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University of Applied Sciences
VAN HALL LARENSTEIN
PART OF WAGENINGEN UR

THE TANGO OF AIDS AND COFFEE FARMING HOUSEHOLDS

Coping mechanisms Of Households To Mitigate The Impacts Of Aids On Human Capital In Coffee Production Systems Of Masaka District in Uganda

A Research Project Submitted to Larenstein University of Applied Sciences in Partial Fulfilment of the Requirements for the Degree of Master of Development, Specialising in Rural Development and HIV/AIDS

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October 2012

"*Tuli bazira, tetutya kwogerala nti tulina akawuka kasiriimu*" (We are heroes; we speak out openly about our HIV status). - Namujuzi Ruth, group member Ani Yali Amanyi HIV group.

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Wageningen, the Netherlands

Dedication

This thesis is dedicated to:

- ✓ Families affected by AIDS but never gave up the struggle to live on and tell the world that they can make it.
- ✓ The fallen Heroes who showed the world that they can stand and fight and encouraged us all to fight on.
- ✓ Carrying the fight against HIV/AIDS forward and never giving up by sharing their experiences to provide learning basis for those to come.
- ✓ Reading this thesis and finding it inspirational in their endeavours, may it be a guiding tool.

"A LUTA CONTINUA, VITÓRIA É CERTA"

Acknowledgement

This section is for acknowledging all those persons and institutions that aided in my stay, study, research and thesis processes.

First and foremost, I acknowledge my family; Mr Joseph Kasajja Lukyamuzi, Mrs Sarah Nakawunde Kasajja, Mrs Betty Nakawooya, Misanvu Fred, Betty Nakyanzi, Namiwanda Rose Mary, Muwulya John Brian, Kawuuki Patrick, Kityamuwesi Simon, Nampuuga Jacqueline Linda, Namirembe Irene Stella, Lukyamuzi John Edward, Miti Julius Vincent, Lule Martin Bidens and Namukwaya Bridget for all your emotional, financial, moral, spiritual and psychological support that saw me through my studies.

Secondly with special consideration and emphasis, I extend my gratitude and acknowledge the effort of my course coordinator and thesis supervisor Ms Koos Kingma for your effort in; educating, guiding and supporting throughout the whole education and thesis process. You have been a great source of inspiration, and motivation to me. I am more learned in HIV/AIDS and Gender than educated. Thank you very much.

Next, I extend my sincere gratitude and appreciation to all the staff of NUFFIC, for it's through their efforts that I received this scholarship. Followed by the staff of Van Hall Larenstein University through who efforts I got the education and qualification that I have. I promise you that all the skills, knowledge and experiences attained in this period shall be passed on to all the rural community and in-turn the nation for a better world tomorrow.

Furthermore, I acknowledge the expertise, skills, knowledge, experiences, information, and assistance provided by the following persons; Mr(s) Edward Luntankome Ssentamu, Robert Ssentamu, Robert Wagwa Nsibirwa, Joseph Nkandu, Viola Nakato, Kakooza Hassan Mulagwe, Nanjagala Resty, Namyalo Margaret, Kalanga Joseph, Matia Mitala, Namujuzi Ruth, Nassazi Magdalene, Edward Muwanga, Munyoroaganze Robert, and Teopista Kayenga. I am most grateful, you were all critical to this thesis.

Finally, I appreciate and acknowledge the efforts, support, offered to me by my colleagues—class mates and corridor mates—during my stay with them, and a special recognition to Rita Komalasari, Stella Ampiah, and Patricia Zeballos Rebaza. You were such a great support when I felt down you lifted my spirits high, gave me the courage to press on.

I conclude by saying to you all, and those mentioned in this section:

Mwebale nyo mwebalireddala, we mwatoola omukama abaddizeewo emirundi gyaba asiimye.
(Thank you very much; may God bless you abundantly).

