

HIV/AIDS Impacts on Household Livelihood Security: Implications for the National Agricultural Advisory Services Program: a Case for Kibaale District in Uganda.



A research Project submitted to Larenstein University of Professional Education in partial fulfillment of the requirements for the degree of Master of Development, Specialization Rural Development and HIV/AIDS

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Dedication

I dedicate this thesis to my wife Christine and children; Godwin, Gloria and Gideon

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Abbreviations and acronyms

AIDS	Acquired immunodeficiency Syndrome
CBO	Community Based Organisations
DFID	The Department For International Development
FAO	Food and Agriculture Organization of the United Nations
HH	Household
HHH	Household head
HIV	Human Immunodeficiency Virus
ISFG	Integrated Support to Farmer Groups
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries in Uganda
NAADS	National Agricultural Advisory Services
PEAP	Poverty Eradication Action Plan in Uganda
PLWHA	People Living with HIV/AIDS
PMA	Plan for the Modernization of Agriculture
UFAD	The International Fund for Agricultural Development
UNAIDS	The Joint United Nations Programme on HIV and AIDS
WHO	World Health Organization of the United Nations

1 ha = 2.7 acres

1 acre = 0.404686 ha

Abstract

HIV/AIDS pandemic has far reaching impacts on large populations in the world and presents socio-economic threat to families and communities, and destroys national developmental gains acquired with difficulty over decades. UNAIDS (2008). It is estimated that globally over 33 million people are living with HIV/AIDS. In Uganda at least 740,000 people above 15 years are estimated to be living with HIV/AIDS. Smallholder agriculture, once a strong and resilient backbone of Uganda's national food security strategy, is under serious threat from the devastation of HIV and AIDS pandemic. Agricultural Extension programmes can contribute towards mitigating the impacts of HIV/AIDS by increasing household agricultural production capability. In Uganda, HIV/AIDS affected farming households have not significantly benefited from the extension programmes like NAADS (OPM; 2008). Activities need to be implemented that underwrite the vulnerability to HIV/AIDS impacts. The purpose of this study is to document how HIV/AIDS is impacting on household livelihood security. The study drew attention to what limits NAADS in building the resilience of HIV/AIDS affected households and recommends how NAADS can orient itself towards strengthening the resilience of affected households against HIV/AIDS impacts.

The research was conducted in Kibaale district with HIV/AIDS sentinel surveillance of 5.5-9.9% (WHO, 2008). This study targeted technical staff who are in key positions for decision making processes of NAADS program and fifty farmers respondents (farmer) who identified themselves as HIV/AIDS affected. Focus group discussions, one to one interviews and questionnaire schedules were used to collect data. An overview of NAADS implementation programme and its work on HIV/AIDS was established and comparative studies were conducted to review existing literature on HIV/AIDS work on farming households in Uganda. The numerical data obtained was analysed using Excel and SPSS computer software in order to have descriptive statistics that was used to establish the pattern of findings. Qualitative data obtained was analysed using the SWOT analysis, 12 box framework analysis, and casual effect diagrams.

The study revealed that there is up to 12.3% loss in land ownership and there was a significant difference for men and female headed households in loss to land access which was 10.4% and 14.5% respectively. There was also a changing pattern in the type of enterprises towards cassava and beans being grown by households affected by HIV/AIDS and these are not supported by the NAADS program. There was evidence adduced to indicate distressed sale of household assets like sale of livestock and land and grabbing of assets especially land from female headed household after the death of the husband. The costs of prolonged illnesses and the associated loss of income forces affected households to sell some assets so as to meet the additional health costs. There was no evidence to suggest that there was distress sale of the production tools like ploughs but there was evidence to suggest that the affected households are unable to replace the worn out farm implements. Food insecurity is a major concern for households affected by HIV/AIDS as it was proved that there exists some form of food insecurity in all households affected by HIV/AIDS and in some cases with hunger and its extreme cases. HIV/AIDS affected households are not participating in groups due to physical weakness, stigmatization both self and from others, distance to the meeting places, unmet needs and lack of time an approach NAADS uses. Because of this they are unable to benefit from government programs that use the group approach. There appears to be accidental involvement of HIV/AIDS affected households. This may partly be due to extension workers lack of capacity and clear guidelines or financial commitment to addressing the HIV impacts

If the above are to be reversed, the capacity of the implementers at sub county level especially, who make choices for the farmers and work plans and implement NAADS activities, needs to be built particularly in the analysis and formulating appropriate responses

against HIV AIDS impacts. Targeting affected households especially female headed households and the youth by NAADS; establishing and operationalising the monitoring framework for HIV/AIDS activities must be in place. Commit financial resources for specific HIV/AIDS activities in the budget. Network and advocate for speedy enactment of the land law and property rights to protect the widows.

Chapter One

1 Back ground to the research study

It's now widely recognized that HIV/AIDS pandemic has far reaching impacts on large populations in the world. HIV/AIDS represents not only a health threat to the individuals, socio-economic threat to families and communities, but also destroys national developmental gains acquired with difficulty over decades. Households affected by HIV/AIDS have a substantial income reduction of 40% to 60% and household food security threatened (UNAIDS, 2008, 1999) through falling farm production and productivity.

UNAIDS (2008) estimated that globally over 33 million people were living with HIV/AIDS while 2.5 million new infections and 2.1 million deaths occurred in the year 2007 alone. Sub Saharan Africa, bears the heaviest burden of the epidemic accounting for 67% of those living with HIV/AIDS while about 75% of the AIDS related deaths the report adds. In Uganda at least 740,000 people above 15 years were estimated to be living with HIV/AIDS. The 2006 National HIV/AIDS sero and behaviour survey by the Ministry of Health Surveillance Unit in Uganda estimates prevalence among adults aged 15-49 yrs was 6.4%, and 5.8% among those aged 50-59. The survey revealed HIV prevalence among rural women was 7% (5% for men).

Rural households experience HIV/AIDS in ways that are specific to their setting and are a cause for alarm. The prevalence of HIV/AIDS fell among the urban population from 15% in 1997, to 6% in 2005. For the non-urban population—the majority—prevalence rose from 4.7% in 1998 to around 5% in 2005 (OPM, 2008)

IFAD (2000) study on the gender strengthening programme for eastern and southern Africa, revealed that agriculture is the main source of income for rural households in Uganda. It is also the main occupation of women and 90% of all rural women work in agriculture and 53% of rural men do so. The HIV/AIDS distinct impacts are often related to the high level of dependence on agricultural production as the primary food supply for rural households. Subsistence farming systems rely heavily on humans, most often women, for tilling and tending crops and their livestock. Because of the extent to which HIV/AIDS makes people ill, disables them when very ill, and then causes deaths, it places considerable strain on rural agricultural production. Consequently affected households find it difficult to shift towards the goals of the Plan for the Modernization of Agriculture (FAO, 2003).

The HIV/AIDS epidemic affects different households in different ways and produces a variety of coping strategies. When an individual becomes infected with HIV/AIDS, households (World Bank, 1997), respond to the impacts of the pandemic using three main coping strategies: Altering household composition (for example, by sending one or more children to live with relatives, or inviting a relative to join the household in exchange for assistance with farming, household and tasks); drawing down savings or selling assets (farm productive assets, durable goods, livestock, etc.); and utilising assistance from other households and from informal rural institutions.

1.1 Research problem

The various ways agriculture sector can address HIV/AIDS impacts are by strengthening food security (FAO, 2004). Extension programmes have a comparative advantage in contributing towards mitigating the impacts of HIV/AIDS by increasing household agricultural production capability. In Uganda, HIV/AIDS affected farming households have not significantly benefited from the extension programmes like NAADS (Oxford Policy

Management- OPM; 2008) and yet one of the principles of NAADS is to mainstream HIV/AIDS activities (NAADS 2001) in its work. OPM attributes this to the NAADS providing universal nature of services, yet HIV/AIDS places unique demands of services to the affected households. In NAADS, services are demand-driven, and target the “economically active” (NAADS 2000) households with agricultural productive assets that make agriculture become commercially viable. This has not helped the HIV/AIDS affected households (OPM, 2008) as most affected households lack the assets, time and labour to make their farms meet minimum criteria to be targeted by NAADS. Qamar (2001) asks for a review of approaches, methodologies, and technologies in agricultural extension service provision in order to take account of the dynamic demands for extension services by the affected households. NAADS recognizes that the HIV/AIDS epidemic can undermine agricultural and economic productivity (NAADS, 2001). A number of vulnerable groups are targeted, such as widows and female-headed households, which include HIV/AIDS-affected households. However, specific strategies to mitigate the impacts of HIV/AIDS of affected households are absent (FAO: 2002, OPM 2008). Activities need to be implemented that underwrite the vulnerability to HIV/AIDS by the affected households. The purpose of this study is to document how HIV/AIDS is impacting on household livelihood security and how the affected households are responding in managing their farms to meet the food requirements. The study will also draw attention to how NAADS can learn from the experiences and orient itself towards strengthening those responses that build the resilience of affected households and reverse the responses that further make affected households more vulnerable.

1.2 Objective the Research

The objectives of the research are:

1. To examine how HIV/AIDS impacts on household food production and sustainable livelihoods of affected male and female headed households in Kibaale district.
2. To identify factors that restrain male and female headed households from accessing NAADS extension services.
3. To determine constraints that limit NAADS from building the resilience of HIV/AIDS affected households.

1.3 Research Questions

The main research questions for this study are:

1. What are the impacts of HIV/AIDS on sustainable livelihoods of the rural male and female headed households?
2. What factors hold back female and male headed affected households from accessing NAADS extension services?
3. What constraints limit NAADS in building the resilience of the HIV/AIDS affected households?

Chapter Two

2 Research Methodology

This section highlights how the data was collected and analysed, reasons for the choice and appropriateness of the research method, in order to answer the three main research questions and full fill the objective of the study.

2.1 Planning

The first stage involved preparation and clarifying the research proposal with the course coordinator, research supervisor, plenary presentation to the classmates plus consultations from fellow students. A detailed action plan is attached.

2.2 Study area

The research study was conducted in Kibaale district which has got a high sentinel surveillance of 5.5-9.9% (6.9%) sero-positive for the period 2002-2006 (WHO, 2008). This percent represents a category above most of rural districts of Uganda. This gave a fair representation and findings can easily be extrapolated for other rural districts with near/similar demographic characteristics as Kibaale. Kibaale was selected because of the sentinel surveillance rate being high and a place where NAADS programme was first implemented.

2.3 Target population

This study targeted Planning Monitoring and Evaluation Manager for NAADS programme in Uganda, four Sub county NAADS Coordinators from Kibaale district as key informants/persons in key positions for decision making processes of NAADS programme and fifty farmers respondents (farmers) who identified themselves as HIV/AIDS affected. This is because the recommendations made in the study will target farmers and the key informants who can influence change in the NAADS programme. Because NAADS is a government programme and its HIV/AIDS mainstreaming activities must conform with framework of Uganda AIDS Commission, the district HIV/AIDS focal person was interviewed.

2.4 Data Collection

Data collection involved desk study and field work.

2.4.1 The desk study

During the desk study, an overview of NAADS implementation programme and work that has been done on HIV/AIDS was established. Specifically it captured policies, strategies and actions that enhance food production by households affected by HIV/AIDS. It also reviewed the Monitoring and Evaluation system in place that is used in taking stock of the HIV/AIDS activities geared towards providing advisory services to HIV/AIDS affected households. Core implementation guidelines of NAADS, work plans and reports were also reviewed to capture activities that were being implemented. Internet search of the NAADS website for documents was done while still at University of Van Hall Larenstein part of WUR. Documents that were not accessed on the website were reviewed at NAADS secretariat and Kibaale district NAADS offices in Uganda. The desk study also identified gaps for follow up in the field study. Other than NAADS, comparative studies were conducted to review existing literature on HIV/AIDS work on farming households in Uganda.

2.4.2 Field work

Two methods were used to collect data from the field. These included survey and case study. Questionnaire schedules, focus group discussions, observation, and key informant

interviews were the tools used. Purposive data was collected from HIV/AIDS affected households and key decision making persons in NAADS programme.

2.4.2.1 Survey

A pretest exercise to fine tune the questionnaire was done before the final survey. This was done in Mityana district on three respondents. The final survey was done in Kibaale on at 50 respondents from households affected with HIV/AIDS. Different categories of households interviewed including; (25 male headed households 25 female headed households,). According WHO and UNAIDS global estimates (2008), in Uganda women comprise, 60% of people living with HIV meaning that the impacts and responses needed to be analysed by gender. Organizations supporting affected households were used to identify the households. The survey was to enable collect data on that gives a picture on how affected households manage their farms and options available for food production and livelihood security, constraints faced, and how HIV/AIDS is impacting on the household ability to produce own food and increase in asset base. Questionnaire schedules were administered to affected households. Quantitative information on household characteristics, resources and other quantifiable demographic data on affected households by gender was collected. Because of the sensitivity of the HIV/AIDS topic, the questionnaire was administered in accompaniment with staff from the organizations supporting the affected households. All the 50 respondents were selected by the organizations working with the affected households.

2.4.2.2 Case studies (Key informants Interviews)

The second part of the data collection process involved one case study in which key informants were interviewed using a checklist of questions. These key informants included at least four Sub County NAADS Coordinators (2 females and 2 males); Planning, Monitoring and Evaluation manager of NAADS program, District HIV/AIDS focal person, Coordinator of an NGO working with HIV/AIDS affected households. The selection of these Key informants was based on the fact that they are central role in NAADS implementation process and are key decision makers and that also they have a lot of useful information on how affected households are managing their lives. These persons were interviewed on their program activities to prevent or reduce on the impact of HIV/AIDS on affected households, constraints the program face in implementing HIV/AIDS activities, policies and strategies in place that are HIV/AIDS specific. They were also interviewed on what NAADS could contribute to the initiation of tailor made support for provision of agricultural advisory services to the affected households and methods of monitoring of the interventions. In this area, policies, strategies and actions were covered. The knowledge, skills and attitude of staff required to meet the demands of the affected households were also explored through observation of the reaction.

The project coordinator of one of the organizations involved in the support of HIV/AIDS affected households was interviewed specifically on how the affected households livelihoods are and on the possibilities for and how to collaborate with NAADS will be explored in this interview.

2.4.2.3 Focus Group Discussions

One focus group discussion was with a group of people living with HIV/AIDS was conducted. Discussion was basically on existing ideas on how affected households manage their farms, who they turn to and how they access advisory services. Options for food production and how NAADS can respond to their needs were all explored. The main

objective of the focus group discussion was to provide a forum for the affected households to discuss in more detail what affects them and to explore ideas for support groups, interventions and farm management. The other reason was to have a cross triangulation of answers from survey and individual one to one interviews. Options for sustained food production and income generation activities were investigated. Strengths and weaknesses (entry points for NAADS to intervene) in the NAADS program to meet affected household demands were too discussed. Constraints met by affected households were scrutinized.

2.5 Data Analysis and presentation

The data obtained from a study was either numerical or qualitative in nature. The numerical data was analysed using Excel and SPSS computer software in order to have frequencies and descriptive statistics that was used to establish the pattern of findings. These descriptive statistics included measures of central tendency within a sample like mean and measures of the spread of scores within a sample (like range). Summarising the findings was by means of graphs, pie charts, and tables. Although open to error, statistical tests were performed to permit a decision between the alternative study and null hypotheses on the basis of the data.

Qualitative data that was obtained was in form of stated experiences of the respondents or key informants and stated meanings they attach to themselves, to other people, and to their environment. SWOT analysis, 12 box framework analysis, causal relationships and theoretical statements clearly emerged from and was grounded in the phenomena studied. Categories of data produced by the respondents /key informants was arranged depending on relevance to several groups. The analysis was inferred not only on the number of items or statements falling into each category but also in the variety of meanings, attitudes, and interpretations found within each category. The analysis offered the prospect of understanding the affected households in a livelihood context. It provided suggestive rather than definitive evidence and indicate that there were limitations in current practices in the NAADS programme.

2.6 Geographical location and characteristics of study area

2.6.1 Introduction

Kibaale District is one of the districts of Uganda located in the Mid-Western part of the country. The District is bordered by Lake Albert to the West, Hoima District to the North, Kiboga District to the East, and Mubende District to the South where as the South-West lies Kyenjojo, Kabarole and Bundibugyo Districts. It is approximately 215 Kms from Kampala, the Capital City of Uganda. The District covers a total area of approximately 4,400 sq. kms, while 319 sq kms is covered by water bodies(Kibaale,2009).

