**Percent**	**Total**	**Percent**
1	2	5.0	0	0.0	2	2.5
2	0	0.0	2	5.0	2	2.5
3	3	7.5	1	2.5	4	5.0
4	4	10	3	7.5	7	8.6
5	1	2.5	7	17.5	8	10.0
6	4	10	10	25.5	14	17.5
7	3	7.5	2	2.5	5	6.3
8	9	22.5	3	7.5	12	15.0
9	5	12.5	2	5.0	7	8.6
10	2	5.0	1	2.5	3	3.8
11	1	2.5	2	5.0	3	3.8
12	3	7.5	3	7.5	6	7.5
13	1	2.5	1	2.5	2	2.5
14	1	2.5	1	2.5	2	2.5
15	1	2.5	2	5.0	3	3.8
Total	**40**	**100**	**40**	**100**	**80**	**100**

Source: Survey

The highest percentages of these households have six people. There were fourteen households of six members, making it 17.5 percent as can be seen from table 5.2 above. At 15 percent and 10 percent those who were eight and five respectively followed. Then those with four members follow at 8.6 percent.

There were two households with fifteen members in the unaffected households. The study found out that these families were looking after the children of their relatives who died of HIV/AIDS in addition to their own biological children.

In the affected households, 22.5 percent had eight members while in the unaffected households the highest percentage of 25.5 percent of households had six members. However, looking at household size distribution, it is almost the same when comparing the affected and unaffected households. The study observed that affected households are not capable of meeting all their basic necessities compared to unaffected households since HIV/AIDS as a long wave disaster, increases medical expenses that are not met by unaffected households. This has led to deterioration of welfare in the affected households more than in unaffected households.

5.1.4 Occupation

Table 5.3 shows that most of the household heads practice peasant farming as a source of livelihood.

Table 5.3: Source of livelihood of household heads

Source	Frequency	Percent
Peasant farming	47	55.3
Casual labour	11	12.9
Commercial trade	15	17.6
Domestic work	2	2.4
Small scale fishing	5	5.9
Formerly Employed	5	5.9

Source: Survey

From the survey it was observed that 55.3 percent of these households depend on peasant farming. Commercial trade follows this, at only 17.6 percent,

followed by casual labour at 12.9. It was also noted that by commercial trade, these households mean selling of foodstuff like banana, groundnuts, beans and other foodstuffs in the market. Therefore, one can say that even 17.6 percent is not for commercial trade but selling of commodities from peasant farming. Very few of these households operated business including retail shops.

Households mainly grow food crops like matoke, cassava, groundnuts, maize and beans. Few of the households had cash crops like coffee trees. In the affected households, most of the coffee trees were completely neglected as the coffee berries were found rotting on the ground. This was due to lack of labour force since most of the household members spent most of the time looking after the patients and the children who are withdrawn from schools are engaged in food production. In one family the household head was a woman with six children having lost her husband through HIV/AIDS and she did not have any source of income at all. She only depended on food production for subsistence yet the coffee trees were dying off at the time of the survey. This shows that the family was not in position to meet all the basic necessities of life.

5.2 Findings on the impact of HIV/AIDS on rural households welfare

5.2.1 HIV/AIDS on the number of children in households attending school

The number of children attending schools in each of the households studied was also determined. This was to ascertain whether children have equal opportunities in both affected households and unaffected households. This would in turn enable us determine impact of HIV/AIDS on education of children. Table 5.4 shows this.

Table 5.4: Number of children attending schools

Number Of Children	Affected Households	Percent	Unaffected Households	Percent	Total	Percent
1	11	44.0	12	30.0	23	35.4
2	5	20.0	5	12.5	10	15.4
3	4	16.0	6	15.0	10	15.4
4	2	8.0	4	10.0	6	9.2
5	1	4.0	3	7.5	4	6.2
6	1	4.0	2	5.0	3	4.6
7	1	4.0	4	10.0	5	7.7
8	0	0.0	2	5.0	2	3.1
9	0	0.0	1	2.5	1	1.5
10	0	0.0	1	2.5	1	1.5
Total	**25**	**100**	**40**	**100**	**65**	**100**

Source: Survey

Most of these households had one child attending school being 35.4 percent as can be seen from table 5.4 above. Those with two and three children follow, each at 15.4 percent, followed by those with four children at 9.2 percent.

In the affected households, eleven households had one child each attending school being 44 percent, followed by five households having two children each attending school at 20 percent and two households had four children each attending school at 8 percent.