Table of Contents

Dedication i
Acknowledgement ii
List of Figures vi
List of Tables vii
List of Acronyms viii
Abstract ix
Chapter 1 Introduction 1
1.1 Background 1
1.2 The AIDS Pandemic in Uganda 2
1.2.1 The Status of AIDS in Uganda 2
1.2.2 Persistence of AIDS: 3
1.2.3 Impacts of AIDS on human Capital 3
1.3 The Agricultural Sector in Uganda 4
1.3.1 Coffee Production in Uganda 4
1.3.2 Causes of Coffee Production Decline 5
1.4 About NUCAFE 6
1.5 Problem Statement 8
1.6 The Objective 8
1.7 Research Questions 8
1.7.1 Main Questions 8
1.7.2 Sub-Research Questions to 8
1.8 The Conceptual Framework: 9
1.9 Thesis Organisation 10
Chapter 2 Literature Review 11
2.1 Coffee Production 11
2.2 Impacts of AIDS 12
2.2.1 Impacts on an Individual 12
2.2.2 Impacts on a Household 12
2.2.3 Impacts on Gender and Gender Roles 13
2.2.4 Impacts on Coffee Production 14
2.2.5 Impacts on Human Capital 14
2.5 Coping Mechanisms 15

2.6 Complexity of Impacts of AIDS and Coping Mechanisms 16
2.7 Community Assets 16
2.8 Conclusion 17
Chapter 3 Research methodology 18
3.1 Study Area 18
3.2 Research Design 19
3.2.1 The Desk-study 19
3.2.1 Selection of the Households 19
3.3 Data Collection 20
3.3.1 The Introduction Phase 20
3.3.2 The Case-study 21
3.3.3 Asset Mapping 21
3.3.4 Observation 23
3.3.5 Focus Group Discussions 23
3.3.6 Interviewing Informants 23
3.4 Data Analysis 24
3.5 Limitations of the Study 25
3.6 Ethical Issues 26
3.7 Conclusion 26
Chapter 4 Results 27
4.1 Summaries of the Cases Studies 27
4.1.1 Case 1: Margaret 27
4.1.2 Case 2: Magdalene 28
4.1.3 Case 3: Ruth 29
4.1.4 Case 4: Joseph 30
4.1.5 Case 5: Matia 31
4.1.6 Case 6: Maria 32
4.2 Causes of Decline in Coffee Production 33
4.3 The Community Asset Map 34
Chapter 5 Discussions 38
5.1 The Complexity of Impacts and Coping 38
5.2 Impacts of AIDS 40
5.2.1 Impacts on the Household 40
5.2.2 Impacts on Labour 40

5.2.3 Impacts on Knowledge And Skills 41
5.2.4 Impacts on Health 41
5.2.5 Impacts on Education 42
5.2.6 Impacts on Nutrition 43
5.2.7 Impacts on Gender and Gender Roles 44
5.2.8 Impacts on Coffee Production 44
5.3 Coffee Production in the Household 45
5.4 Coping Mechanisms Of The Household 48
5.5 Community Assets Mapping 51
Chapter 6 Conclusions and Recommendations 52
6.1 Conclusions 52
6.2 Recommendations 54
References 57
Annex (es) 63
Annex 1 Case Studies 63
Case Study One: Margaret 63
Case Study Two: Magdalene 69
Case Study Three: Ruth 73
Case Study Four: Joseph 78
Case Study Five: Matia 84
Case Study Six: Maria 89
Annex 2 Checklist and Questions 96
Checklist 96
Observation Checklist and Questionnaire 97
Asset Mapping Checklist 101
Annex 3 Informed Consent Form 104
In English 104
In Luganda (Mu Luganda) 105
Annex 4 Community Assets 107
Annex 5 Research Schedule for the Months of July and August 110