2.6.2 Topography

Kibaale District is part of a central plateau with an altitudinal range of about 2000- 4000 ft. above sea level. The lowest area of the District is occupied by L. Albert at 2040 ft. above sea level while one of the highest points is 5100 ft. above sea level

2.6.3 Climate

Kibaale District has a favorable climate. It enjoys a bi-modal rainfall type which varies between 1000 mm-1500 mm per annum i.e. moderate to high rainfall. Rainfall comes in two peaks, one from March to May and the second from September to December. However, the Western part of the District bordering the Rift valley is generally dry. Temperatures are relatively high varying between 15.0c and 30.0c with the hottest temperatures recorded in the Rift Valley Zone.(Kibaale,2009)

2.6.4 Soils

The process of erosion and accumulation that acted upon the land surfaces gave rise to several types of soils in Kibaale District. In exception of the lowlands which are covered by alluvial and lake deposits, the soils of the district are of ferrallistic type. Productivity of these soils largely depends on favorable rainfall, adequate depth and maintenance of the humic top soil. However, some clay deep loams of Buyaga catena are sufficiently fertile to support a diversity of crops. There are basically 3 soil mapping units in Kibaale District namely Buwekula Catena Buyaga Catena and Kamusenene series. Buwekula Catena covers 90 percent of Buyanja and Bugangaizi counties and comprises three major types of granitic soils namely: shallow loams, Red clay loams and Brown gravelly clay loams. Shallow Loams have moderate acidity with moderate productivity and mainly support the growing of Tobacco and Cotton.

2.6.5 Vegetation

There are three broad categories of vegetation in the District namely: the modified equatorial type, the wooded savannah mosaic and savannah grassland. The modified equatorial vegetation covers a greater of the District. This type of vegetation used to be equatorial in nature but has been modified as a result of human activity. The wooded savannah mosaic covers a greater part of the district and forms a transitional zone from the modified equatorial vegetation to the open savannah grassland. The savannah grassland is typical in areas where human activity has modified the wooded savannah mosaic. The open grassland and thicket promote livestock farming although most of such range lands have not yet been properly developed.(Kibaale,2009)

Chapter Three

3 Literature review

3.1 Introduction

The HIV/AIDS pandemic presents, perhaps, the greatest challenge to global efforts to attain development in sub-Saharan Africa. It threatens to reverse the gains made towards human development over the past decades. The potential damage of the pandemic becomes considerably worse in regions such as Uganda that are still recovering from wars and natural disasters ranging from floods, droughts and pest infestations, that have occurred in the last decade. Whilst considerable effort has been made in ensuring that vulnerability of households in Uganda drought and consequently food insecurity is minimized, these efforts need to be revisited in light of the consequence of the HIV/AIDS pandemic. Rural development programmes and efforts have had to take new dimensions as it has become necessary to integrate HIV/AIDS in the design of interventions to address poverty. Similarly, small-scale agriculture has had to adapt to the various challenges and constraints to productivity that are a result of the pandemic.

Many HIV/AIDS affected households depend on agriculture for their livelihood in sub-Saharan Africa. HIV/AIDS often reduces agricultural productivity and threatens household food security (UNAIDS, 2008) and the impact is magnified (Mishra et al., 2007 cited in UNAIDS report 2008) in conditions of poverty. Studies by Whiteside and Barnett (2006) indicate that agricultural outputs fall by up to 50 per cent in AIDS-affected households, not only ruining household food security and income, but also leading to a reduction in land under cultivation, distressed sale of productive assets and loss of knowledge as families relapse to subsistence farming. The situation of food insecurity and income degeneration is further aggravated by loss of productive labour, loss of income, loss of food reserves, savings and assets which 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. Reduced levels of nutrition have been found in poor households (UNAIDS 1999)

3.2 Impact of HIV and AIDS on the Agricultural Sector

Research into the socio-economic impact of HIV/AIDS on households is crucial in guiding policies and interventions (Booyesen et al, 2001). An assessment of the socio-economic impact of HIV/AIDS should start on this micro-level and include determining how HIV/AIDS affects the economic decisions and position of individuals and households over time, and how this affects their quality of life. Households of HIV/AIDS affected households were 10 times as likely to suffer a death as compared to the non affected households in Rakai district of Uganda. Cohort studies on the impact of HIV/AIDS by Sewankambo et al (1994) on Households affected by HIV predictably had a higher burden of morbidity and death. Mortality among HIV-sero positive adults aged over 15 years was 118.4 persons per 1000 person-years as compared to the HIV-sero negative adults of 12.4 per 1000 PY. Adult HIV related mortality was associated with HIV prevalence of 13% and adult HIV attributable mortality was at 52% for the district. This mortality was associated with higher education, non agricultural occupation and residence in roadside trading centres.

3.2.1 Dependency ratio

AIDS morbidity and mortality usually result in a rise in the number of dependents relying on a smaller number of productive family members (Topouzis, 1998 cited in Topouzis, 1999). Young adult mortality affects food access by increasing the number of orphans (given that most women complete their childbearing before falling ill), thus raising the dependency ratio

within a household (fewer working-age adults and more dependent children). This undermines household food security and necessitates adjustments in the roles, responsibilities as well as relations among household members. For instance, elderly women are being forced to resume the role of custodians of food security in addition to parenting their grandchildren instead of being supported by their children. At the other extreme, young girls are finding themselves having to provide and care for their younger siblings (Topouzis, 1999)

3.2.2 Impacts on household food security and sustainable livelihoods

A livelihood represents the interaction between assets and transforming processes and structures that generate a means of living, all conditioned by the context that individuals find themselves in (Carney, 1998). IFAD (2000) study on the gender strengthening programme for eastern and southern Africa, revealed that agriculture is the main source of income for rural households in Uganda. It is also the main occupation of women and 90% of all rural women work in agriculture and 53% of rural men do so. Regarding assets, HIV/AIDS strips individuals and households networks of different forms of capital; human, financial, social, and physical and natural.

Based on demographic projections in Kibaale district where HIV sentinel prevalence between 2002- 2006 ranged from 5.5- 9.9% (WHO, 2008), HIV and AIDS are likely to have the following effects on the household food and livelihood security:

- Increased food insecurity in HIV/AIDS affected households as a result of loss of productive labour and through morbidity, mortality and diversion of the labour through caring for the sick.
- Increased rural inequality as a result of disproportionately severe effects of AIDS on poor households; AIDS strips families of their assets and income earners.
- A reduction in household assets and wealth, leading to less capital-intensive cropping systems for severely affected communities and households; and thus further impoverishing the poor and making the more vulnerable to HIV and other shocks.
- Problems in transferring knowledge of crop husbandry and marketing to the succeeding generation of farmers.

HIV and AIDS are likely to have the following effects on the agricultural sector:

3.2.3 Effects on agricultural production and productivity

Studies conducted in Africa in the late 1990's found that rural households suffering mortality of a prime-age adult generally experienced a decline in agricultural production relative to non-affected households. Statistically, this result was significant in the cases where the head of the household was male (Yamano & Jayne, 2004). Studies conducted in Uganda by FAO (2003) showed that affected household members were able to partially compensate for the death of a household member by bringing back another member residing off the farm. This would partially stabilise the supply of agricultural labour to the household, although this happened at the expense of off-farm remittances and therefore put pressure on household capital endowments. As expected, the effects of the pandemic on households that were initially poor were most severe. Most households respond to the impacts of HIV/AIDS through sale of the farm productive assets including, livestock, farm tools, and land. This distressed sale is mainly due to the need to cater for medical and funeral expenses. Different households are affected differently according to the studies done by FAO (2003).

Affected households in mixed agriculture communities reported that medical burial costs were met through a combination of assistance from the extended family small livestock and cattle land only as a last resort. There was evidence that affected households were three

times as likely to sell land as non-affected ones were. Competing cash needs, limited income and decreased asset wealth prevented households from investing in agricultural production, and among all households affected by HIV/AIDS the following could be observed:

- a proportional decrease in the amount of money spent on farm equipment and agricultural inputs;
- reduced uptake of recommended agronomic practices, such as row and line spacing, appropriate depths, compost and manure making;
- the storage and use of seed for sowing rather than the purchase of costly high-yielding varieties;
- Infrequent hire of tractors for preparing land.

In pastoralist communities, 88 percent of HIV/ AIDS-affected households sold cattle to cover medical or funeral expenses following the death of a household member. One in five affected households, compared with one in 25 non-affected ones, reported reduced sales of milk compared with five years ago, probably because these households had fewer cattle. The most frequent responses of households to financial crises seem to be borrowing, followed by using savings and sale of assets.

With a declining resource base, nearly half of the affected households (47 percent) had at least one member leaving the community in search of paid work or for (early) marriage, compared with 29 percent of non-affected households. All these responses increase vulnerability to food and livelihood insecurity.

3.2.4 Effects on crop cultivation, production systems and land ownership

FAO (2003) has documented trends in Uganda whereby a change in production systems (from commercial to subsistence crops) has occurred possibly due to HIV and AIDS. The explanation of this phenomenon is based on observations that suggest that capital constraints would become more severe as HIV and AIDS affect households, forcing many affected households to adopt less capital-intensive technologies and crops. The results have, however, been mixed as to how the pandemic is affecting household agricultural systems. The findings suggest on average, affected male-headed households had reduced the cultivated area by 11 percent (0.3 acre), while affected female-headed households had reduced it by 26 percent (0.5 acre). Over the past five years, affected female-headed households reported an average reduction in landholding of 11 percent (0.3 acre), which was owing to distress sale and the loss of land to relatives following the death of a spouse. Mixed agriculture households affected by HIV/AIDS were reducing the land under cultivation and leaving more land fallow, resulting in reduced output. Yields were further affected by the inability to purchase agricultural inputs and by the proportionally less time available for preparing and tending fields. Data from the survey demonstrated that affected households had reduced the area under cultivation for all crops, whereas non-affected households were able to increase the cultivation of maize and groundnut. The government has actively encouraged farmers to grow maize, as there is a market for this crop. It is clear that households affected by HIV/AIDS were less able to plant maize and respond to this initiative than non-affected ones were.

3.2.5 Effects on land distribution

According to Jayne, *et al.*, 2004, as affected households lose members in the prime of age, including those possessing rights to their household land, conflicts over inheritance may occur (Barnett & Blakie, 1992). Poor, disadvantaged and vulnerable households (consisting of orphans and widows) are particularly more susceptible to losing access and/or ownership rights after the husband or father passes away. In such a scenario, land ownership will tend to be more concentrated in wealthier households (those who are able to maintain their land rights after experiencing a prime-age death) in the long term . Concentration of land among

wealthier households due to HIV and AIDS is a phenomenon that is predicted to occur economy-wide in many countries (Lehutso- Phooko & Naidoo, 2002). The negative implication is that already disadvantaged households are becoming more disadvantaged. However, a positive outcome could be that the concentration of land in wealthy hands, or cooperative agrarian endeavours might protect land from being parcelled out and also allow knowledge management and sustainability of both subsistence and productive agriculture.

3.3 HIV/AIDS and organizational responses

The various ways agriculture sector can address HIV/AIDS impacts are by strengthening food, nutrition and livelihoods security (FAO, 2004). Since NAADS has a comparative advantage in agricultural sector, and most rural households are dependent on agricultural production for their livelihood (as a source of income and food), strengthening the households' agricultural production capability is one way in which the impacts of AIDS can be mitigated. Agricultural production ability of the household can be reinforced by improving their access to livelihood assets especially labour, land, capital, extension services, and management skills, promoting use of existing labour- and capital-saving technologies, and by supporting the development of technologies that can make optimal use of the available limited resources.

Rural development workers, current tasks, abilities and responsibilities are insufficient to analyze and respond appropriately to the problems of rural communities affected by HIV/AIDS (Witteveen et al., 2001 cited in Brinkman et al 2007) AIDS-affected households may be excluded if development agencies fail to update their targeting strategies as household structures change. A focus on working with men as heads of households automatically excludes the increasing numbers of new, and highly vulnerable, forms of household in AIDS-affected communities: those comprising grandparents and orphans, or orphans living without adults, or female-headed households. Although the proportion of these vulnerable households may be significant, standard development work may ignore their needs. For example, a very small proportion of agricultural extension resources is directed at young farmers –not to mention children – and female farmers (Oxfam, 2004)

Studies further show that a weak evidence base constrains effective planning and action across sectors (Qamar, 2001). Impacts of HIV on households are not tracked that can enable work adaptations to respond to HIV/AIDS hence no constant assessment in the effectiveness of interventions and no new areas of intervention are identified for adaptations and changes that may be needed in the future. Rau (2006) suggests that a more realistic approach would be to encourage staff to do what they have been hired to do and to build aspects of HIV/AIDS into those functions. In agriculture, for example, staffs are expected to understand cropping patterns, production methods, or marketing. Each of these can be shaped, with little additional training, to include an HIV perspective, either in data generation, analysis or planning. But they can monitor changes in land use for crop production or changes in labour availability for farm work—changes that could occur because of the effects of HIV/AIDS on households. Thus, agricultural extension workers need not promote condoms to their constituents. This leads to the same mistakes being made and thus no successful models to replicate.

Brinkman et al (2007) suggests that there is an urgent need to complement the technical competencies of rural development professionals with more social competencies, such as counseling and communication, lobbying and networking. HIV/AIDS creates new institutional, technical and operational challenges for the organizations to be able to respond. According to Qamar (2003) presently, there are no extension programmes and strategies to improve agricultural skills of inexperienced young farmers including a large number of women and orphans who have suddenly become clientele of the services. He

puts it that the notoriously weak linkages between extension, research and other relevant agencies are no help in responding to the need for developing new technologies and equipment suitable for the new situation. The technical content of extension messages remains strictly confined to agriculture. Most serious of all, the extension staff themselves are ill equipped to cope with the situation because of their lack of knowledge on AIDS and skills and to analyze its impacts on rural households.

3.4 Conceptual framework of livelihood security and definition of concepts

This study has adopted a sustainable livelihood which helps explain the dynamics of HIV and AIDS effects on the household where agriculture plays a significant role in the rural household livelihoods. A livelihood comprises of the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.' (DFID, 1999).

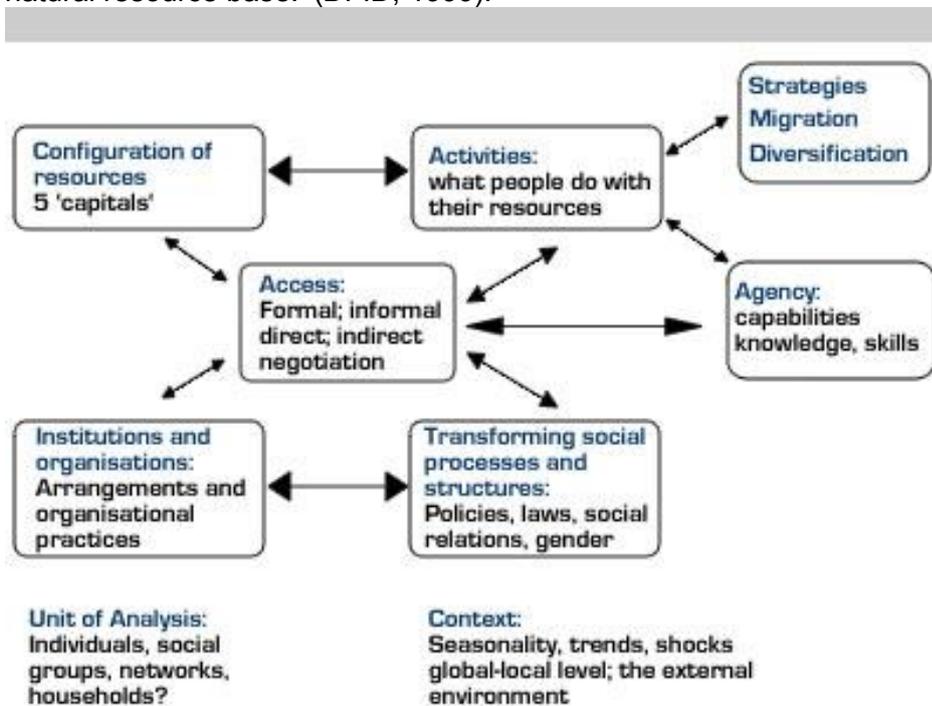


Figure 3.1. Livelihood frame work

Source: DFID, 1999

Key components of the framework for analyzing the livelihoods of households community are their capital assets, their vulnerability context and the transforming structures (layers of organizations both in the private and government sectors) and processes (laws, policies, incentives) which shape and influence the livelihood strategies which they adopt. (DFID, 1999)

Natural Capital: The natural resource stocks from which resource flows useful for livelihoods are derived (including land, water, wildlife, biodiversity, environmental resources)

- **Social Capital:** The social resources upon which people draw in pursuit of livelihoods (i.e. networks, membership of groups, relationships of trust, access to wider institutions of society).
- **Human Capital:** The skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies.