The results show that none of the affected households had more than seven children attending school as many were at home yet in the unaffected households, some households had even ten children all attending school.

The study observed that in the affected households, many children are not able to attend schools because when a breadwinner in the household falls sick due to HIV/ADS, there is permanent loss of employment, savings are spent on medical care. Consequently, children are withdrawn from schools for lack of school fees and to look after domestic activities such as cooking, digging foodstuffs and other activities since the sickness creates manpower shortage.

5.2.2 HIV/AIDS and households' monthly expenditures on daily necessities

There was need to establish the monthly expenditure of households to find out how it is related to welfare. This would in turn help us to determine the impact of HIV/ADS on their welfare. The expenditures were given in Uganda shilling and in grouped form. Table 5.5 shows this.

Table 5.5: Household's monthly expenditure on daily necessities

Amount ('000shs)	Affected	Percent	Unaffected	Percent	Total	Percent
10-50	17	42.5	18	45	35	43.8
60-100	12	30.0	15	37.5	27	33.8
110-150	2	5.0	4	10.0	6	7.5
160-200	2	5.0	2	5.0	4	5.0
210-250	1	2.5	1	2.5	2	2.5
260-300	2	5.0	0	0.0	2	2.5
310-350	1	2.5	0	0.0	1	1.3
360-400	1	2.5	0	0.0	1	1.3
400+	2	5.0	0	0.0	2	2.5
Total	**40**	**100**	**40**	**100**	**80**	**100**

Source: Survey

The majority of the households' expenditures range from shillings 10,000-50,000= per month being 43.8 percent, followed by expenditure in the range of shillings 60,000-100,000= at 33.8 percent. Households with expenditure ranging from shillings 400,000= and above constituted only 2.5 percent.

In the affected households, 42.5 percent of households had monthly expenditures ranging from shillings 10,000-50,000= as compared to 45 percent in the unaffected households in the same range, followed by expenditures in the range of shillings 60,000-100,000= at 30 percent as compared to 37.5 percent in the unaffected households in the same range. This analysis shows that unaffected households spend less amount of money monthly in meeting their expenditures on daily necessities as compared to affected households.

The study further discovered that monthly expenditures were increasing in affected households as compared to unaffected households. Whereas there were

expenditures recorded in the category of shillings 300,000= and above in the affected households, no expenditures in such category were recorded in unaffected households. This therefore shows that increase in household expenditures may not necessarily mean increase in welfare status.

5.2.3 Main areas of household expenditure

There was a need to establish the main areas of households' expenditure to ascertain the items that determine the households' welfare. This would help us determine whether HIV/AIDS has any effect on households' expenditure patterns and how this affects their welfare. Table 5.6 shows this.

Table 5.6: Main areas of household's expenditure

Areas of expenditure	**Affected**	**Percent**	**Unaffected**	**Percent**	**Total**	**Percent**
Health	50	26.9	30	16.8	80	21.9
Education	25	13.4	45	25.1	70	19.2
Food	35	18.8	35	19.6	70	19.2
Transport	35	18.8	20	11.2	55	15.1
Hired labour	10	5.4	2	1.1	12	3.3
Recreation	0	0.0	3	1.7	3	0.8
Clothing	30	16.1	40	22.3	70	19.2
Others	1	0.5	4	2.2	5	1.4
Total	**186**	**100**	**179**	**100**	**365**	**100**

Source: Survey

Most of the households spend their substantial amount of their income on health care, being 21.9 percent of all households' expenditures, followed by expenditure on food, clothing, education at 19.2 percent each, followed by transport at 15.1 percent.

In the affected households, health care constitutes the major expenditure at 26.9 percent as compared to expenditure on it by unaffected households at 16.8 percent. Expenditure on education takes 13.4 percent of the expenditure of affected households as compared to 25.1 percent of the unaffected. Expenditure on transport also takes a substantial amount of income in affected households being 18.8 percent as compared to 11.2 percent of the unaffected households.

Whereas there was use of hired labour in affected households that constitute 5.4 percent of households, only 1.1 percent expenditure on hired labour was identified in the unaffected households. The reason for increase in health expenditure in affected households is mainly a result of sickness created by opportunistic infection due to HIV/AIDS weakening the immune system of the body. Therefore such expenditure cannot be attributed to improvement in welfare status of an individual.