List of Figures

Figure 1: Annual Number of AIDS Deaths 3
Figure 2: A Graph Showing Uganda's Coffee production trend (2000/01 - 2009/10) 5
Figure 3: The Organisational Structure of NUCAFE..... 7
Figure 4: The Conceptual Framework..... 10
Figure 5: Map of Masaka District showing the 9 Administrative Units. 18
Figure 6: A Circle of Influence as Illustrated by SASA 23
Figure 7: A Map Of Kyanamukaaka Sub-County Showing Its Parishes..... 35
Figure 8: A Sketch Map Of Community Assets In Kyantale And Kamuzinda Parishes 36
Figure 9: A Sketch Map Of Margaret's Homestead and Assets. 65
Figure 10: A Sketch Map of Magda's Homestead and Assets. 70
Figure 11: A Sketch Map of Ruth's Homestead and Assets. 75
Figure 12: A Sketch Map Of Joseph's Homestead and Assets..... 80
Figure 13: A Sketch Map Of Matia's Homestead and Assets. 85
Figure 14: A Sketch Map Of Maria's Homestead and Assets. 91

List of Tables

Table 1: Key Indicators of HIV Epidemic from 2005 - 2010 1
Table 2: Uganda Robusta Coffee Exports between 2000/01 and 2009/2010 Coffee Year in 60 Kg Bags 5
Table 3: Matrix showing the distribution of the six (6) selected households 20
Table 4: Names, Organisations and Positions of Informants 24
Table 5: Table Showing the Complexity of Impacts and Coping 39
Table 6: A Representation of Kyanamukaaka Community Assets 107

List of Acronyms

AIDS	= Acquired Immune Deficiency Syndrome
ARV	= Antiretroviral
BHP	= Broken and Half Particles
BWD	= Banana Wilt Disease
CBO	= Community Based Organisation
CD4	= T-Cells
CTB	= Coffee Twig Boarer
CWD	= Coffee Wilt Disease
FBO	= Faith Based Organisation
FG	= Farmer Group
GAPs	= Good Agricultural Practices
HC-III	= Health Centre III
HIV	= Human Immunodeficiency Virus
HIV+	= HIV Positive
Kgs/Kilo	= Kilogramme
Kitovu Mobile	= Kitovu Mobile and Home Care Services
Km	= Kilometre
LC	= Local Council
MAAIF	= Ministry of Agriculture, Animal Industries and Fisheries
MRC	= Masaka Research Council
NAADS	= National Agricultural Advisory Services
NFF	= NAADS Farmers Forum
NGO	= Non-Governmental Organisation
NUCAFE	= National Union of Coffee Agribusinesses and Farm Enterprises
PLWHA	= People Living With HIV and AIDS
RCC	= Regional Coffee Coordinator
SRCC	= Sub Regional Coffee Coordinator
TASO	= The AIDS Support Organisation
UACE	= Uganda Advanced Certificate of Education
UCA	= Uganda Coffee Academy
UCDA	= Uganda Coffee Development Authority
UCE	= Uganda Certificate of Education
UGX	= Uganda Shillings (/=)
UPE	= Universal Primary Education
USE	= Universal Secondary Education
VCT	= Voluntary Counselling and Testing
VHT	= Village Health Team
VSLA	= Village Savings and Loan Association
WFP	= World Food Programme

Abstract

Since its discovery in 1981, AIDS has claimed the lives of many and more so in Uganda. Many coffee farming households have been affected, however, despite the adverse and severe impacts of AIDS. Many households are coping and becoming more resilient. The prevalence of HIV in Uganda has increased from 6.4% in 2005 to 7.3 in 2012; the number of AIDS related deaths has also been on the rise. Food insecurity and gender inequalities are some of the factors causing the persistence of AIDS in Uganda. It is affecting human capital thereby leading to a decline in coffee production. Coffee production in Uganda has been on a decline since 1995/96 coffee year and now averaging at 2.2 million 60Kg bags. This thesis is about how coffee farming households are coping to the impacts of AIDS despite the decline in human capital and coffee production. NUCAFE a coffee farmers' organisation in Uganda wants to gain knowledge from this thesis on how coffee farming households mitigate the impacts of AIDS on the human capital through their individual coping mechanisms.

The research was conducted in Masaka district of Uganda. Data collection involved methods like interviews, case study, and asset mapping. Data was analysed using the conceptual framework that was developed from literature and the ecological model. The data collection process had some limitations given the fact that AIDS is a highly culturally and emotionally sensitive issue.