- Physical Capital: The basic infrastructure (transport, shelter, water, energy and communications) and the production equipment and means which enable people to pursue their livelihoods.
- Financial Capital: The financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options.

DFID(1999) describes the vulnerability context is particularly important as it indicates the nature of trends, shocks and culture, and the ability of the poor to withstand their impact. In addition, it is vital to understand the structures and processes which define people's livelihood options. These structures and processes are critical in determining who gains access to the various assets, and in influencing the effective value of each asset. The livelihood strategies which individuals adopt reflect their choices in building on their assets: gaining more from a livelihood through increased agricultural production (more outputs per unit area with increased capital or labour inputs), or by cultivating more land. Alternatively, there may be opportunities to diversify into off-farm income-earning activities, or to seek a livelihood by moving away temporarily or permanently. These combinations of activities which make up a livelihood strategy are known as a 'livelihood portfolio'. A portfolio will be diversified over time, and between households, communities and generations; hence the composition of livelihood strategies is a dynamic element of sustainable livelihoods, and as such requires a historical analytical approach.

The unit of analysis for this study was a household. A household has been taken as a point of departure in many livelihood focused studies. It is claimed that the household fulfils an important role in generating a livelihood and providing food and shelter for its members. The family is seen as the principle dimension of a household. Farms are generally run on the basis of family labour. In many studies of the organization of rural life in developing countries 'the household' is often referred to as a unit in which production and consumption (as well as reproduction and residence) take place (Carney,1998).

3.5 Food security , food insecurity and hunger

One of the main reasons farmers engage in agriculture is to ensure household food security. The American Institute of Nutrition(cited in United States Department of Agriculture- USDA, 2000) defines household food security as access by all people at all times to enough food for an active, healthy life. Food security includes at a minimum: (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways (for example, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)." And food insecurity as "Limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways."

Food insecurity, as the term is used here, is a condition resulting from inability to produce own food and other financial resource constraint and hunger is the uneasiness or painful sensation caused by a lack of food. The recurrent and involuntary lack of access to food. In this report, hunger is described as involuntary hunger that results from not being able to afford enough food. People are not counted as "hungry" for these statistics if they were hungry because they were dieting to lose weight, or were fasting for religious reasons, or were just too busy to eat.The reason for measuring food security at household level of the affected household is that NAADS is mandated to ensure food security for farmers including the ones affected by HIV/AIDS. The deprivation of basic need represented by food insecurity is undesirable in its own right and is a possible precursors to nutritional, health, and developmental problems as the HIV/AIDS effects will be compounded. Food security of the

households was measured by using proxy indicators like concerns and experiences about the adequacy and quality of the household

3.6 Farmer Interest Groups

A Farmer Interest Group (FIG) is a self managed, independent group of farmers with a shared goal and interest. The members work together to achieve this goal by pooling their existing resources, including social networks, gaining better access to other resources and to share in the resulting benefit. In the NAADS program farmer interest groups is an entry point to supporting farmers of all types and needs including people affected by HIV/AIDS. In the current agricultural and social climate in Uganda an individual farmer doesn't have the same access to technical and market information, nor the buying or selling power as a group of well organized like minded farmers. In addition, a group of like-minded people managing their own group, setting their own plans and making their own decisions with a self perpetuating fund is more likely to develop and maintain useful and relevant activities with a high motivation for sustainability amongst members. Farmer groups have the added bonus of developing social cohesion and confidence building within the community providing a social focal point for the communities.

3.7 Gaps in knowledge

Agriculture is the main source of income for rural households in Uganda (IFAD 2000) accounting for 90% of women and 53% of men. The rural poor have remained outside the monetary economy, mainly producing for subsistence (PMA, 2000). Food crops production still accounts for at least 65% of agricultural GDP, and agriculture continues to be characterized by low productivity. The challenges of rural economic transformation and poverty eradication are thus linked to progress in the agricultural sector.

In Uganda, research into the impact of HIV and AIDS on households has been done with general recommendations to development organisations on how to respond. Studies carried out by Topouzis (1993) indicate that impacts of HIV/AIDS can be different in different households even within neighbouring villages of the same district. This is because of the different cultures and norms of the various households hence making impossible to base a response to a few studies. Secondly all studies do not look into the constraints development organisations face before recommending actions. This study will specifically recommend to NAADS after a study on the organisation and link the possibilities of the organisation to the already existing strengths in the communities. Clearly, much knowledge is still to be amassed regarding the impact of this epidemic on agriculture, food security and livelihoods in Kibaale district. Thirdly impacts of HIV/AIDS are dynamic which calls for dynamic responses that have to continuously be studied.

Chapter Four

4 NAADS Program

The Government of Uganda's strategy for poverty eradication is based on the transformation of the economy through private investment, industrialization and export led growth. The agricultural sector presents a great opportunity for poverty eradication because it employs over 80 percent of the labour force. The sector has grown steadily (over 4% per annum) over the last decade (MAAIF 2000). Growth (OPM, 2005) in agricultural GDP has been achieved through expansion in the area cultivated. Yields per unit area have remained more or less constant except for cereals which increased by 34 % between 1996 and 1999, but flattened out thereafter. This is due to a number of factors including: major reforms of agricultural extension that led to the creation of National agricultural advisory services (NAADS): where there is further decentralization of extension responsibilities, from the district to the sub-county level; contracting extension services from a range of providers; involving farmers in programme planning, evaluation, and decisions about extension providers; establishing cost sharing between national and local governments and farmers; and the creation of more effective operational links between farmers, markets, extension workers, and agricultural researchers.

The NAADS programme is a government of Uganda semi-autonomous programme formed under (NAADS Act 2001) with a mandate to develop a demand driven, farmer-led agricultural service delivery system targeting the poor subsistence farmers, with emphasis to women, youth and people with disabilities. NAADS programme aims to overcome some of the key factors that undermine agricultural productivity, namely: poor husbandry, low use of improved inputs, limited access to technical advice, and access to markets (NAADS , 2000). The key development goal of NAADS is to enhance rural livelihoods by increasing agricultural productivity and profitability.

4.1 NAADS COMPONENTS

4.1.1 Farmer Institution Development

According to the original design (NAADS, 2000), NAADS focuses on farmer institution development (FID) mostly within the sub-county, and with the main focus in managing and taking charge of advisory service delivery. Greater focus is given to farmer capacity to perform multiple functions and to develop into higher-level institutions, even beyond the sub-county, and contribute to the enhancement of the quality of service delivery. In this regard initiatives to transform farmer institutions into economically viable entities are supported. Specifically it supports the development and strengthening of farmer groups (FGs), farmer fora (FF) community based facilitators (CBFs), higher level and inter group farmer associations. These farmer institutions are supported among other fields, in internal resource mobilization, Monitoring and evaluation and marketing.

4.1.2 Advisory services and information to farmers

The main activity areas under this component include agricultural advisory services delivery, technology¹ demonstrations to farmers to enhance farmers' learning, uptake and use of advisory services, information sourcing and/or development , packaging , and dissemination farmers, market oriented technology development and linkage with research, and feed back for formulation of research agenda .

¹ Technology can be a technique/skill, practice, agricultural equipment/tool, variety of seed or breed of livestock

4.1.3 Agri-business Developed and Market Linkages

Activity areas in this component include: market oriented technology development and linkage with research, provision of market information and conducting market studies, facilitating innovations in market chain development, farm business development, partnership development for market access and promotion of new enterprise and opportunity exploitation.

4.1.4 Capacity Development for Service Provider

The NAADS design provides for this in capacity development and in development of private sector service provider² institutions.

4.1.5 Planning, Monitoring and Quality Assurance

The component is for formulation of strategies, interventions and standards; and ensuring that programme implementation is consistent with agreed procedures and guidance.

4.1.6 Programme Management and Coordination

The main areas under this mandate are: overall management of the programme and coordination, networking, harmonization with other development interventions, and compilation and dissemination information for NAADS stakeholders.

To realize the vision and mission for the agricultural advisory services, the contextual issue areas that are addressed relate to;

- Increasing effectiveness, efficiency and sustainability (including financing, private sector participation, farmer responsiveness, deepening decentralization, gender sensitivity) of the extension Delivery service;
- Increasing farmers' access to and sustaining knowledge (education), information and communication to the farmers;
- Increased access to and sustaining effective and efficient productivity enhancing technologies to farmers;
- mainstreaming gender issues and HIV/AIDS issues in programme implementation
- Creating and strengthening linkages and co-ordination within the overall extension services;
- Aligning extension to Government policy particularly privatization, liberalization, decentralization and democratization.

Under this arrangement, advisory services take a more holistic approach with the scope of services embracing business management skills, market information and financial management (NAADS, 2009).

4.2 NAADS Implementation framework

The institutional framework for the implementation of NAADS programme consists of institutions as defined in the NAADS Act, (NAADS website, 2009). These institutions are: farmer Institutions, local governments, private sector, the NAADS Board, NAADS Secretariat, The Ministry of Finance, Planning and Economic Development (MFPED), The Ministry of Agriculture Animal Industry and Fisheries (MAAIF)

Farmer Institutions: These are the cardinal elements for farmer empowerment in the NAADS implementation. They are responsible for organizing, formulating and prioritizing

² service provider' includes all types of entities that offer services to NAADS, including NGOs and private firms/individuals

farmers' needs, then contracting and monitoring service provision. They comprise of: farmer groups with a primary responsibility of programme implementation at grassroots levels at parish and village. They are the nuclear grassroots institutions of NAADS implementation and their effective participation and subsequent empowerment is the principal determinant of success of NAADS. Other institutions are the farmer fora with the responsibility for priority setting, resource use and upward and downward linkages in programme implementation at sub-county, district and national level. Farmers are required to belong to groups in order for them to participate and benefit from the programme.

4.2.1 Local Governments:

Local governments in accordance with the Local Governments Act 1997 are charged with the responsibility of implementing NAADS activities in respective districts and sub counties. Local governments are charged with local administration and regulatory aspects and support requirements for NAADS. The Sub-county and District Councils at their respective levels are responsible for policy, assessment of effectiveness and general oversight of NAADS activities and for voting of counterpart financial contributions.

The Ministry of Local Government (MOLG) through its decentralization Secretariat and Local Government Finance Commission ensures the integration of NAADS into Local Government Development Projects (LGDP) and all other local government capacity building initiatives in the districts. Through this arrangement, each District and sub-county undertakes full responsibility to implement and supervise the operation of NAADS in partnership with Farmer Groups and Farmer Fora.

4.2.2 Private Sector:

Until 2009, the private sector had been responsible for delivering agricultural advisory services to the farmers on contractual basis. NGOs specifically were collaborating with NAADS in start-up activities of farmer mobilization and farmer institutions' capacity development. During this time the NGOs assisted in the supervision of extension service delivery until service providers were contracted.

4.2.3 The NAADS Board:

The objectives of the Board include providing guidance on policy, co-ordination to the NAADS Programme; supervision and support to the NAADS Secretariat. It is also responsible for setting targets and approving work plans and budgets for NAADS programme.

4.2.4 NAADS Secretariat:

The Secretariat is responsible for providing technical guidance and operational oversight to programme implementation and facilitate outreach and impact.

4.3 NAADS Implementation strategy

4.3.1 Selection and support to six model/demonstration farmers in each parish.

In each parish, six farmers are selected as model/demonstration farmers. These selected model/demonstration farmers are learning centers for the rest of the farmers in the parish.

These farmers are supported with planting and stocking materials. Other farmers are supported within their groups with extension services, planting and stocking materials (for both commercial and food crops), monitoring as well as strengthening their groups.

4.3.2 Extension service delivery to farmer groups

Frontline extension workers at sub county provide extension services under performance-based contracts. However NAADS is supposed to collaborate with research institutions for the provision of quality specialized agricultural advisory services (AAS) to farmers in addition to frontline extension workers.

4.3.3 Agro-processing

NAADS supports farmers to add value to their agricultural produce to fetch more money through mainly, partnerships with the private sector. NAADS also supports and facilitates acquisition of agro-processing equipments.

4.3.4 Food security and enterprise development

Enterprise Development and Promotion, emphasizes market-orientation agricultural production and commercialization to exploit comparative and competitive advantages. It aims at creating or improving and expanding the operations of an organized effort intended to return profits. It includes investment in specific farming activities geared towards exploiting a market opportunity and managing risks in the investment. This is achieved through implementation of strategies for improvement of productivity or quality of agricultural products. NAADS supports farmers to produce the enterprises that are profitable and to meet market demands both in quality and quantity, to be able to exploit available or potential market opportunities.

4.3.5 Approaches in Developing and Promoting Enterprises

Three approaches have been developed years developed in developing and promoting the enterprises. These are:

4.3.5.1 Farmer-driven Approach/Conventional

Under this approach, farmers through their farmer groups are expected to identify, and prioritize viable enterprises through a facilitated participatory process guided by a situational analysis. The criteria³ for enterprise selection include comparative and competitive advantages for a given locality for instance:

- Enterprise profitability
- Market availability
- Financial implications / investment (Capital out-lay)
- Risks in the context of shocks, trends and seasonality
- Production knowledge of the farmers

This approach is expected to give rise to intensified production of the selected enterprises in each sub-county, district or agro-ecological zone. A number of enterprises have been identified through this process over the years and it is expected that as the enterprise selection process is refined, this will result into agricultural zoning. The constraints

³ The criteria is scored in the order of 4,4, 3, 2,1 in that order and multiplied by number of farmers who agree with the enterprise to meeting the variable

associated with the selected priority enterprises are identified and they are the basis on which Advisory Services and Technology Development services are provided.

4.3.5.2 Integrated support to Farmer Groups (ISFG) Component of the Rural development Strategy.

The Integrated Support to Farmers' Groups (ISFG) is one of the components of the Rural Development Strategy. The ISFG is designed to complement and strengthen activities already being executed by NAADS to enhance the attainment of increased farm enterprise productivity and profitability. Through this support, the capacity of farmer groups to organise for effective access to input and output markets is further developed, and their ability to take up and sustainably use improved technologies is enhanced. ISFG objectives include to:

1. Deepen farmer institution development and organisation;
2. Increase effective farmer demand for productivity enhancing technologies;
3. Increase farmers' access to input and product markets through active linkage of farmer groups with processors/produce buyers and input stockists.

ISFG funding is provided to the sub-county farmers' forum as a grant, which in turn extends to individual farmers' groups as revolving funds. Each of the beneficiary farmers' group therefore operates a revolving scheme to scale up enterprise technologies within farmers' group or on their own farms.

4.3.5.3 ISFG link to Micro Finance Interventions

The ISFG is designed to boost the already on-going farmer internal resource mobilisation efforts, which may take the form of namely: Rotational Savings and Credit Associations (ROSCAs); Accumulating Savings and Credit Associations (ASCAs); and Inter-group Savings and Credit Associations (IGSCAs) that are being encouraged by NAADS as part of the strategy for sustainable group development. For this reason, the ISFG stimulates farmers' repayment of technology input into farmers' own accounts to constitute a revolving fund that will ensure an increasing number of farmers accessing funds for purchase of inputs and other financial services. The establishment of revolving schemes with ISFG grants lead to increased internally mobilised resources coupled with increased demand for technologies. This in turn stimulates demand for Micro-finance Institutions (MFI) services at sub-county level. The linkage will ensure connecting NAADS farmer groups to financial services from microfinance institutions and contributing to the goals of the Government's Rural Financial Services Plan to increase rural saving and rural financial services. The main objective is to link farmer groups under NAADS to Government's plan (MOP) to promote savings and expansion of savings and credit cooperative organizations (SACCOs) or other rural micro finance institutions.

4.3.5.4 Partnership development

The principle for Partnership is that, NAADS develops Strategic partnerships with key stakeholders already involved in the development and promotion of that particular enterprise to enhance their efforts. In this way, enterprises can be developed faster into commercial concerns to ensure that farming becomes a business. The major principles behind the partnerships include:

- **Linkage to markets and infrastructure:** strategic enterprise development and promotion will lead to bulk production and marketing of produce and it therefore requires that farmers can readily access inputs including technologies as well as output markets and that the associated infrastructure is available.