The study also observed that increase in expenditure is as a result of continuous transportation of patients to health centers for treatment of opportunistic infections in the affected households. It was also found out that affected households resort to hired labour because HIV/AIDS patient who is

already bed ridden needs maximum attention. This reduces the labour force that should have been used in the gardens.

No recreational activities were identified in affected households yet in unaffected households, 1.7 percent of their expenditures are spent on recreational activities. This shows that unaffected households enjoy a better welfare as compared to affected households.

5.2.4 Distribution of the dead by sex and causes of death

The major causes of death in the households were identified. This was to find out the extent to which HIV/AIDS has claimed lives of individuals. This would help us in determining how HIV/AIDS is depleting the productive labour force in households and how this is related to welfare. Table 5.7 shows this.

Table 5.7: Causes and death distribution by sex

Sex	**Male**	**Percent**	**Female**	**Percent**	**Total**	**Percent**
Cause of death						
HIV/AIDS	47	56.7	36	43.3	83	62.4
Malaria	19	51.4	18	48.6	37	27.8
Others	5	38.5	8	61.5	13	9.8
Total	**71**	**53.4**	**62**	**46.6**	**133**	**100**

Source: Survey

According to Table5.7, 62.4 percent of deaths experienced in households are caused by HIV/AIDS, followed by Malaria at 27.8 percent while other causes constitute only 9.8 Percent.

In the sex category, 56.7 percent of males have died of HIV/AIDS as compared to 43.3 percent of females. The reason for this could be that men who cannot abstain from sex and yet work far away from their homes tend to sleep with other women thereby increasing the chances of contracting HIV/AIDS. It was also discovered that more males die of malaria at 51.4 percent as compared to their counterpart at 48.6 percent.

The study found out that in some households where HIV/AIDS has claimed husbands, all household assets including land were sold off to get money for treatment, leaving widows and children with no means of survival. On the other hand, households where HIV/AIDS has claimed a wife less household assets are depleted. This shows that men claim ownership of household assets and they care for themselves more than their wives and children.

5.2.5 HIV/AIDS on the sources of income for health care treatment

The study sought to establish the sources of household expenditure on health care treatment. This was to help find out whether there is significant difference in the sources of expenditure between the affected households and unaffected ones which would in turn help us determine the extent of HIV/AIDS impact on households expenditure patterns. Table5.8 shows this.

Table 5.8: HIV/AIDS on the source of income for health care treatment

Source of medical care	Affected	Percent	Unaffected	Percent	Total	Percent
Savings	19	19.2	22	47.8	41	29.3
Borrowing	26	26.3	5	10.9	31	22.1
Sell of goats	5	5.1	8	17.4	13	9.3
Sell of cattle	20	20.1	5	10.9	25	17.9
Sell of land	28	28.3	1	2.2	29	20.7
Others	1	1.0	0	0.0	1	0.7
Total	**99**	**100**	**46**	**100**	**140**	**100**

Source: Survey

Majority of households used their main sources of income on medical treatment from savings being 29.3 percent, followed by borrowing at 22.1 percent, followed by sell of land at 20.7 percent, followed by sell of cattle at 17.9 percent.

In the affected households, 28.3 percent meet their health care expenditures by selling land as compared to 2.2 percent in the unaffected households. This is followed by borrowing at 26.3 percent as compared to 10.9 percent in the unaffected households, then by sell of cattle at 20.1 percent as compared to 10.9 percent in the unaffected households. However, in the unaffected households, most of the health care expenditures are met through their savings being 47.8 percent as compared to 19.2 percent in the affected households.

In the affected households, HIV/AIDS has depleted the productive assets especially land which is the most productive asset sustaining the livelihoods of the rural population. The reason for this phenomenon is that HIV/AIDS as a

long wave disaster necessitates continuous expenditure to treat opportunistic infections as the immunity declines when somebody is infected with HIV/AIDS.

It should also be noted that when a bread winner falls sick of HIV/AIDS, he or she can no longer be able to continue working and therefore, this creates permanent loss of jobs that makes the household source of survival be impaired. In the effort of sustaining their livelihoods, they embark on borrowing from formal and informal institutions, from friends and other sources. So in an effort to meet the burden of debts, accompanied by increasing expenditure on health care and meeting livelihood necessities, the productive assets are depleted. Yet, depletion of productive assets where there are no chances of replacing them, leads to deterioration in the households welfare.

5.2.6 HIV/AIDS on duration of sickness of a household member

There was need to establish the duration of sickness of members in the households up to the time of death. This would help us determine the impact left behind to the surviving households. Table 5.9 shows this.