Six case studies (cases) were interviewed, observed and their assets map noted and drawn. Each household had a unique characteristic that distinguished it from the rest. The results gathered from the case study showed how complex the impacts of AIDS and coping mechanisms are. What was considered as an impact on one hand was a coping mechanism on the other.

Coffee production has declined due to several natural phenomena like pests and diseases, environment changes and old age coffee trees. This has been compounded by the impacts of AIDS on human capital most especially through the loss of labour, loss knowledge and skills, and poor health. Each household is affected differently and most especially women headed households face most impacts of AIDS. However coffee farming households have been able to access and utilise existing community assets and social capital to enable them become more resilient. Households that have coffee as a main source of income are less likely to become destitute; they easily cope to the impacts of AIDS.

By NUCAFE utilising the skills and experiences of its staff should organise and carryout gender specific trainings to promote gender equality, encourage collaborations and sharing of information between men and women, in the areas of coffee production and marketing, impacts of AIDS, and coping mechanisms.

In order to ensure its sustainability, NUCAFE should implement HIV/AIDS mainstreaming; build and create collaborations, partnerships, and networks; and utilise community assets to empower and train its membership to avert the impacts of AIDS on coffee farming households.

Further research into the effects of women on coffee production and impacts of ARVs on AIDS affected households. In conclusion, in order for coffee farming households to become more resilient, they are engaged in a continuous tango of impacts of AIDS and coping mechanisms.

Chapter 1 Introduction

1.1 Background

"When you stare into the abyss, the abyss stares back at you." Friedrich Nietzsche (1844 – 1900). This statement by this a German philosopher carries more magnitude now as it did then. AIDS is a pandemic registering newer cases all over the globe with numbers higher than estimated. The numbers of people living with HIV (PLWHA) is increasing annually as are the percentages of women testing positive for HIV. However, the numbers of new cases are constant while those dying from AIDS related diseases on the decline (Table 1). Since the first report of AIDS cases in 1981 in USA among the American gay community (CDC, 2001), scientists and researchers all over the world are working around the clock to find both clinical and sociological ways to control, cure or prevent the spread of the pandemic. A disease that had been believed to be localised to a key population (gay community), the following year in 1982 the first AIDS cases were reported in Uganda (AVERT, 2011); more specifically along the shores of Lake Victoria in Masaka and Rakai districts (UNAIDS, 2001). AIDS is no longer a localised epidemic but a pandemic that is spreading rapidly.

Table 1: Key Indicators of HIV Epidemic from 2005 - 2010

	YEARS Recorded					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Number of people leaving with HIV (In millions)	31 [29.2–32.7]	31.4 [29.6–33.0]	31.8 [29.9–33.3]	32.3 [30.4–33.8]	32.9 [31.0–34.4]	34 [31.6–35.2]
Number of people newly infected with HIV (In millions)	2.8 [2.6–3.0]	2.8 [2.6–2.9]	2.7 [2.5–2.9]	2.7 [2.5–2.9]	2.7 [2.5–2.9]	2.7 [2.4–2.9]
Number of people dying from AIDS-related causes (In millions)	2.2 [2.1-2.5]	2.2 [2.1–2.4]	2.1 [2.0–2.3]	2 [1.9–2.2]	1.9 [1.7–2.1]	1.8 [1.6–1.9]
% of women pregnant tested for HIV	8%	13%	15%	21%	26%	35%

Source: WHO (2011)

Despite the fact that the impacts of AIDS pandemic are so diverse and severe, some are manifested through the compounding effects of AIDS from the households to great nations. However, there those (individuals, households, or organisations) that are adapting to the situation. They are finding better ways to overcome the impacts of AIDS; they are becoming more resilient and learning from one another. This group (individuals, households, or organisations) is coping to the impacts of AIDS.