- **Establishment of quality standards:** successful exploitation of national, regional and international markets demands the establishment of quality standards for Uganda's products. This involves generating data for establishment of these standards, adherence to such standards as prerequisite and development of a grading system.
- **Capacity building:** The most important way of addressing the majority of the challenges is through building capacity of all stakeholders to efficiently identify and address the constraints to production, processing and marketing of agricultural produce.
- **Technology development and sharing:** Modern/improved technology is required for improved production and efficiency. It therefore means that new technologies have been identified and will be made available to farmers to enhance production in terms of both quantity and quality.
- **Provision of inputs:** Enterprise development requires specific inputs (seed and stock, equipment and specific tools, chemicals etc.), which farmers cannot easily access due to the required capital investment. Partnerships enable farmers to access credit and/or leasing facilities in various forms for such inputs

Chapter Five

5 FINDINGS AND DISCUSSION

5.1 Demographic characteristics

5.1.1 Kibaale district demographic characteristic

It is estimated that the population of Kibaale is 551,000 based on projections made by the Kibaale District Planning unit(Kibaale, 2009) from the National housing and population census of 2002. The average households size for the district is 4.8 persons. The estimated population size for the sampled sub counties is 39,100 persons for Bwikara and 14,000 persons for Kyebando. The estimated number of households for the two sampled sub counties was found to be 11,062. It is assumed with the district average HIV prevalence rate of 6.9%, there is one infected person per household that is affected. If the assumption is valid then 763 households are affected in the sampled sub counties. A sample size of 50 households represents 6.6% of the affected households. With the district HIV prevalence rate of 6.9%, there is similarity between the population statistics and sample statistics and therefore the findings can be generalised for the whole district.

5.1.2 Household demographic characteristics.

All the 50 respondents were from two sub counties of Kibaale district . 28 of the respondents were female and 22 were males. Of the fifty households, the maximum number of household members were 8 and minimum one with an average of 4.2 members per household. The members available in a household determine how much labour is available for the household. However the age category of the household members will determine whether one contributes to household labour or not. The more labour available the more the productivity of the household hence ensuring livelihood security. The average dependency ratio was found to be 2.4 with the range of 0- 3. worthwhile to note there was no significant difference between the male and female headed households in dependency ratio however 36% of the respondents surveyed had dependency ratio of 0 and 24% had the maximum dependency ratio of 3. In the 50 households surveyed, there were a total of 97 orphans of school going age in the 50 households surveyed. 13.4% of them had lost both of their parents to HIV/AIDS and 84.6% were single parent orphans .This finding is a cause for worry as all the 84.6% are potentially double parent orphans. Sewankambo et el (1994) studies already had revealed high mortality rates for HIV affected households This will obviously impact on their agriculture knowledge and are potential future destitute as their livelihood options can be limited if they got out of school as a consequence of HIV/AIDS and less time from parents to guide them as they grow. The widespread loss of active adults affects the entire society's ability to maintain community food safety nets. Mechanisms for transferring knowledge, values and beliefs from one generation to the next are disrupted, and social organization is undermined. Agricultural skills are lost since children are unable to observe their parents working. Due to gender divisions, a surviving parent is not always able to teach the skills and knowledge of the deceased partner. In effect, widespread HIV/AIDS can tear the very fabric of a society hence making food access at household level unpredictable. This calls for a system that ensures knowledge of production to be passed on from generation to generation, social safety nets for PLWHA strengthened at community level to ensure food and livelihood security at household level.

5.1.3 Age categories of Household heads interviewed.

Table 5.1. Age Category of HHH 1

Age category	Frequency	Percent
16-20	2	4.0
21-30	43	86.0
31-49	5	10.0
Total	50	100.0

Source: survey 2009

Age of a farmer determines the experience one has in farming, the productive assets accumulated, social networks established for survival, energy one has in farming all being important in the livelihood security. Most of the respondents (see Table 5.1 above) interviewed were of the age category 21-30 years the most productive age category in agriculture in terms of energy but still accumulating experience in farming. In the households surveyed, the age category of 21-30 revealed a high percentage of household heads living with HIV/AIDS. By implication, they are the most likely to die of HIV/AIDS related infection living a burden of young children to the grandparents as studies of sewankambo et al had earlier showed that places the future livelihood options for children at stake hence raising the dependency ratio of the elderly. There will also be knowledge loss to the household, labour loss living the next generation with less productive knowledge and less labor for the household respectively. The agricultural production according to FAO (2003) would fall and put the remaining members of the household very vulnerable. Of the 31 people as in table 5.3 below, 27 reported they were living with HIV/AIDS representing 87% of the total and out of these 20 women reported be to living with HIV/AIDS. This implies that more women are to suffer most the impacts of HIV/AIDS.

5.1.4 Marital status

Table 5.2. Marital status of HHH 1

Marital status		Gender of HHH		Total
		Male	Female	
1	Never married	3	0	3
2	Married	2	1	3
3	Co-habiting	12	4	16
4	separated	3	1	4
5	Widowed	2	20	22
6	Single parent	0	2	2
Total		22	28	50

Source: Survey 2009

The study shows that there were more women living as widows 20 out of the 22 widow(er)s(90%) (as in Table 5.2 above) associated with HIV/AIDS in the area of study. This is consistent with the finding of the focus group discussion and one to one interviews that noted that there are more female headed housed households that are widowed by HIV/AIDS. This they attributed to the fact that men tend to marry again after the death of their wives. By implication this has a bearing on overall net labour loss to a household as the male headed households will tend to replace the labour lost by re-marrying meaning the female headed households are more likely to suffer more the impacts of HIV/AIDS through labour loss.

Table 5.3. HIV status by gender of HHH 1

Gender of HHH	PLWHA		Total
	No	Yes	
Male	11	11	22
Female	8	20	28
Total	19	31	50

Source: survey 2009

This is consistent with focus group discussion with Sub county NAADS

Bar Chart

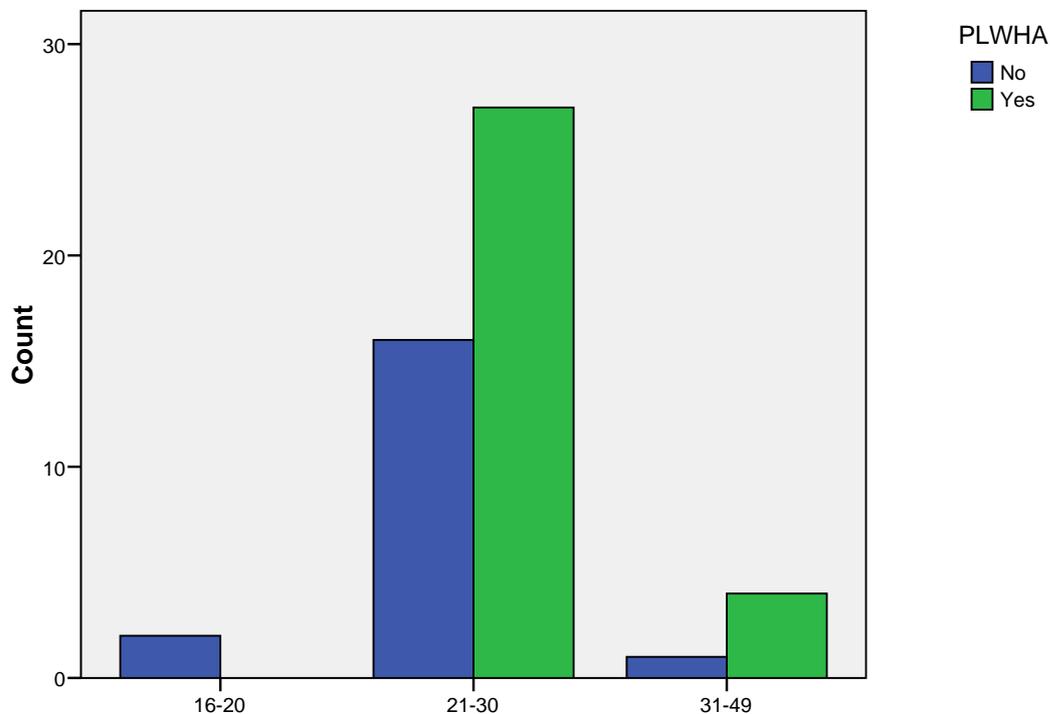


Figure 5.1 Illustration of HHH with HIV by age category

Source : Survey analysis, 2009

Coordinators who noted that there are more females living with HIV/AIDS as heads of households. The vulnerability of a household depends on who is infected in a household. In the Ugandan context this has an implication on the household food and livelihood security as the women are the most engaged in food production (IFAD,2003). The study revealed that the women are the most likely to be met who are living with HIV/AIDS possibly because women do not get easily remarried after the death of their husbands unlike if a woman dies a man is likely to remarry and may therefore not declare his status. This is consistent with what the focus group discussions mentioned that men normally remarry and it is hard to establish whether someone is living with HIV/AIDS or not.

5.1.5 Household members who contribute to farm labour

Of the fifty households surveyed , 80% (40)of the HHH still could contribute to farm labour and 20% were physically weak and could not contribute significantly to farm labour but would instead divert the available labour to their care. The survey further revealed that the HH with more members of over six members tended to have more HH members who are dependants and were thus not contributing significantly to farm labour. Mostly these were of age category 0-15 years. (see figure 5.2 below)

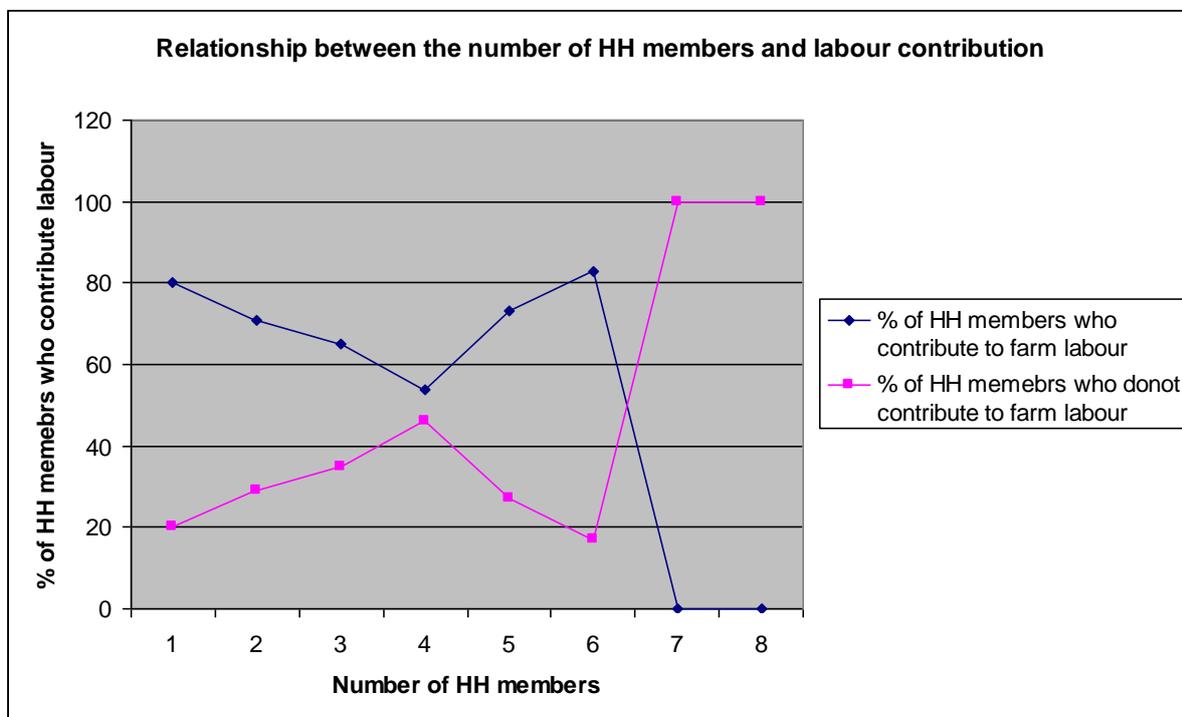


Figure 5.2. Illustration of finding HH members who do not contribute labour by number of members in a HH

Similar trends were also seen with households members who contribute to family income. This implies that the more dependants will deprive a household of a better livelihood. This could be made worse if the other members of a household are also living with HIV/AIDS further depleting the resources. Hence leaving the household in a more precarious situation.

5.1.6 Main source of livelihood for the households surveyed

The study showed that 80% of the respondents depended on farming as their main source of livelihood 10% were involved in petty trade and formal employment combined while 10% of the respondents interviewed depended on relatives for their source of livelihood and most of them were bed ridden and could no longer cater for their households.

Table 5.4. Main occupation of household head 1

Main Occupation	Frequency	Percent (%)
Farming	40	80.0
Trading	2	4.0
Formal employment	3	6.0
Relatives	5	10.0
Total	50	100.0

Source: survey 2009

Dependency on agriculture as demonstrated in table 5.4 above, as a main a source of livelihood implies that any factor that undermines the capacity of the farmer to engage or invest in agriculture production will directly affect the livelihood security of a household Such factors like labor deprivation through death or physical weakness, lack of time to tend to agriculture will translate to livelihood insecurity.

5.1.7 Level of education of the Household head

The level of education contributes to having different livelihood options including engaging in off farm activities. In the study carried out as shown in table 5.5 below, none of the women went beyond primary level of education and proportionally more women who never stepped in class implying that their livelihood options are also limited to agriculture as compared to men. This may imply that if the female headed households are impacted by HIV/AIDS and not supported by a development program then their livelihood security will be in balance.

Table 5.5. Education level by gender of a household head 1

Education level	Gender of HHH		Total
	Male	Female	
Never stepped in school	2	7	9
stopped in primary	19	21	40
completed secondary	1	0	1
Total	22	28	50

Source : Survey 2009

5.2 IMPACTS OF HIV/AIDS ON HOUSEHOLDS

5.2.1 Access to land and availability

Since 80% of the HH under study were engaged in agriculture as their primary source of livelihood, access to land is paramount to their livelihood security. Changes in access to land was assessed to determine how HIV/AIDS has impacted on land access by the household affected by HIV/AIDS. Specific questions were asked to farmers to tell the total land size available to farmers before and after HIV/AIDS effects in the household. The farmers were also asked to tell which reasons might have contributed to any changes in total land available to the farmers before and after HIV/AIDS effects on the household. The study showed as in table 5.6 and illustrated in figure 5.3 below that there was an overall average loss to access to land from 7.35acres to 6.45 acres which represents a drop in access of 12.3%.

Table 5.6. Land Lost before and after HIV/AIDS effects 1

Characteristic	Before HIV/AIDS	After HIV/AIDS
	Mean	
Total land owned (acres)	7.35***	6.44***

*** indicates there is a big difference at significance level of 1%

Source : Survey 2009

It was revealed that the average loss to access to land for men was 10.4% as compared to that of women which was 14.5%. This is a departure from the earlier findings by FAO(2003) where women had lost on average 26% and men 12%. Worthwhile to note 8 percent of the respondents had lost 100 % of the land they had before HIV/AIDS. Incidentally the households that lost all the land were female headed households. These could be attributed to loss of spouses who had rights as suggested earlier by Barnett & Blakie (1992). The departure from the earlier results could be attributed to the different development programs advocating for equal rights over property. By the time of the survey the respondents who had lost land were depending on renting and land borrowing. The study also reveals varying reasons for access to land for both women and men.(figure 5.4 below) Whereas all men (36.4% [8 out of 22]) who lost access to land reported that they sold it off to cater for treatment, the women who lost land reported that it was grabbed by relatives after the death of their husbands 14.3%(4 out of 28); sold due to distress 21.4%(6 out of 28) had abandoned land after the death of the husband 3.6%(1 out of 28).