Table 5.9: HIV/AIDS on duration of sickness of a household member

Duration of sickness in(Months)	Affected	Percent	Unaffected	Percent	Total	Percent
0-2	1	1.1	1	3.0	2	1.7
3-5	2	2.3	2	6.1	4	3.3
6-8	4	4.6	4	12.1	8	6.7
9-11	16	18.4	21	63.6	37	30.8
12-14	25	28.7	5	15.2	30	25.0
15-17	27	31.0	0	0.0	27	22.5
18-20	12	13.8	0	0.0	12	10.0
Total	**87**	**100**	**33**	**100**	**120**	**100**

Source: Survey

Table 5.9, shows that 37 members fell sick within a period of nine months to eleven months being 30.8 percent, followed by 30 members who were sick for the period ranging twelve months to fourteen months at 25 percent, followed by 27 members who fell sick and died within the period of fifteen months and seventeen months at 22.5 percent.

In affected households, 27 members fell sick and died within the range of 15 months and 17 months being 31 percent, followed by 25members who fell sick and died within a range of 12 months and 14months at 28.7 percent, followed by 16 members who fell sick and died within 9 months and 11 months at 18.4 percent, followed by 12 members of the households who fell sick and died within 18 months and 20 months at 13.8 percent.

In unaffected households, 21 members fell sick within the period of 9 months to 11 months at 63.6 percent, followed by 5 members who fell sick within the

period ranging from 12 months to 14 months at 15.2 percent, followed by 4 members who fell sick within the period ranging from 6 months to 8 months at 12.1 percent. There was no reported case of members who fell sick and died within a period ranging from 15 months and above in the unaffected households.

This analysis shows that HIV/AIDS prolongs sickness as compared to other diseases such as malaria. This reduces the labourforce that would be needed in the garden to grow both food crops and cash crops that would be needed to sustain the welfare status. The long duration of sickness created by HIV/AIDS increases expenditure on health care treatment that takes a big percentage of household available resources, leaving other necessities that determine household welfare unattainable.

5.2.7 HIV/AIDS on the amount spent on medical expenses on an individual

There was need to establish the amount of money spent on each individual household who falls sick of HIV/AIDS. This would help to find out the extent to which the disease infringes on the household expenditure patterns, which would in turn help us to find out how this affects the households' welfare. Table 5.10 shows this.

Table 5.10: HIV/AIDS and the amount spent on an individual's medical expenses

Amount(Ugshs)	Affected	Percent	Unaffected	Percent	Total	Percent
30,000	0	0.0	2	6.7	2	.7
100,000	0	0.0	5	16.7	5	6.7
150,000	3	6.7	2	6.7	5	6.7
200,000	0	0.0	4	13.3	4	5.3
250,000	0	0.0	2	6.7	2	2.7
300,000	1	2.2	5	16.7	6	8.0
500,000	2	4.4	4	13.3	6	8.0
600,000	0	0.0	5	16.7	5	6.7
800,000	10	22.2	1	3.2	11	14.7
1,000,000	6	13.3	0	0.0	6	8.0
1,500,000	7	15.6	0	0.0	7	9.0
2,000,000	8	17.8	0	0.0	8	10.7
2,500,000	2	4.4	0	0.0	2	2.7
3,000,000	3	6.7	0	0.0	3	4.0
3,500,000	2	4.4	0	0.0	2	2.7
4,000,000	1	2.2	0	0.0	1	1.3
5,000,000	3	6.7	0	0.0	3	4.0
Total	**45**	**100**	**30**	**100**	**75**	**100**

Source: Survey

Table 5.10 shows that eleven members of the household spent shs 800,000= on medical treatment which is 14.7 percent, followed by 8 members who spent shs 2,000,000 being 10.7 percent, then six members who spent shs 300,000=, shs 500,000= and shs 1,000,000= respectively each being 8 percent.

In the affected households, shs 800,000= was spent by ten members on medical expenses being 22.2 percent of all affected households, followed by eight

members who spent shs 2,000,000=being 17.8 percent, followed by seven members who spent shs1, 500,000= on each member as medical expenses being 15.6 percent.