Coping to the impacts of AIDS is neither a simple nor a onetime process. It is a process that is started with the individual in the household and its ripple effects spread through organisations and sectors. Rugalema (2000) Asks the big question in his research in southern Africa, "Are households coping or

struggling?…". According to Swaans et al. (2008), women involved in Farmer Life Schools (FLS) are learning about better agricultural practices, how to prevent new infections and social-economic behaviours. More especially they are sharing knowledge, strengths and weakness on how these social-economic behaviours lead to risk taking situations. This knowledge and information is helping them prevent adverse effects of AIDS and other threats. The women farmers attending farmer life schools are learning how to analyse livelihood strategies to mitigate against the impacts of AIDS. Contrary to Swaans, Rugalema argues and points out some of the coping methods employed by households that include; decrease in acreage of farmland, cash-crop substitution, use of child labour, children dropping out of school, disposal of productive and non-productive assets, migration and dissolution of the household. He argues that following the death of a household head; it is very difficult for a household to re-group as a viable social-economic entity. That coping is a long term planned process something these households do not have, because they have not planned out a strategy. This leaves us wondering whether households are coping or struggling, since some of them have been able to avert the impacts of AIDS even though it has been a long process.

1.2 The AIDS Pandemic in Uganda

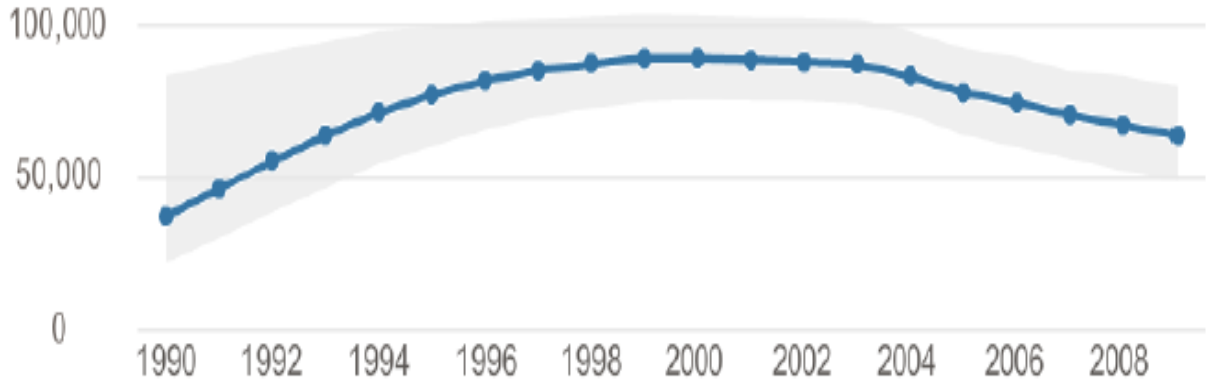
This subsection gives a brief about AIDS in Uganda. It addresses three key issues to this thesis; the status of AIDS in Uganda, why it is persistent and lastly its impacts on human capital.

1.2.1 The Status of AIDS in Uganda

Uganda is one those countries that to have succeeded in controlling the epidemic, by bringing down the prevalence rates of HIV from 32% in 1989 to a low of 6.7% in 2002 (UNAIDS, 2007). Despite the fact that HIV prevalence has reached the lowest prevalence of 6.7%, several factors are still contributing the persistence of HIV and AIDS, and the impact of AIDS on human capital. It was reported by the Health Minister of Uganda Mrs Christine Ondoa through the national newspaper the New Vision Daily that the prevalence of Uganda has risen to 7.3% (Reporter, 2012). This increase in the prevalence rate is shear indication that these factors are still persistent in the country.

The Government of Uganda (GoU) has tried several methods to control the spread of HIV and AIDS since its discovery. Some of these measures employed include, speaking up by key influential persons like President Yoweri Museveni (Madraa, 1998), involving of multiple stakeholders to assist the ministry of health, involvement of the communities themselves and the continuous participation of the people living with HIV and AIDS (PLWHA). The numbers of deaths due to AIDS related diseases increased gradually, however, thanks to the multi-stakeholder approaches employed in addressing HIV/AIDS related issues, and Antiretroviral therapy (Reporter, 2012), the numbers are now on the decline (Figure 1). HIV has an incubation period of 6 – 10 years (Reis et al., 2011), therefore most of the deaths occurring between 1996 and 2000 could have been persons infected several years back. Prior to their deaths the AIDS patients depended on the much needed family support thus reduced human capital availability for productive roles of the household.