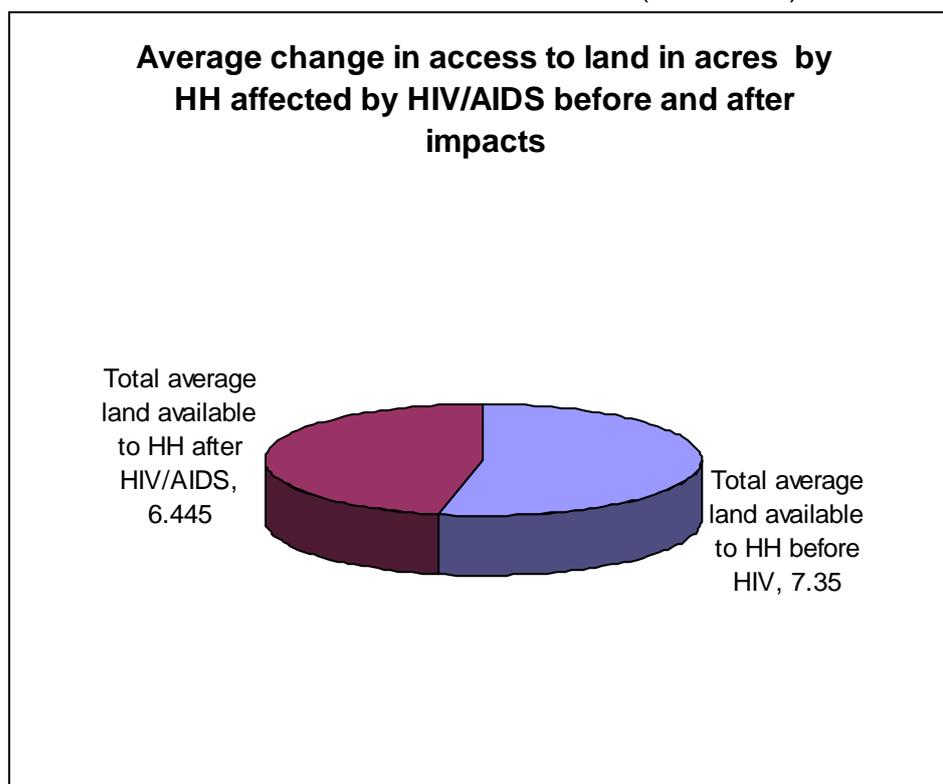


Figure 5.3 Difference in access to land

Source: data analysis for survey 2009

To the people who lost land in totality, it means that their livelihood is at cross roads. This phenomenon was also confirmed by the group discussion that especially widows are

particularly vulnerable to land loss after the death of their husbands. Interestingly none of the coordinators at grass root ever mentioned loss in land access by households affected by HIV/AIDS. This none mention of the loss to access to land could be attributed to lack of monitoring of the changes in land access by implementers of the NAADS program for the different households. This scenario fits the assertion that organizations may fail to adapt their work due to weak or no assessment of HIV/AIDS impacts on households (Qamar, 2001). This can be complicated by the fact that one may actually not know even what to monitor or assess. This is consistent with the fact that the NAADS monitoring framework of HIV/AIDS was nonexistent at the time of the study. All the options available to the households affected by HIV/AIDS do not build resilience of the households to the impacts of HIV/AIDS. Loss of access to land jeopardizes the livelihood security of the affected households. There was mention in the focus group discussions also that women mostly were getting relegated to marginal unproductive agricultural land. All issues that need monitoring and adaptations in the NAADS program. This non monitoring could also be attributed to the competence of the implementers to analyze the impact. This was noted in the one to one discussion with the coordinators as they emphasized technical aspects of the program other than the social aspects and changing impacts of HIV/AIDS on farming households. This is in line with the arguments advanced by Witteveen et al, (2001) who points out that the rural development workers are with insufficient abilities to analyze and respond appropriately. to HIV/AIDS impacts.

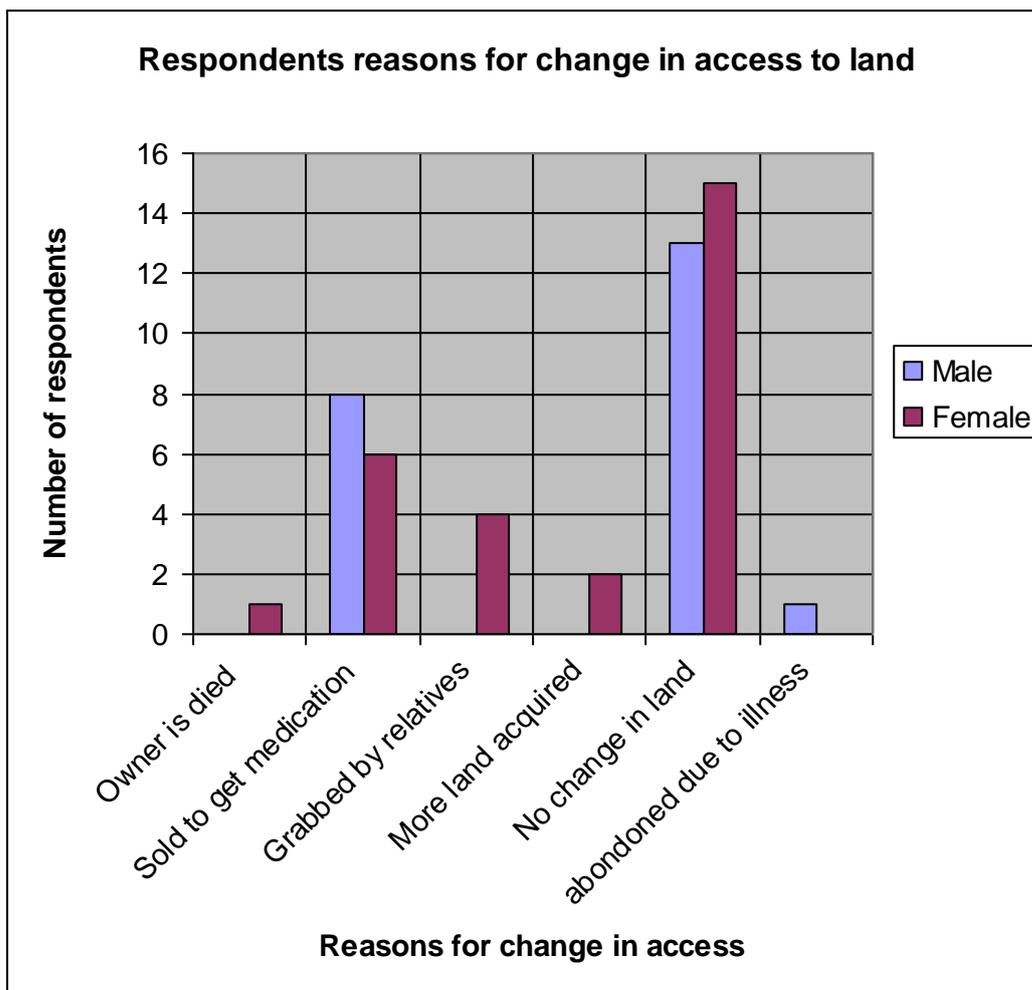


Figure 5.4. Gender differentiated reasons for change in access to land

5.2.2 Impact of HIV/AIDS on the farming enterprises of the households

Farming enterprises play a significant role in the livelihoods of the rural farming households. For the purposes of this study and according to farmers interviewed, there are two broad categories of farming enterprises encountered in the study; Crop and livestock enterprises. These enterprises contribute to farmers' livelihoods through either earning a household income or provision of basic nutrients as food.

5.2.2.1 Impact of HIV/AIDS on crop enterprises.

Farmers were asked to tell the different types of crop enterprises they are engaged in and how these have changed in terms of acreage as a result of HIV/AIDS. They were also asked to mention reasons for the change in the acreage of the enterprises mentioned. It can be observed from the graph that the same enterprises farmers were engaged in before the impacts of HIV/AIDS are the same but in different magnitudes. Amongst the food enterprises were potatoes, cassava, beans, and ground nuts. The enterprises for income include maize, rice, banana, coffee and sugar canes. The study revealed that Cassava, Maize, banana, and coffee took most of the acreage (figure 5.5 below). After the impacts of HIV/AIDS, there is a notable rise in average acreage in cassava and beans and a drop in acreage in all the other cash crops.

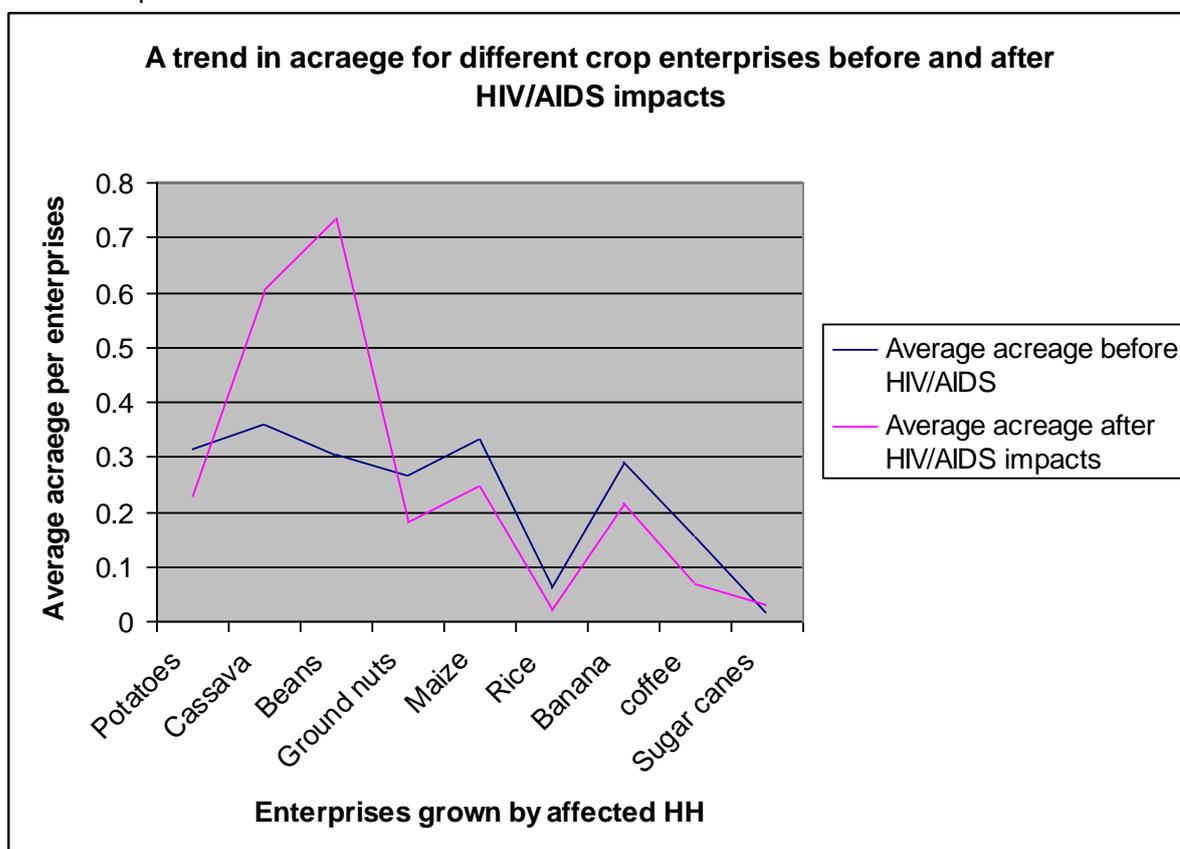


Figure 5.5 Change in acreage for crops

Source : Data analysis from survey 2009

A sharp rise in the average acreage for the bean enterprise can be attributed to the increased nutritional demand for proteins which beans can provide. This is supported by one NGO working with HIV/AIDS affected households which mentioned that they train people living with HIV/AIDS to eat more nutritious food like beans; The other explanation could be that beans can easily be intercropped with in other crops like cassava, banana, maize unlike groundnuts which basically may have the same nutritional value as beans but groundnuts

are more labour intensive crops as compared to beans. and a sharp increase in the cassava enterprise could be explained by the fact that cassava is less labour intensive and regarded is a food security crop. Since HIV/AIDS affected households are physically weakened, lack enough time to go to their gardens then engaging in cassava enterprise is an option to reckon with. Cassava is a crop that can even grow under minimum tillage. Worthwhile to note is that none of these enterprise was being promoted in the NAADS program in the district at the time of the study was carried. The sub NAADS coordinators did mention however they promote rice and maize enterprises for food and income. The selection criterion for the enterprises to be promoted can never favor cassava and bean enterprises; because the criteria emphasizes economic aspects mostly and yet farmers are looking at the enterprises from the livelihood point of view. In a group discussion with a farmers group, it was told that maize and rice have a lot of labour requirements in land preparation, weeding, harvesting and in puts like herbicides and fertilizers which NAADS has not supplied alongside the seed. This further elaborates the lack of ability to analyze special needs of HIV/AIDS affected households by the implementers of the program. 24% and 26% of the respondents attributed a drop in coffee and banana enterprise respectively to bad weather, coffee wilt disease and banana bacterial wilt . The general trend in the reduction of the land under acreage for various enterprise farmers mentioned that it was due to lack of time to attend to various enterprises, lack of money to invest in farming, physical weakness, lack of sufficient labour especially after the death of a household member and also land being grabbed by relatives.

5.2.2.2 Impacts of HIV/AIDS on household livestock.

Livestock is regarded by most farming communities as banks. This is because they easily turn to them whenever there is a difficulty to solve in a household. However the ease of sale of livestock depends on type of livestock. The easiest to sell are always poultry and pigs followed by goats and lastly cattle. When HIV/AIDS sets in the household, its these livestock that are sold in the first place. Because HIV/AIDS puts a lot of financial constraints on a households livestock tend to get sold very first to cater for household difficulties. Affected households were asked to tell how the livestock numbers have changed before and after the HIV/AIDS effects.

Table 5.7 Changes in percentage of livestock before and after HIV/AIDS effects in a household 1

	Cattle	Goats	Sheep	Pigs	Poultry	Bee hives
Average number of live stock before HIV/AIDS effects	1.52	5.52	0.2	1.9	9.34	0.04
Average number of livestock after HIV/AIDS effects	0.4	2.52	0.08	1.14	4.58	0
Loss in percentage of livestock after HIV/AIDS effects	73.7	54.3	60.0	40.0	51.0	100.0

Source : Survey 2009

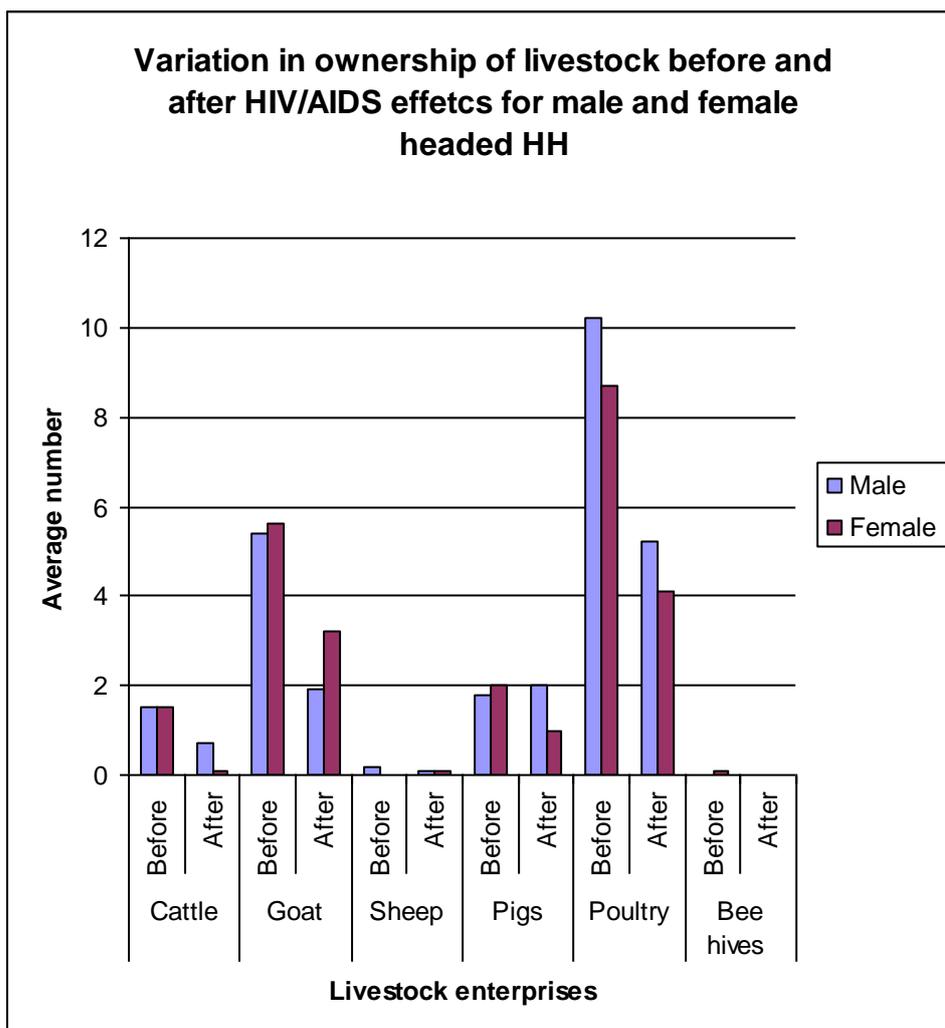


Figure 5.6 Changes in number of livestock 1

Source Data analysis from survey 2009

The study reveals that there is a general trend in the loss of ownership of livestock for both men and women after the HIV/AIDS scourge. As demonstrated in figure 5.6 above. What causes the loss of ownership is varied for both men and women. For cattle enterprise, 27.0 percent of men said it was distress sale to cater for household financial demands like medicine and school fees men 45.2 percent for the goat enterprise. For women they all attribute sale of cattle and goats to financial constraints like medicine and food for the household. For the piggery enterprise however men it was only distress sale and piggery diseases and yet for women the pigs were slaughtered at funeral and the enterprise was too demanding in terms of labour requirements. Similar reasons appear for poultry except that for both reported chicken being slaughtered at the funeral. None of the respondents reported grabbing of livestock however slaughtering at funeral can be equated to grabbing. The cattle enterprise suffered the biggest loss with 73.7% piggery and poultry with less losses of 40 and 50 % respectively. This could be attributed to the fact that reproductive cycle of cattle is longer compared to poultry and piggery and so the loss can easily be over shadowed by the reproduction potential of the two enterprises. What this may imply is that livestock with short reproductive cycle may be more appropriate to catch up with the demands of the affected households as compared to livestock with a big reproductive cycle like cattle besides the labour requirements associated with livestock. Worthwhile to note are the implications for the NAADS program if ever the affected households got inputs of similar nature. There is a

potential of such inputs being sold off without realizing the intended objectives through distress sale. One to one interviews with the sub county NAADS coordinators point to the fact inputs supplied under the NAADS program are normally sold off by farmers. If this continued it means that the program cannot effectively promote enterprise development as stipulated in the core documents with people affected by HIV/AIDS. This distress sale livestock is in line with the findings earlier by FAO(2003), where distress sale in response to additional financial burden that comes with HIV/AIDS.