In the unaffected households, most of the expenditure on medical treatment was between shs 100,000= and shs 300,000= being 16.7 percent with only one member where the highest expenditure on medical care was shs 800,000= being 3.2 percent. However, in the affected households the highest expenditure on medical was shs 5,000,000= spent by three members each which is 6.3 times more than the highest expenditure on the unaffected member. This analysis therefore shows that HIV/AIDS increases the expenditure on health care. This is due to treatment of opportunistic infection of which HIV/AIDS patients contract as a result of the reduction in the body immunity. Therefore the would be money to spend on provision of other necessities of life is diverted to medical care. This is likely to lead to deterioration of household welfare since their expenditures are not matching with their sources of income.

5.2.8 HIV/AIDS on the pattern of Asset holdings

The assets owned by various households were also analysed by category to find out the present quantity and the depleted quantity of both affected and unaffected households. This would help us find out whether HIV/AIDS has had any effect on asset holdings or not and this would in turn help us to find out whether HIV/AIDS has any effect on households welfare. Table 5.11 shows this.

Table 5.11: HIV/AIDS on the pattern of Asset holdings

Asset	Affected				Un affected				Total			
	Present Qty	%age	Depleted	%age	Present Qty	%	Depleted	%	Present Qty	%age	Depleted	%age
Land (Acres)	140.74	31.5	73.5	16.5	223.5	50.0	9	2.0	364.24	81.5	82.5	18.5
Iron roofed houses	46	48.9	0	0.0	48	51.1	0	0.0	94	100.0	0	0.0
Bicycles	12	36.4	5	15.5	16	48.5	0	0.0	28	84.8	5	15.2
Cattle	81	27.8	69	23.7	125	43	16	5.5	206	70.8	85	29.2
Goats	59	21.4	86	31.2	118	42.8	13	3.7	177	64.1	99	35.9
Chicken	60	24.8	80	33.1	86	35.5	16	6.6	146	60.3	96	39.7
Foam mattress	115	41.2	10.0	3.6	154	55.2	0	0.0	269	96.4	10	3.6
Blankets	102	37.5	0	0.0	170	62.5	0	0.0	272	100	0	0.0
Beds	87	40.3	0	0.0	129	59.7	0	0.0	216	100	0	0.0
Chairs	17	14.4	4	3.4	97	82.2	0	0.0	114	96.6	4	3.4
Tables	21	34.4	5	8.2	35	57.4	0	0.0	56	91.8	5	8.2
Sewing machine	1	12.5	3	37.5	4	50.0	0	0.0	5	62.5	3	37.5
Wheel barrows	3	23.1	1	7.7	9	69.2	0	0.0	12	92.3	1	7.7
Sauce pans	175	38.2	0	0.0	283	61.8	0	0.0	458	100	0	0.0
Radio	29	35.4	10	12.2	43	52.4	0	0.0	72	87.8	10	12.2

Source: Survey

From the Table (5.11) it can be seen that the present quantity of land was 364.24 acres of the total land owned by all households while 82.5 acres were depleted which constituted 18.5 percent.

In the affected households, 140.74 acres of land were presently owned being 31.5 percent and 73.5 acres were depleted being 16.5 percent. In the unaffected households, 223.5 acres were presently owned being 50 percent of all land owned by both affected and unaffected while only 9 acres were depleted being 2 percent. This therefore indicates that HIV/AIDS could be one of the major factors leading to depletion of land and yet land is the major productive asset in the rural areas. This therefore means that as the intensity of HIV/AIDS increases, land as a means of survival is likely to be depleted completely and this is likely to negatively affect the livelihoods of households.

Both the affected and unaffected households had iron-roofed houses though there was slight difference with 48.9 percent being owned by the affected and 51.1 percent being owned by unaffected households.

The easiest means of transport in the rural area of study was a bicycle, yet only 36.4 percent of the affected households had them while 15.5 percent of them had been sold compared to unaffected households where 48.5 percent had bicycles and none of them had been sold.

In terms of cattle, goats and chicken, the present quantities owned by affected households were 27.8 percent, 21.4 percent and 24.8 percent respectively as compared to 43 percent, 42.8 percent and 35.5 percent respectively present

quantities owned by unaffected households. Also in terms of beddings, like mattresses, blankets, and beds, still the unaffected households had more at 55.2 percent, 62.5 percent and 59.7 percent respectively as compared to 41.2 percent, 37.5 percent and 40.3 percent respectively for the affected households. And in terms of other household items like tables, chairs, saucepans and radios, still the unaffected households had more at 57.4 percent, 82.2 percent, 61.8 percent and 52.4 percent as compared to those owned by affected households at 34.4 percent, 14.4 percent, 38.2 percent and 35.4 percent respectively.