Figure 1: Annual Number of AIDS Deaths



Source: UNAIDS (2012)

1.2.2 Persistence of AIDS:

The HIV prevalence rate dropped a 6.4% low in 2005, however, it has increased to a high of 7.3% of the 2011, reported the Minister of Health (Reporter, 2012). Several factors have been attributed to the persistence of HIV and AIDS in Uganda which may be linked to; food insecurity, gender inequalities, and Men-Mobility-Money (3Ms). Miller et al. (2011) in their research in western Uganda correlate the persistence of HIV/AIDS and food insecurity. In their research they looked at three underlying issues in relation to HIV/AIDS that are; death of a husband, control over condom use, and staying violent and/or abusive relationships. In their findings they concluded that there was unaddressed gender inequalities that prompt women to engage in risky behaviours in order to avert hunger and that this (addressing gender inequalities) would improve on the health of PLWHA and reduce HIV transmission.

1.2.3 Impacts of AIDS on human Capital

AIDS has several impacts on household assets and the most affected is the human capital. AIDS impacts household human capital through the loss of generations of knowledge and skills, loss of labour, increased malnutrition, poor health and lack of education. The AIDS pandemic has caused a wide range of impacts that are of worth of economic importance globally. The most significant impact of AIDS on a household is the loss of income, this starts as soon as the family member gets AIDS. As a result, the household will lose the income that individual has been contributing to the general pool, constant medical attention and treatment will increase household expenses. The re-allocation of labour and roles where women leave their productive roles, reduce time and labour spent on household activities to take care of the sick as well as the girl-child is forced to drop out of school to help out on household duties (Greener, 2004). It has led to decline and loss of labour through life long illnesses and death of the economically productive age group (most the youth) (Buvé et al., 2002, Gachuhi, 1999). According to McPherson (2005) in such situations households are forced to switch from labour intensive crops causing a reduction in cash crop production to have more food crops even though their nutritious content may be low. For example, in the coffee producing district of Uganda farmers have diverted their efforts from coffee production to food crops like cassava (Kazoora, 2007).

1.3 The Agricultural Sector in Uganda

Agriculture is arguably the most important sector of Uganda's economy. It contributes over 20% of GDP, accounts for 48% of national exports and provides a large portion of raw material for the industry (MAAIF, 2010). Agriculture is a key determinant in Uganda's effort to reduce poverty. The GoU has developed a strategy (Poverty Eradication Action Plan(PEAP)) with four key pillars: sustainable economic growth and structural transformation; ensuring good governance and security; increasing the ability of the poor to raise their incomes; and improving the quality of life of the poor (Nabbumba and Bahiigwa, 2003). The PEAP pillars are realised through the Plan for Modernisation of Agriculture (PMA) strategy, whose main goal is poverty eradication. The majority of Uganda's population lives in rural areas, practices small scale subsistence agriculture and lives in poverty. By modernising agriculture will contribute to raising farm productivity, increasing marketed volumes from agricultural produce, thereby creating employment on and off-farm (MAAIF and MFPED, N/Y). National Agricultural Advisory Services (NAADS) is one of the seven components under the PMA, put in place to address the shortcomings of lack of access to extension services of Uganda's historical past. It is through its components like; providing advisory and information services to farmers, and promoting technology development and linkage with the market that crops like coffee are being addressed (NAADS, 2002). The GoU is using all means possible to sustain it major contributor to national GDP, however, the agricultural sector is still dominated by small-scale subsistence poverty stricken farmers. Poverty being one of the key drivers of HIV resulting into AIDS, the GoU is certain that addressing this component will result in a reduction of HIV prevalence.