5.2.3 Impacts of HIV/AIDS on agriculture production tools

The study did consider the production tools available to the farmers before and after the HIV/AIDS effects. Production tools help farmers optimize agricultural productivity. The type and number of tools available to the farmer will influence the outcome of the farming activities and thus an impact on the livelihood of the farmers. Research conducted by FAO(2003) in Uganda had documented some of the responses of the affected households as selling production assets including tools used for agricultural production. In the study carried in Kibaale, it shows there is no gender differentiation of the kind of tools used. All the farmers who experienced a reduction in the number of production tools did mention that it was due to tear and wear. All farmers had basically two kinds of farm tools; the hand hoes and machetes. On average each household had 4.0 hand hoes and 1.5 machetes before the HIV/AIDS effects but had dropped to 2.7 and 1.1 respectively after the effects of the HIV/AIDS scourge. Farmers attributed the reduction to tear and wear and other tools stolen. One thing to note however these are labour intensive tools that become inappropriate to an already weak person. Another interesting issue worth being pointed out, none of the farmers reported an increase in these tools. The reason given by farmers was that they did not have money to replace them and they were not amongst the household top priorities. This concurs with finding by FAO already done.

5.3 Impacts of HIV/AIDS on land and crop husbandry management

For the HIV/AIDS affected households to achieve the livelihood security through farming, ensuring household food security and increasing household incomes partly depends on the capacity of farmers to manage and maintain soil fertility and recommended crop husbandry best practices. Sustainability of the capacity of land to produce lies in its maintenance and management all of which the farmer must engage in. However these require time, energy, financial resources all of which are depleted by the effects of HIV/AIDS. Changes in land management were studied to reveal how the HIV/AIDS has impacted on household management practices. There was no significant statistical difference on how the farmers managed their land before and after with a level of confidence of 99%. HIV/AIDS impacts on the household both male and females. However 59.1% of the male headed households reported were using Livestock manure to maintain soil fertility before the effects of HIV/AIDS which dropped to 36.2% compared to the 35.7% women that were using livestock manure before which dropped to 28.5% after the effects of the HIV/AIDS scourge. This drop could be explained by the fact that livestock manure is heavy and needs someone with energy which is a limiting factor for HIV/AIDS affected households. The other factor may be due to some households losing livestock and they could not readily get the manure to use in their fields. The research also reveals that land under fallow dropped contrary to what would be expected as pointed out in earlier studies that it would increase due to limitations of labour availability. The land under fallow over all was reported to be in 64% of the respondents as compared to 44% of the respondents after the effects of HIV/AIDS. This could be associated with shrinkage absolute land acreage of the affected households as overall land under crop cover also shrank significantly by 12.3%. So it could be adduced that land that would be otherwise under fallow was either being sold or grabbed from the affected household hence becoming easy target for the grabbers or to be sold off.

5.4 HIV/AIDS Impacts on labour allocation for the various enterprises.

Traditionally, rural households in Uganda derive their livelihood by engaging in crop and livestock production. The need to increase household income and ensure food security, has led to many farm households to have gender roles in farm production. This has evolved over a time and has been accepted as a norm for a particular gender to engage in particular farming enterprises and practice. Based on the above, the research did investigate how labour allocation has changed before and after HIV/AIDS impacts. The enterprises were classified into four that is livestock, food crops, cash crops and marketing. The reason for this is that specific technologies are normally formulated along these enterprises to address related problems by NAADS programme. Another reason is changes in labour allocation by gender and thus specialised experience in a particular enterprises may have implications on activities aimed at improving the welfare of the affected households. A change in labour allocation has an implication in terms of food production as labour is not only physical but also skilled. Child labour cannot be equated to adult labour and also labour that has been experienced in food production may not be very appropriate in livestock or even agro processing and marketing. What the research does reveal and yet very important is that there is a general trend where there is more involvement in labour allocation to the livestock enterprises for the children after the effects of HIV/AIDS. For example there were no children reported to be involved in productive labour for livestock except in goats which needs part time labour for its management. However the study shows that there was a shift in labour allocation where children have started getting involved in every livestock enterprise including cattle which requires labour for the whole day as cattle were found to be just grazed the whole day with a herdsman. This may compromise the future education for such children which may lead to limited livelihood skills and end up being a destitute which a double tragedy for the child. The changes in labour allocation for the adults is conditioned where labour is switched amongst the adults who ever is still surviving, for the fact that life must continue after the death of some members and labour has to be redistributed amongst the households. This challenges the traditional stereotype gender roles in agriculture. This is a blessing in disguise or an opportunity for furthering gender equity and equality in development programmes.

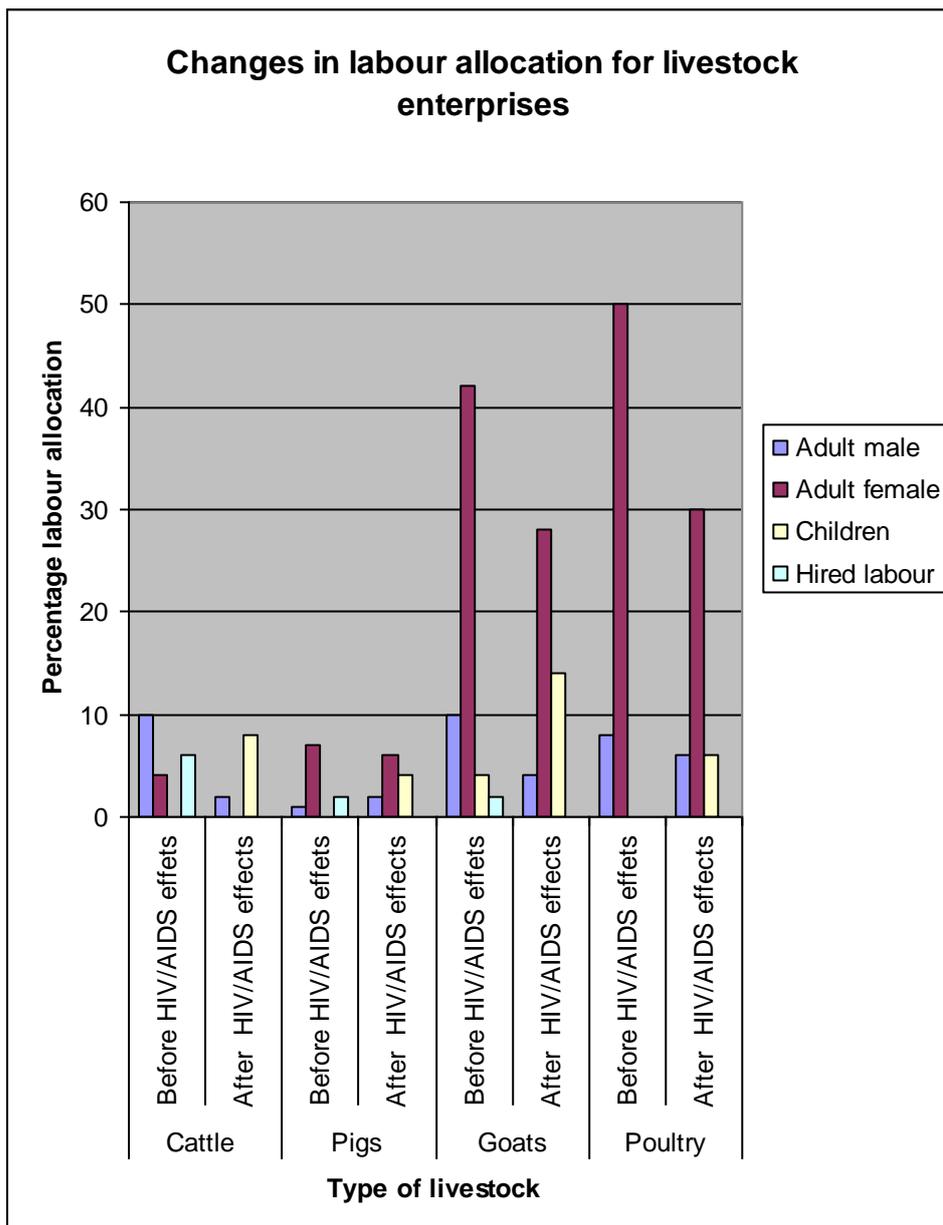


Figure 5.7 Changes in labour allocation for livestock 1

Source: Data analysis Survey 2009

The research further indicates that there are more children who are getting into the food crop production labour force figure 5.8 below. Before HIV/AIDS effects labour for children was reported to be happening in weeding only and these were girl children . However child labour for land preparation, planting, weeding and harvesting was reported after the effects of HIV/AIDS. Child labour can never have the same impact on agriculture as adult labour. This may explain why there is food insecurity in the households studied. Hired labour was common in land preparation but that has almost vanished maybe because of limited resources to pay for it. Ultimately this shift in labour allocation results into delayed planting, delayed weeding, late harvesting leading to post harvest wastage, and the overall effect poor yields and limited or no food on the table.

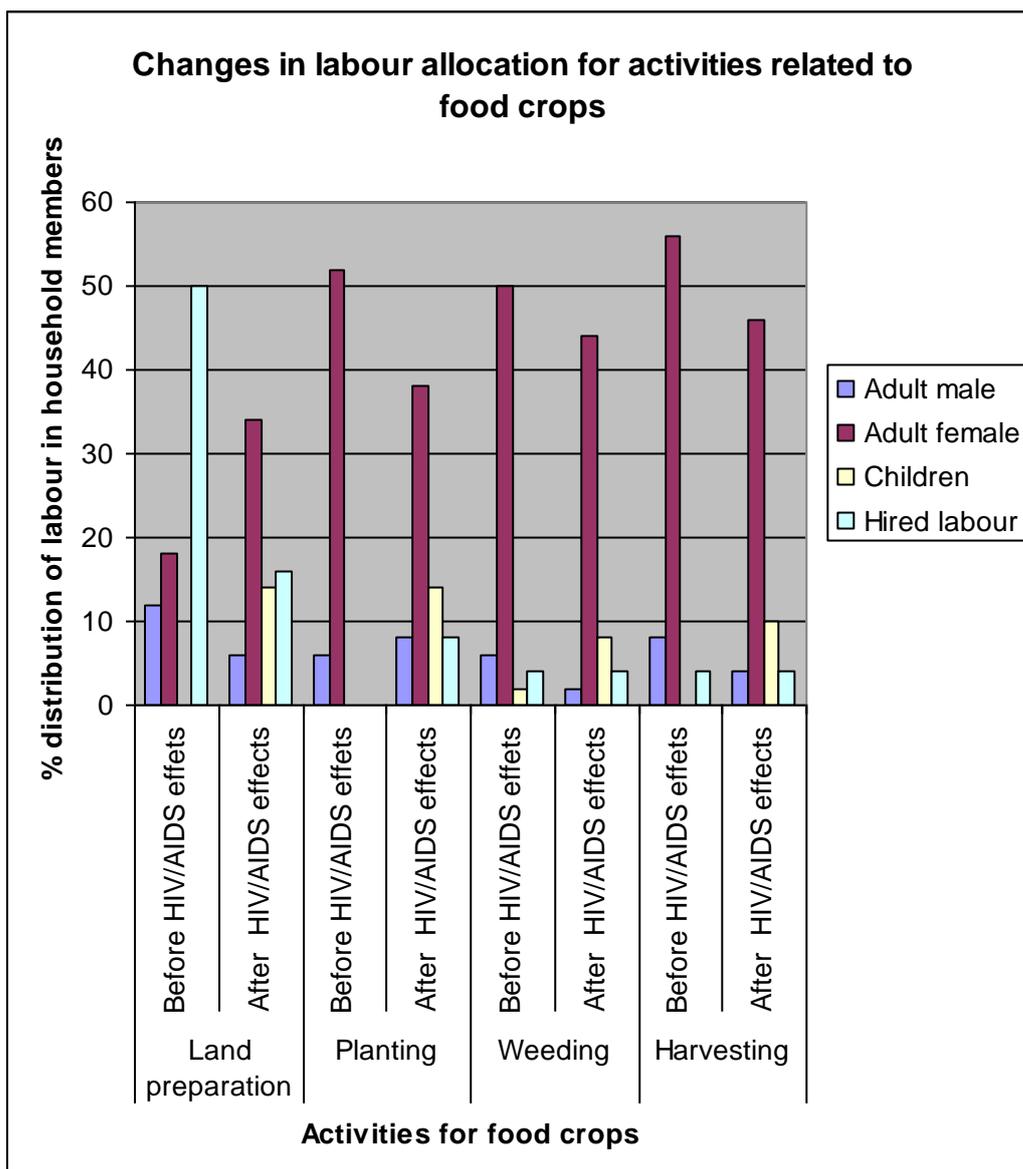


Figure 5.8. Changes in labour allocation for food crops1

Source : Data analysis from survey 2009

For cash crops the trends are similar to the above findings with children getting more involved in farm activities. This will obviously affect the farm income as less will be produced from a smaller piece of land that will be ploughed by children. So if there is less income realised for the household then distress sale to already depleted production assets and hence the vicious cycle of poverty and vulnerability. In marketing and agro processing, the labour changes have shifted mainly from men to women than it was for women to men. Obviously this has capacity implication in terms of experience and knowledge and skills for women who have not been involved in the marketing and agro-processing activities before the effects of HIV/AIDS. It was commonly reported in the focus group discussion that the women who are involved in the marketing are normally cheated as their inexperienced bargaining power and distressed to sale were taking their toll.