Other items considered as productive assets were sewing machines and wheelbarrows. In the affected households, only one sewing machine was still unsold being 12.5 percent and three were sold being 37.5 percent. Three wheelbarrows were still presently owned being 23.1 percent while one had been sold being 7.7 percent. In the unaffected households, four sewing machines were still presently owned being 50 percent and non-had been sold. It was also noted that nine wheelbarrows were recorded in the unaffected households being 69.2 percent of all the wheelbarrows owned by households and non-had been sold.

The study discovered that the unaffected households buy most of the assets that have been sold by the affected households. This means HIV/AIDS has led to re-allocation of productive assets from affected households to unaffected households. Unfortunately, this has led to improvement in the welfare of unaffected households and deterioration in the welfare of affected households.

5.2.9 Results of binary logistic regression analysis

Exhaustion of household savings and depletion of productive assets as a source of income to cater for the needs of households' expenditures with; sex of household head, HIV/AIDS status of a household head, number of children attending school and length of sickness of a household head were fitted in the logistic equation. Results are in tables 5.12 and 5.13. The table shows the logistic regression coefficients expressed as odds ratios to show the likelihood of the source of income for households' expenditures by each selected variable. It should be noted that the effect caused by the presence of HIV/AIDS in the households is an added effect to what already existed before the coming of HIV/AIDS. Therefore, from the logistic regression analysis, whether the effect due to HIV/AIDS is greater or less, it remains an added effect, which increases the suffering of the affected households.

Table 5.12: Likelihood of source of income for household expenditures due to selected variables

Source	Odds ratio	Std. Err	Z	$p > \|z\|$	(95% conf. Interval	
Sex	.9626156	.7317973	-.05	.960	.2169474	4.271213
HIV status	.0123582	.0149177	-.364	.000	.00116	.1316587
Children in school	1.001801	.2177921	.01	.993	.6542289	1.534028
Length of sickness	1.015652	.0183758	.86	.391	.9802673	1.52314

Source: Survey

The results show that HIV/AIDS as cause for exhausting households' savings and depletion of productive assets was found to be highly significant at 0.05. HIV/AIDS was more likely to affect household expenditure than any other variable. The

results show that the odds of exhausting the source of income for households expenditure increases with a household head who gets infected by 0.012.

The marginal effects for each of the selected variables were also computed to find the rate of change of the probability of exhausting the source of income in a household with respect to each of the independent variable. Table 5.13 shows this.

Table 5.13: Marginal effects after logit

Variable	**Dy/dx**	**Std. Err**	***z***	**P**> IzI	**(95% C.I)**	**X**
Sex	-.0067294	.76022	-.01	.993	-1.49673	.4125
HIV status	-.6963534	1.20711	-.58	.564	1.48327	.5
Children in school	.0003184	.003846	.01	.993	-3.06225	2.937
Length of sickness	.002748	.00331	.83	.406	1.66954	22.32
					-.075071	
					.075707	
					-.003733	
					.009229	

Source: Survey

The results show that a unit change in HIV/AIDS infection leads to a decrease of 0.7 in the probability of retaining the source of income to maintain the households' expenditure. This shows that as the gravity of HIV/AIDS increases in a household, savings are exhausted and the only alternative that remains available is the sale of productive assets that eventually lead to their asset depletion. And depletion of productive assets where there are no chances of replacing them has been responsible for deterioration of households' welfare in the affected households

CHAPTER SIX

CONCLUSIONS AND POLICY RECOMMENDATIONS

6.1 Conclusions

Many energetic household members in Rukungiri district have died of HIV/AIDS. In the affected households, deterioration in the welfare was more noticed as compared to unaffected households. The objective of the study was to investigate the impact of HIV/AIDS on rural household welfare.

The study has established that HIV/AIDS has led to deterioration in the welfare of the affected households. This is because HIV/AIDS as a long wave disaster has led not only to permanent loss of jobs especially where the breadwinner falls sick and eventually dies but also to exhaustion of savings, increase in borrowing and eventually the depletion of productive assets leaving the survivors with no means of survival. Productive assets commonly depleted include; land, cattle, goats, chicken, sewing machines, wheelbarrows and bicycles.

Many children in the affected households were not attending school. This is because as the breadwinner falls sick, there is loss of permanent employment that creates sudden fall in income. This calls for the adjustment in the expenditure patterns that leads to withdrawal of children from schools. This is likely to create deterioration of their welfare in the future since their survival remains uncertain. In the unaffected households, many children were found to be attending school an indication that the future of these children is bright holding other factors constant as compared to those children from the affected households.

The health and living conditions of the affected households were also seen to be deteriorating. The numbers of households were not able to meet their medical expenses especially for treating opportunistic infections brought about by HIV/AIDS infection. The situation worsens after exhausting their savings and selling their productive assets including land that provides food to households which has reduced the nutritional status of the affected households. However, the study revealed that the unaffected households are improving their welfare by buying the assets from the affected households who pay them less than the market price because of desparacy of lack of money to cater for their needs at home. This has led to re-allocation of resources in favour of unaffected households and against affected households.

The main source of livelihood for the rural households is subsistence farming. However, most of the affected households were continuously selling their land with the aim of mobilizing more money to cater for the increased expenditures of the sick people as well as providing for other necessities of life. This is used as a coping mechanism to cater for the loss of income when a breadwinner falls sick.

On the pattern of asset holdings, the study found out that both the affected and unaffected households were having iron-roofed houses though in the affected households, they were in a sorry state as they lacked renovations. In the rural area of the study, the means of transport is a bicycle, but in the affected households, most of them had been sold. Land is the most productive asset in rural areas sustaining the livelihoods of many households, but in the affected households, it is being sold as an alternative source of income having exhausted

other assets such as, cattle, goats, chicken, radios and others. However, the study discovered that asset holding in the unaffected households is increasing because they are the ones buying those of the affected households.

Households affected by HIV/AIDS have adopted many coping strategies that aim at improving food security, strategies that aim at raising and supplementing their incomes so as to maintain their expenditure patterns. Children are withdrawn from schools in an effort to compensate the loss of labour when a member of the family falls sick. The district has set up mitigation interventions that are basically geared at improving the lives of HIV/AIDS patients.

6.2 Policy Recommendation

6.2.1 Formation of traditional indigenous groups

Many organizations have been formed as a major emergency source of support to the people affected by HIV/AIDS in communities. They include; religious based hospitals, Aids Widows and Orphans Family Support and other traditional indigenous groups at micro level particularly the numerous local saving clubs, burial societies, grain saving schemes and labour sharing schemes. These play a major role of helping households cope with the impact of HIV/AIDS epidemic. The major activities done by these emergency associations include; assisting with burial ceremonies, communal farming, supporting sick patients, rebuilding dwellings and rehabilitating farms, supporting the survivors and creation of income generating activities, as well as providing material support such as salt, soap, paraffin, food, blankets, clothing and other household necessities. Much as these informal groups

are taken as source of psychosocial support, they still lack the capacity to deliver their services efficiently. Therefore the government in collaboration with donor agencies should strengthen their capacities by providing them with training in HIV/AIDS advocacy and home care support as well as providing them with enough funds to meet the requirements of their activities.

6.2.2 Health care provision

The study found out that HIV/AIDS has led to depletion of households' most productive assets and depletion of productive assets has led to deterioration of household welfare. Most of these assets are sold to raise money in order to meet the expenses for medical treatment especially treating opportunistic infections due to immune suppression caused by HIV/AIDS infection. Therefore, the government in collaboration with its development partners who are accessing the Global Fund for HIV/AIDS should put a mechanism in place that will ensure that all the HIV/AIDS victims access free anti-retroviral therapy (ARVs). This should be accompanied by provision of food rations that provide nutritional requirements to patients. This would reduce on demand for more money for treatment and would save the depletion of productive assets. However, this policy should be accompanied by massive sensitization of the general public on the dangers of getting infected with HIV/AIDS such that individuals and communities do not become reckless and get infected by the disease knowing that when they get infected the government would cater for them such that they live longer. That means the policy should be adopted without over stretching the government's budget because this would lead to postponement of the provision of other necessities to the general public.