5.5 HIV/AIDS Impacts on overall household food security

The findings of the study revealed that there was no significant gender difference in vulnerability to food insecurity in the different types of households during the last six seasons. What was saddening however was that 78% of the respondents were worried that their households would not have enough and nutritious food in the household. This scenario is ultimately not in consonance with the concept of food security where one must be assured at all times of the availability of food. And when asked the frequency of occurrence 42% mentioned that it happened in four to six out of the six seasons and 52% attributed it to factors related to HIV/AIDS like labour loss, lack of money, and time for agriculture investment. Households were worried or unsure whether they would be able to get enough to eat, and hence reduced the quality, variety, or desirability of their diets. They may have resorted to emergency food sources or other extraordinary coping behaviors to meet their basic food needs. This argument is supported by a focus group discussion where it was mentioned that HIV/AIDS affected household were engaging in stealing food from their neighbours and in a one to one discussion with the coordinators where there was mention of households resorting to more risky behaviours of sex for food especially with young girls that are no longer going to school as a result of HIV/AIDS effects. When the households were asked to tell whether they ever ate food not preferred in the last six seasons 42 out of 50 (84%) responded that it has happened. This is obviously alarming. 50% of the respondents told that it happened in the last four to six seasons and only 10% reported that it happened in only one season. Respondents were further asked to tell in the last six seasons whether they ever experienced in the household eating a small meal than needed; 74% responded that it has occurred and 38% and 8% that it did occur four to six seasons and three seasons respectively. For the patient, malnutrition and HIV/AIDS can form a vicious cycle whereby under nutrition increases the susceptibility to infections and consequently worsens the severity of the HIV/AIDS disease, which in turn results in a further deterioration of nutritional status. Even when a person does not yet show disease symptoms, infection with the HIV virus may impair nutritional status. And 48% respondents attributed the situation to lack of energy to farm own food, lack of financial resources and limited time to attend to the fields as they spend time looking after the sick. according to USDA (2000) this is described as food insecurity with hunger which may lead to malnutrition. If it goes on unabated it can lead to earlier further weakening of the sick person and putting the whole household at vulnerable levels. The person may lose their appetite, be unable to absorb nutrients and become wasted. Good nutrition is important for disease-resistance and may improve the quality of life of AIDS patients. The onset of the AIDS itself, along with secondary diseases and death, might be delayed in individuals with good nutritional status. Nutritional care and support may help to prevent the development of nutritional deficiencies, loss of weight and lean body mass, and maintain the patient's strength, comfort, level of functioning and self image

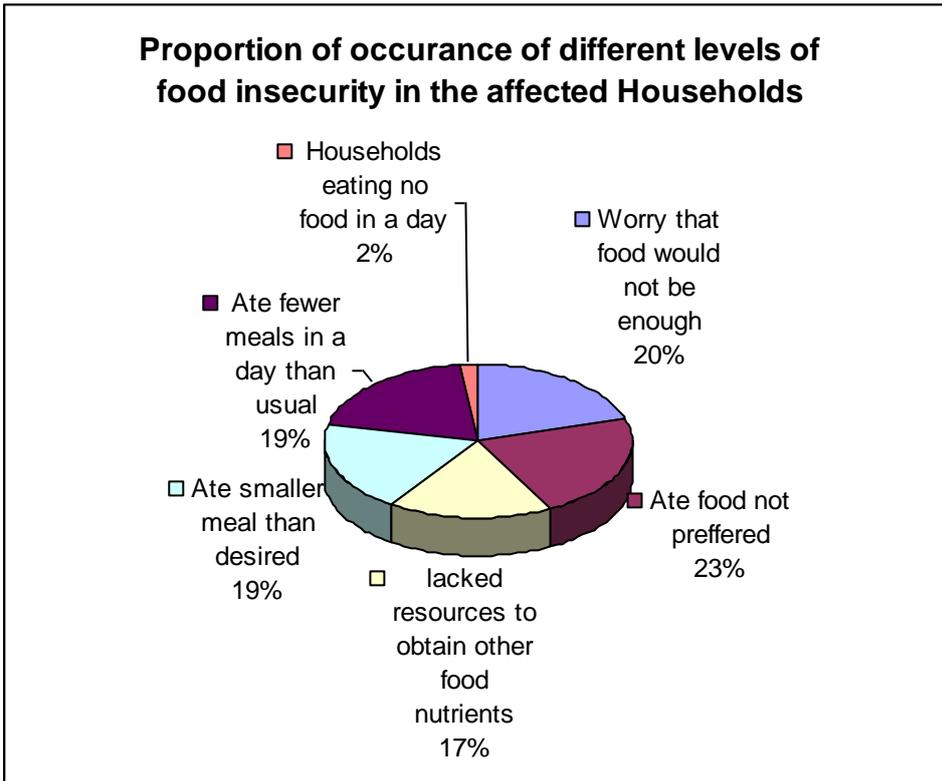


Figure 5.9. Proportion of levels of food insecurity in households surveyed1

Source: Data analysis from survey 2009

Proportionally, (figure 5.9 above) respondents eating food that was not preferred is the highest and therefore likely to suffer from nutritional food insecurity. This is consistent with the findings that cassava is a crop with the biggest piece of acreage and during focus group discussion it was revealed that the main food eaten was cassava. Cassava is basically an energy food implying that the immunity of these affected household can easily be compromised due to eating unbalanced meals. This has the consequences of aiding the opportunistic infections and HIV to progress to full blown AIDS and early death especially for people living with HIV/AIDS. Respondents eating less meals in a day and smaller meals than required are probably already suffering from hunger caused by lack of sufficient food and if the situation is continued it can easily deteriorate and compromise the immunity of the affected households with grave consequences. A small proportion is basically starving and these were the people who were bed ridden at the time of the data collection. But these respondents must have gone through all the stages until the last stage in food insecurity that is starvation with characteristics of malnourishment.

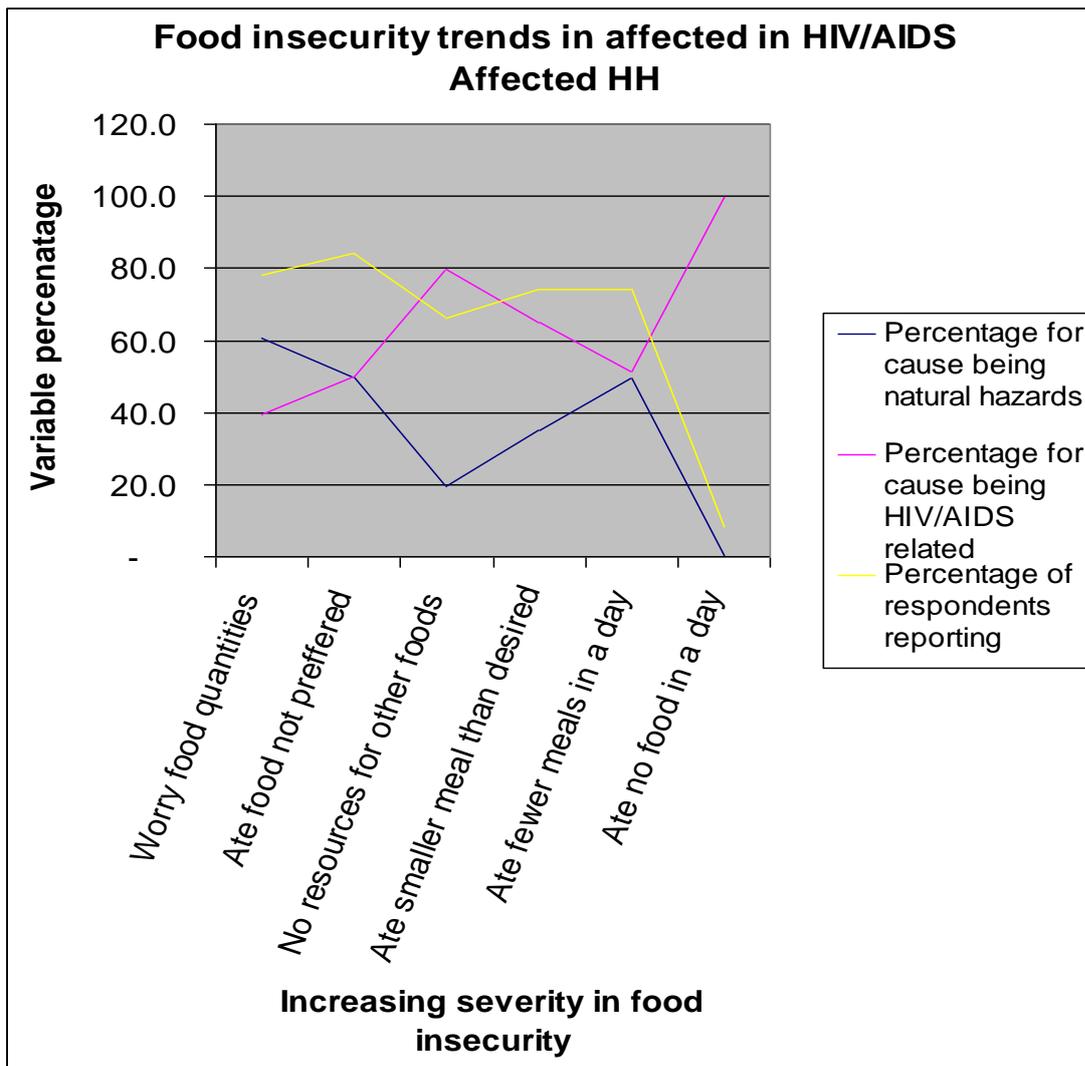


Figure 5.10 Food Insecurity trend in affected household 1

Source : Data analysis survey 2009

Figure 5.9. Food insecurity trend in affected households

The graph 5.10 above shows the trends of in severity of food insecurity is closely linked with causes being HIV/AIDS related because the more the severity the more the respondents associate it with HIV/AIDS and less for natural causes. This shows how HIV/AIDS is also compounding to the effects already suffered by all like natural causes such as bad weather, pests and diseases. Degradation of natural resources impacts on the availability of food at household level as reported by some affected households. In households coping with HIV/AIDS, food consumption generally decreases. The family may lack the food due to lack of time and energy to produce it. Expanding agricultural productivity to meet food needs of households affected by HIV/AIDS needs to address the water and soil fertility challenges too. The uncertain impact of climate change could exacerbate this challenge. This calls for an improvement in accessibility to irrigation systems, and easy access to water by affected households .

5.6 Ranking of HIV/AIDS impacts on a household

The households which were affected by effects of HIV/AIDS were asked to rank the effects of HIV/AIDS on agriculture and general welfare of the households. The most common impacts of illness include (as shown in bar figure 5.11 below) the loss of time that would otherwise be used for agriculture, off farm activities, and household chores , depletion of family labour through death, less time for off farm activities to supplement farm food and income and all being above 80% of occurrence. Loss of land, household conflicts and sell of household assets occurs less frequently. At 56%, 46% and 66 % respectively. There is less effects on community and this could a place to turn to in terms of social cohesion in the community. The study has revealed that the highest effects impact directly to agricultural production the main occupation of the affected households. This has an organisational implication since such effects can be reversed

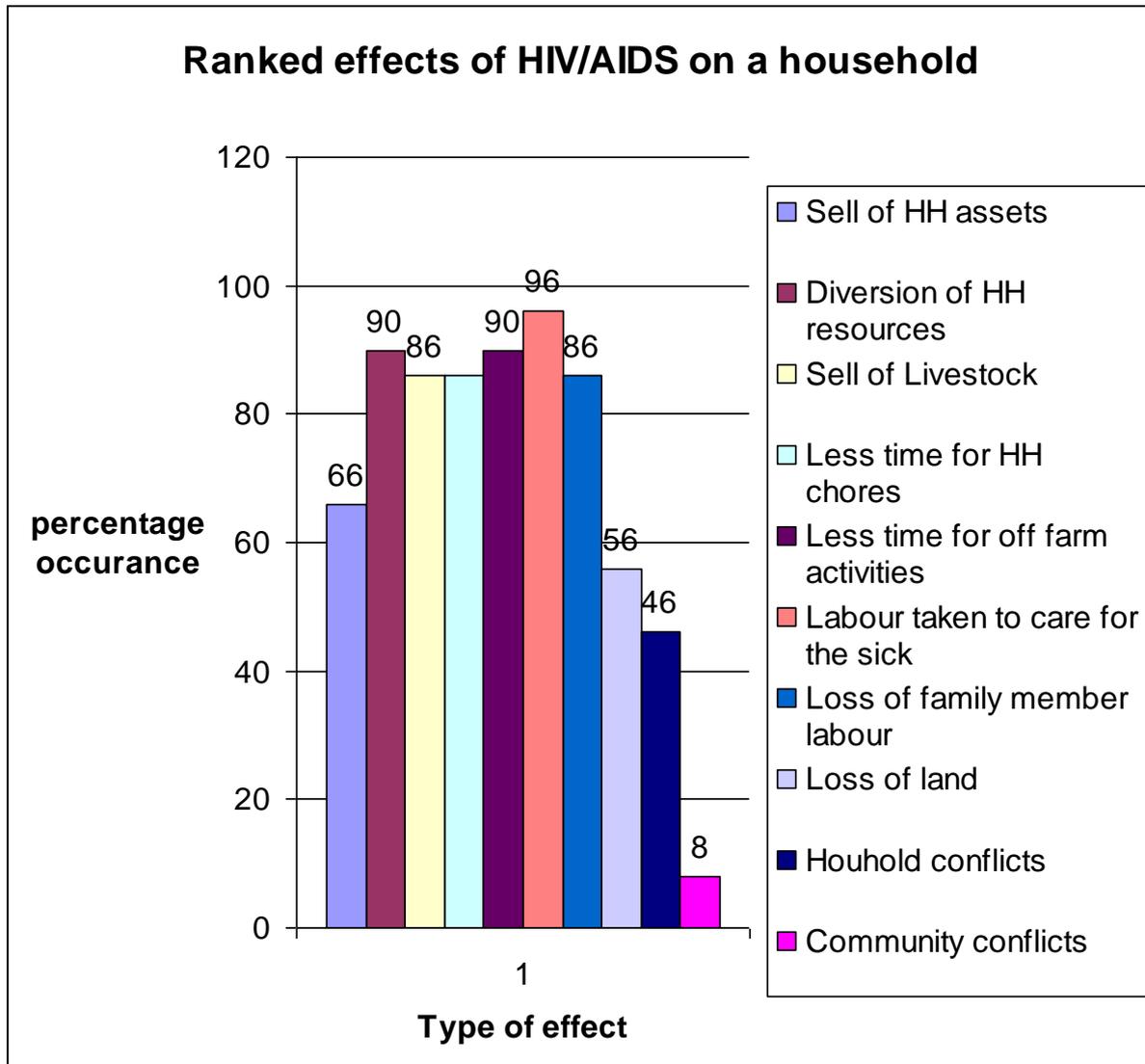


Figure 5.11 Ranked impacts of HIV/AIDS on a HH1

Source data analysis survey 2009

5.7 Factors that hold back female and male headed households from accessing NAADS extension services.

Despite the remarkable benefits that may accrue to HIV/AIDS affected households by joining farmer interest groups as already discussed, there are participation concerns of HIV/AIDS

affected households this study shows. Findings of the study revealed that 63% of the respondent have ever joined Farmer Interest Groups for purposes of sharing farm labour as a coping mechanism to labour loss, access to micro credit so as they are able to continue meeting household financial obligations, agricultural inputs so as they are able to continue meeting the household food requirements and socio-psycho support. By the time of the study however only, only 12% were still participating in the group. as shown in table 5.8 below.

Affected household members to belonging to farmer interest

Table 5.8.HIV/AIDS affected household in groups 1

	Frequency	Percent
Farmers who belong to farmer interest group	6	12.0
Farmers not in any group	44	88.0
Total	50	100.0

Source : survey data 2009

Worthwhile to note is that 88.0% (table 5.8 above) of those who joined had to leave the groups citing reasons like inability to continue paying subscription and membership fee for the groups, lack of time as they were committed to attending the sick and or being physically weak, and three of them reported that stigmatization forced them to leave. Other respondents expressed that they feared to be jailed as they had lost most of the properties that would be used as collateral to the effects of HIV/AIDS. This inability to sustain themselves in a group had denied the affected households from benefiting from programmes like NAADS that uses a group approach in targeting farmers. As the survey results revealed that only 6 % amongst the respondents had ever received services from NAADS. All the four sub county NAADS coordinator interviewed confirmed that they only target farmers who meet the criteria and one such criteria was being in a group. This is also enshrined in the NAADS guidelines(2008) and NAADS Act ,(2001). There was no significant differences noted to what constrains men and women from participating fully from the group activities as can be shown in the table 5.9 below.

Table 5.9: Constraints to participation in groups by gender 1

Constraints to participating in group activities		Gender of HHH		Total
		Male	Female	
1	High rate of interests	2	0	2
2	Fear of imprisonment on behalf of others	0	1	1
3	Lack of collateral	1	1	2
4	Late coming of members	0	2	2
5	Lack of Money	0	3	3
6	Lack of interest to participate	17	18	35
7	Inability to payback	0	3	3
8	Absenteeism	1	0	1
	Too weak to attend	1	0	1
Total		22	28	50

Source : survey 2009

Other constraints identified included:

Although nowadays Uganda has progressed in terms of fighting stigma, and the community and service providers tend to have better attitudes towards PLWHA, some respondents in this study said that they were treated negatively by fellow farmers. There was mention of other people leaving farmer groups for fear of being infected when some people disclosed their status. In the focus group discussion. The group discussion also revealed some type of stigma and that it manifest as rumors, blaming, and isolation. The stigmatization of the of the affected household definitely inhibit widows mostly from seeking community and extended-family support, which are vital safety nets in rural areas. Widows tend to become poorer as they lose access to land, property, inputs, credit and support services. HIV/AIDS stigmatization compounds their situation further, as assistance from the extended family and the community—their only safety net—is often severed. Widowers tend to remarry soon after losing their wives, thus cushioning their families from AIDS impacts During focus group discussions, the a group for the people affected by HIV/AIDS lamented lost hope due to bad experience of the past groups and training venues being far from their homes. As already noted and confirmed in the focus group discussion, the HIV/AIDS affected people expressed that most of the enterprises do not match their needs.