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APPENDIX 1

RESULTS OF LOGISTIC REGRESSION

Logistic regression — Number of obs = 80
LR chi2 (4) = 56.42
Prob > chi2 = 0.0000
Log likelihood = -25.632473 — Pseudo R2 = 0.5239

source	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
sex	.9626156	.7317973	-0.05	0.960	.2169474	4.271213
hiv	.0123582	.0149177	-3.64	0.000	.00116	.1316587
cas	1.001801	.2177921	0.01	0.993	.6542289	1.534028
lenos	1.015652	.0183758	0.86	0.391	.9802673	1.052314

. mfx compute

Marginal effects after logistic
y = Pr(source) (predict)
= .22970165

variable	dy/dx	Std. Err.	z	P>|z|	[95% C.I.]		X
sex*	-.0067294	.76022	-0.01	0.993	-1.49673	1.48327	.4125
hiv*	-.6963534	1.20711	-0.58	0.564	-3.06225	1.66954	.5
cas	.0003184	.03846	0.01	0.993	-.075071	.075707	2.9375
lenos	.002748	.00331	0.83	0.406	-.003733	.009229	22.325

(*) dy/dx is for discrete change of dummy variable from 0 to 1

APPENDIX 11

QUESTINNAIRE FOR THE ASSESSMENT OF THE IMPACT OF HIV/AIDS ON RURAL HOUSEHOLD WELFARE IN RUKUNGIRI DISTRICT

The aim of the questionnaire is to assess the impact of HIV/AIDS on rural household welfare.

Section1: Household Head

1. Name of Respondent----------

   (Tick as appropriate)

2. Sex

   01: male**---** **02**: Female---

3. Age----

4. Education level------

5. Religion----------

6. Location:

   Village----------

   Parish----------

   Sub-county----------

   County----------

7. Category of Respondent:

   01: Household with a known member that has been affected/died by HIV/AIDS------**02**: Household with no known member to have been affected/ died by HIV/AIDS------

8. Number of people in the household----------

9. Number of children in the household----------

10. Number of children attending school----------

11. What is your main source of livelihood?

01: Peasant farming-------- **02**: Casual labour------

03: Commercial trade------ **04**. Domestic work-----

05. Others (specify)----------

---

12. What are the main areas of household expenditure

(Multiple responses possible; tick as appropriate)

01.Health care--- **05**. Hired labour------

02. Education--- **06**. Recreation-------

03.Food ---------- **07** Clothing----------

04. Transport-------- **08** Others(Specify)----------

13. What is your average household expenditure per month (Ugshs)----------

14. Have you ever changed your employment pattern? **01**: Yes------ **02**: No-------

15.If the answer to no.14 is yes, give reasons for the change of employment

---

Section2: Mortality

For each member of this household who died, please answer the following:

Name of the person who died	**Sex: 01: M 02: F**	**Cause of death(if known)**	**How long was he/she sick?**	**How much was spent on medical expenses?**	**Source of income for medical expenses**

Orphan hood and care taking arrangements

For each person who died and was a parent, please answer the following**:**

Name of parent who died	**Sex: 01: M 02: F**	**Age of a child at the time of death of a parent**	**Who takes care of the child now?**	**How long has the child been affected by the death?**

Section3: Assets possessed by the Household

(Please Tick the appropriate**)**

Name of Asset	**Present quantity**	**Depleted**	**Score 0 or 1**	**Date acquired**
Land (acreage)				
Iron roofed house				
Bicycle				
Radio				
Cattle				
Goats				
Chicken				
Foam mattress				
Blankets				
Beds				
Chairs				
Tables				
Sauce pans				
Others (Specify)				

Section 4: Coping mechanism after all household assets are depleted

(Tick and fill in the appropriate**)**

Source of coping mechanism	**Mention type of assistance**	**Mention whether assistance is timely**	**Mention which areas is assistance given**	**Score 0 or1**
Relatives				
Friends				
Village group associations				
NGOs operating in an area				
Assistance from government				
Others(specify)				

APPENDIX 111

INTERVIEW SCHEDULE FOR HIV/AIDS COUNSELING AND TESTING ORGANIZATIONS IN THE AREA

1. Name of organization----------
2. Name of the contact person----------
3. Office location----------
4. When did your organization start?----------
5. What would you say have been explicitly or implicitly the main objectives of starting the organization

---

---

6. How many households are you assisting now?----------
7. Has the number been increasing or decreasing since inception?----------

   ---

8. What do you think is the reason for the increase or decrease?

---

9. Other than testing and counseling, is there any other assistance you give to your clients?----------

10. If the answer is yes, what kind of assistance?----------

11.Are your clients able to meet the expenditure on health care?----------

---

12.What is the main source of their income?----------

---

13 Are your clients able to meet all the nutritional requirements to enable them live a healthy life? ----------

---

14 What do you consider to be the achievement of your organization? ----------

---

15 State the linkages your organization has with other organizations and or government

16 What is the impact of your activities on the households affected by HIV/AIDS?----------

---

17 What challenges face your organization (if any)----------