5.8 Constraints that limit NAADS in building the resilience of HIV/AIDS affected households.

As already pointed out, gender and HIV/AIDS are the some of the basic principles of the NAADS programme. The implementers of the programme were asked questions to understand how the programme addresses the issues related to HIV/AIDS. All the five implementers of the NAADS programme interviewed did recognize how HIV/AIDS impacts on the rural households. There was evidence contained in a NAADS circular (NAADS/LG/048, 30th July 2009), where there is support being directed to youth, persons with disabilities and women farmers; where up to 15% of the budget lines for support to model farmers and technology development and food security is used to address specific concerns for these categories. There was sufficient evidence to how NAADS as a programme has carried out impact studies of HIV/AIDS on the farming communities and what implications these are for development. Based on these studies the programme was able to develop a hand book manual for extension workers. However the hand book has not been able to reach the sub counties where implementation of the HIV/AIDS activities is supposed to take place. By the time of the study, the studies carried out have not been translated into concrete activities to be implemented at the local level. This was evidenced by lack of specific activities in neither district work plans nor reports. According to Holden (2005), external HIV/AIDS mainstreaming refers to “adapting development work in order to take into account susceptibility to HIV transmission and vulnerability to the impacts of AIDS. The focus of external mainstreaming is on core programme work in the changing context created by AIDS.” There was no evidence to this effect to show how the programme is being adapted to addressing the HIV/AIDS impacts. Asked why this was so, the lower level implementers did attribute it to implementation guidelines which specify that the programme targets the active poor as a principle and they were quick to add that these HIV/AIDS affected household are not as active. One of the Key informants asked “why should these people be treated differently?” Yet another implementer said, “the design of the programme is good but the context is wrong”. One other wondered what really NAADS can do about HIV/AIDS affected households. The key informant said, “yes, the CBFs can mobilise farmers to go for HIV/AIDS voluntary counselling and testing. May be also talk about HIV and distribute condoms. Ideally this is the responsibility of ministry of health.” Definitely this is direct HIV/AIDS work and NAADS does not have to carry out direct HIV/AIDS work as it does not have a comparative advantage in the field. But as Rau (2006) suggests that a more realistic approach would be to encourage staff to do what they have been hired to do and to build aspects of HIV/AIDS into those functions like analysing how HIV affected households

are coping in agriculture and adjust their programme activities accordingly. Oxfam recommends adapting the programme to suit the changing context of HIV/AIDS that is 'wearing' on the 'HIV/AIDS glasses'. The study has revealed that few of the respondents have accessed the NAADS services (6%) and even then those that feel have accessed they have not substantially benefited as evidenced by a mismatch between enterprises being promoted and what the priorities of the affected households. For example the studies show the biggest impact is household labour and yet enterprise being promoted at the sub counties are labour intensive and do not offer a full package of the needs of the affected. This could be attributed to by lack of skills to analyse what kind of activities to implement. Field interviews indicate that some NAADS enterprises are inappropriate for the farmer groups targeted, either because of labour requirements (HIV/AIDS groups insufficient resources of the affected households. Most of the activities indicated for mainstreaming included incorporating HIV/AIDS messages like condom use and linking people living with HIV/AIDS to health centres. In a focus group discussion, the farmers however indicated they needed to raise household income and ensure food security which none of the options seemed to offer to them. One of the coordinator mentioned that there cases of self exclusion by the people affected by HIV/AIDS. This is supported by studies done by OPM (2005) that suggested that there are cases of self exclusion. However during the survey some farmers did point to the fact that they have unique problems that need to be incorporated in the NAADS and also there are some cases of where some farmers are stigmatized. There was no evidence to suggest that NAADS is in partnership with other organizations to reducing the vulnerability to impacts of HIV/AIDS on the affected households. This would be partly be due to ever changing guidelines of implementation that have tended to phase out other development partners especially the NGOs. On the other hand there seemed to be lack of initiation from the NGOs to partner with NAADS to implement specific activities. There was no evidence to suggest that there is a monitoring and evaluation system to monitor HIV/AIDS impacts and interventions. This in itself has a bearing in the ability to develop policies that are more supportive to HIV/AIDS mitigation. This could be attributed to the facts that HIV/AIDS may not be very visible at community level as it at household level or lack of capacity to develop the system as there was a framework but without monitoring indicators or lack of commitment to fight HIV/AIDS as there was no budget for the HIV/AIDS activities or a combination of all of them. The environment in which the NAADS programme is operating demands to improve programme efficiency, effectiveness, legitimacy, flexibility, innovativeness and more accountability from its core business. The choices, actions, practices and values across NAADS must be aligned with the social and environmental needs of the larger community including those affected by HIV/AIDS. As already pointed out, one of the guiding principles of NAADS implementation is HIV/AIDS and gender mainstreaming. The government of Uganda has also instituted a mechanism of assessing HIV/AIDS in all government programs under the local Government Development Program (LGDP). Under its capacity building component there are not only funds to facilitate the process but also a mechanism for assessing the implementation of HIV/AIDS and gender in program activities as established with a one to one discussion with the district HIV/AIDS focal person. At each of the levels at district and sub county levels decisions can be made within the framework established at the national level. Roles and responsibilities are clear for each level of implementation. At this level, analysis on how HIV/AIDS affects men and women can be analyzed and appropriate decisions taken and implemented. The primary function of NAADS is that of service delivery and availing technologies to the community which is adequately supported by financial function and reporting processes. Technical procedures are in place and are technically and periodically monitored and quality assured. The internal and external audits recommendations both technical and financial are normally implemented. These can be used to incorporate and capture activities related to HIV/AIDS within the program. At each level of implementation there is some degree of discretion and authority on the resources required to enable the successful carrying out of plans. And it

involves the assignment of tasks, the grouping of tasks like service provision, technology acquisition, monitoring and quality assurance to different individuals or committees, and allocation of resources across the organization both physical and financial to accomplish the planned tasks. NAADS can still do much better than its already doing.

6 Conclusion and recommendations

This study confirms some findings with previous studies done elsewhere in Uganda and beyond but has also brought new insights into the impacts of HIV/AIDS on household livelihood security and food security.

6.1 Conclusions

6.1.1 Impacts of HIV/AIDS on household demographic structure, labour supply and dependency ratio

The study found out that most affected households are of age category 21-30 years. There were more female headed households than male headed households. Regarding labour supply, it was found that households with more household members are likely to have more household members that do not provide labour to the household. Worthwhile to note also that these households with many household members are more likely to use the children to do adult work hence compromising on the production level of the household and jeopardizing the future livelihood options for the children if they do not go to school. There is strong evidence that has confirmed that HIV/AIDS is affecting labour supply of the households mostly through time consumption and loss of members who were supplying their experience, knowledge and man power hence compromising on the household food and livelihood security.

6.1.2 HIV and AIDS impacts farming enterprises.

The study has revealed that there is a changing pattern in the type of enterprises being grown by households affected by HIV/AIDS and these are not supported by the NAADS program. Cassava and beans were noted to be increased in their acreage after the effects of HIV/AIDS and a reduction on the other farming enterprises. This was mainly due to responding to labour shortages for the case of cassava and nutritional requirements for the cases of beans.. However these are the enterprise not being supported by the NAADS program. The study also showed that other enterprises are reducing and the reasons are basically due to labour shortages as they need more labour as compared to the ones which are coming up. Households affected by illness face a problem of labour supply for agriculture and make up for this shortcoming by using children and adopting new crops that are less labour intensive.

6.1.3 HIV and AIDS impacts on household livelihood assets and capital stock

There was evidence adduced to indicate distressed sale of household assets like sale of livestock and land and grabbing of assets especially land from female headed household after the death of the husbands. The costs of prolonged illnesses and the associated loss of income forces affected households to sell some assets so as to meet the additional health costs. This distress sale of productive assets such as livestock and agricultural implements jeopardizes the agricultural production capability hence contributing to their livelihood insecurity. There was no evidence to suggest that there was distress sale of the production tools like ploughs but there was evidence to suggest that the affected households are unable to replace the worn out farm implements.

6.1.4 Impacts on land management

The study has shown that there were no significant difference in the usage of recommended practices of land management. Although farmers reported that there was declining soil fertility as one of the causes of the low productivity, there was no notable difference in the application of practices that improve soil fertility like livestock manure, inorganic fertilizers, crop rotations, making of terraces, leaving land under fallow and utilization of herbicides. As

previous studies had indicated . this being attributed to the general poverty in the household not necessary HIV/AIDS.

6.1.5 Impacts on available labour

HIV/AIDS has added significantly to the problems of agriculture and food security in the households where this study was carried out, where production depends very heavily on manual labour. Death and illness reduced labour availability, both directly through affecting productive members of the household, and indirectly through diverting labour to caring for the sick. Both of these effects mean that during the rainy period - a period of high labour demand for land preparation, sowing and weeding - labour demand for farm work remaining unmet, as urgent domestic tasks are forced to take precedence.

6.1.6 Food security

Food insecurity is a major concern for households affected by HIV/AIDS as it was proved that there exists food insecurity in all households affected by HIV/AIDS and in some cases with hunger and its extreme cases. HIV/AIDS pandemic brings new complexities in the fight to attain food security for all. NAADS has an important role to contribute in the fight against HIV/AIDS and in realizing food security for all households, and the affected households are suffering from different forms of food insecurity. Problems of maintaining food supplies, in both quantity and quality will increase as the mortality and morbidity due to the disease unfolds. Projections of the demographic impact of the epidemic indicate that the number of HIV cases and AIDS deaths is still rising. The worst is therefore yet to be seen.

6.1.7 Impacts on off farm activities

The study did not ascertain to what extent the off farm activities for the households were affected, whether there were significant differences in participation in off farm ventures between the affected before and after HIV/AIDS effects, but given that affected households suffered labour losses and also did mention that these activities were affected, one can presume that HIV/AIDS impacts significantly on the ability of the household to engage in off farm activities.

6.1.8 Loss of agricultural skills

The research has revealed that most of the affected households are in the age category of 21-30 years and households have lost active members. This widespread loss of active adults disrupts mechanisms for transferring indigenous farming methods, knowledge, values and beliefs from one generation to the next. Agricultural skills are lost since children are unable to observe their parents working. This was evidence in children starting to take over some tasks and responsibilities after the HIV/AIDS impacts. This has serious implications on the continuity of optimal agricultural and livestock production

6.1.9 Factors that hold back men and women from accessing NAADS services

HIV/AIDS affected households are not participating in groups due to physical weakness, stigmatization both self and from others, distance to the meeting places, unmet needs and lack of time. Because of this they are unable to benefit from government programs that use the group approach. With this the vulnerability of the affected households increases.

6.1.10 Constraints of NAADS to building resilience of HIV/AIDS affected households

The study identified a number of recent HIV/AIDS initiatives by NAADS such as HIV/AIDS resource guide for extension workers and impact studies of HIV/AIDS on agriculture. However, at sub county level, the findings show no evidence of actions specifically targeted at HIV/AIDS affected farmers. There appears to be accidental involvement of HIV/AIDS affected farmers in NAADS farmer groups or to provide services and input support that

matches the needs of the HIV/AIDS affected households. This may partly be due to extension services' lack of capacity (knowledge, skills and attitude), lack of clear guidelines or financial commitment to addressing the plight of the HIV/AIDS affected households.

6.2 RECOMMENDATIONS

Uganda still faces constraints to commercialize and modernize agriculture that would ensure livelihood security for the poor, and the HIV/AIDS pandemic has further threatened household food and livelihood security.

6.2.1 Recommendations at District level

6.2.1.1 Capacity building of the implementers

Understanding both livelihood security and HIV/AIDS can allow for effective intervention to mitigate both food insecurity and the impact of HIV/AIDS, and opportunity to secure development and dignity for the affected households . This is possible if the capacity of the implementers at sub county level especially, who make choices for the farmers and work plans and implement NAADS activities, is built particularly in the analysis and formulating appropriate responses against HIV AIDS impacts at household level.

6.2.1.2 Targeting HIV/AIDS affected households especially female headed

It is first at the household level that HIV/AIDS is threatening food and livelihood security. Strategies to deal with food insecurity must address the challenges posed by HIV/AIDS as well as declining agriculture productivity levels at that level. NAADS program particularly Kibaale district needs to be involved not only in proclaiming the human right to food, but also in empowering the affected households to cultivate and access adequate nutrients. It is difficult but not impossible to target purposely the HIV/AIDS affected households extension services including knowledge and skills transfer of livestock and crop production to different farmer types emerging, full package input support for both crops and livestock of livestock rearing and crop production for both cash and food. Differentiated action responses that cater for households of different vulnerability levels. This should be done after careful analysis of the special needs of the affected households. This should be able to translate into households being able to meet their basic livelihood needs like food, education for their children and diversified livelihood options for sustained productivity, community networks and financial stability for the household. The cycle in turn reinforces potential and productivity locally and nationally, leading to economic profitability and social stability. As complicated as it is, not to mention the implied logistics of it, it is the only really logical argument and action, if NAADS is to remain relevant in the eyes of the HIV/AIDS affected households not to mention it is vitality for broader security and blessedness that breeds sustainable success.

6.2.2 Recommendations at NAADS secretariat level

Establish and operationalize the monitoring framework for HIV/AIDS.

The study did not find any evidence to suggest that there is taking stock of milestones, results and evaluation of HIV/AIDS activities if they are implemented anyway. However in order to improve outcome and impact this should be taken as a matter of principle and priority. NAADS and staff may face many challenges related to the monitoring and evaluation of their HIV and AIDS activities. Monitoring and evaluation capacity and skills are important for the successful implementation, design, and measurement of effectiveness of HIV and AIDS activities and capacity needs. This is where capacity building comes in handy. Activities at all levels, whether single interventions or multiple integrated activities, should have a monitoring and evaluation plan to assess the project's progress towards achieving its

goals and objectives and to inform key stakeholders and programme designers about the achieved results or potential issues.

6.2.3 Commit financial resources for specific HIV/AIDS in the budget line.

NAADS board and thus secretariat is mandated to issue guidelines on implementation of the NAADS programme. There was evidence to show that the youth and women have a financial budget line to cater for different needs. This should also be extended to include the HIV/AIDS affect household.

6.2.4 Food availability and gender equity

Women ensure household food security and nutrition through their roles as food producers. Despite this, they are often more vulnerable to nutritional problems because of their lower social and economic status as well as the physiological demands of motherhood. This is easily compounded when the female is the one infected with the HIV/AIDS. In addition, limited rights to control and own land restrict women's ability to gain access to credit and therefore cannot expand on the productivity. This calls for incorporation of gender considerations when attempting to make food security at household level. This approach will require enhancing women's access to credit, production resources, agricultural technologies/inputs, and information and developing strategies for income generation projects to increase income without sacrificing additional time, children's welfare or women's health or nutritional status that may lead to more vulnerability to HIV/AIDS.

6.2.5 Policy Level recommendations

NAADS needs to harness the powers of interrelated national, community, and household food security problems and potentials to deliver the commitment and the capacity to confront and challenge the impact of HIV/AIDS on agricultural food insecurity. Agriculture to needs access to production assets including land. Land especially for women was being grabbed and it's the land where technologies supplied by NAADS are supposed to be hosted. It is in the interest of NAADS to advocate for speedy enactment of land ownership and inheritance rights which is being debated currently. Harnessing the political will to secure land ownership, and to provide security for those who are most vulnerable especially women shall go a long way in contributing towards food security at household level.

6.2.6 Networking and partnerships

The study has shown that HIV/AIDS affects households to different extents, and the degree of household's vulnerability to food insecurity depends on a range of factors which are peculiar to the household. Involving community based organizations in the design specific activities and strategies to alleviate food insecurity and HIV/AIDS will enable the responses to be more localized resulting in improved effectiveness. This has an implication on NAADS guidelines where there is need to include issues of networking, collaboration and partnering with NGOs. Involving NGOs in the planning cycle at every level should help identify gaps and priorities for HIV/AIDS affected households. Collaboration with the LGDP program can also go a long way in securing funds to facilitate the full process of capacity building for the actor involved in the implementation of HIV/AIDS activities.

6.3 Areas for further studies

The potential of the HIV/AIDS pandemic to destroy smallholder agriculture, particularly the current efforts of the NAADS to ensure food security and raise farmers' incomes, makes it necessary for urgent action to be taken to assist households in mitigating the effects of the pandemic. Whilst this study has provided an insight into the quantitative impacts of HIV/AIDS on agriculture and food security in Kibaale district on this case study, there is a need NAADS in particular to undertake other studies in this area, as well as in other districts. More importantly the impacts can better be assessed by tracking households that have been

affected by the pandemic over a longer period of time. The study has established baseline data that can be used to compare with more data to enable time series analysis. The NAADS should provide or seek funding to enable follow up of these households in a longitudinal study, for a better assessment of the impacts of the pandemic. A longitudinal study will also enable the evaluation of various mitigation strategies, and programs that are currently in place.

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