1.3.1 Coffee Production in Uganda

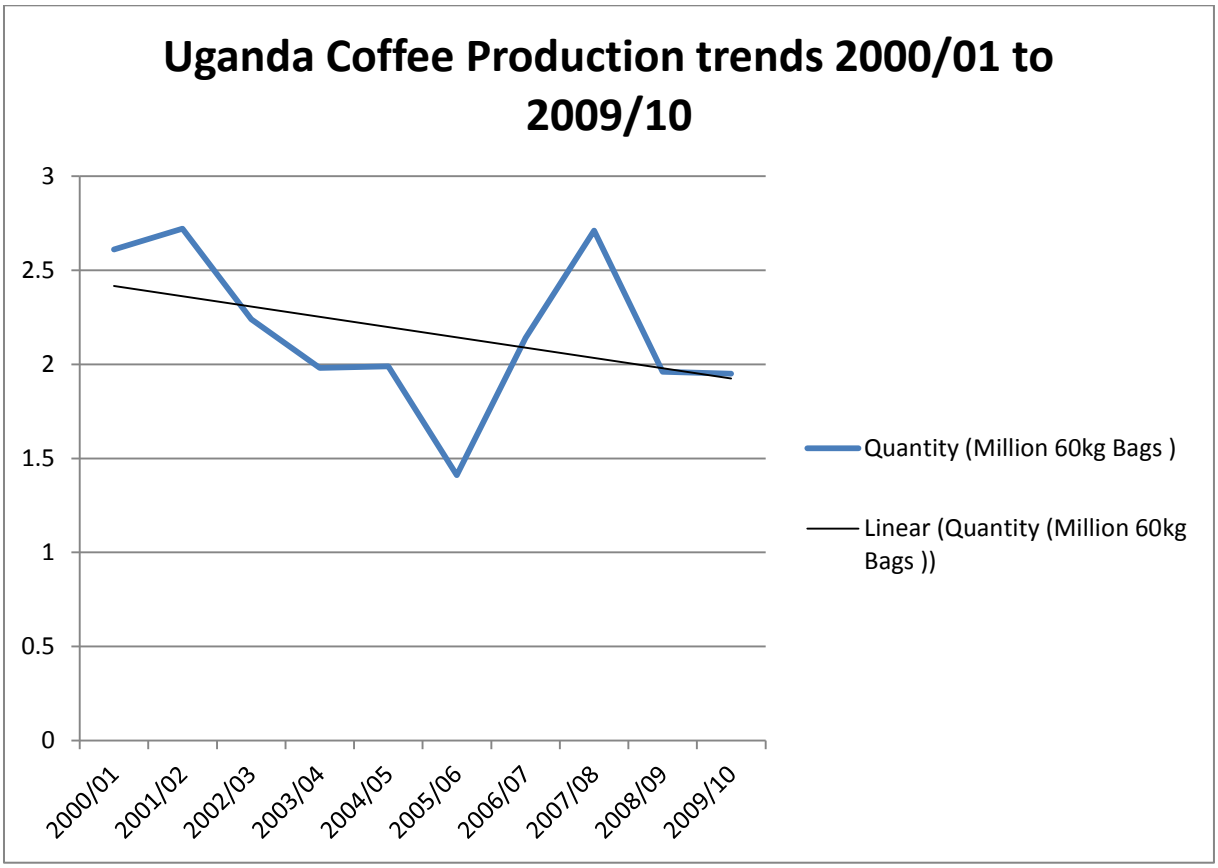
In the above section; Uganda has put in place several strategies to strengthen its agro-based economy that is largely depend on foreign exchange accrued from cash-crops for example, coffee, cotton, tea and tobacco. Coffee over the years has topped as the major export revenue contributor where districts like Mukono, Masaka, Rakai and Mpigi pride themselves as leading coffee producers. Coffee's leading role in the national economy has made it a major contributor to the livelihoods of the rural communities. Its production is characterised by smallholder farmers with a land size of approximately 0.50 hectare(ha) per household employing about 1.32 million households (UCDA, 2011b, MAAIF, 2011). Coffee production is characterised by a low use of inputs and high reliance on family labour (UCDA, 2011a). Coffee farming households have an average of 5 – 8 people of which 3 – 6 are school going children (Nsibirwa, 2010).IISD (NY) in its research noted that the role of women in decision making is disproportionate to the work they devote to coffee production where 60% of the labour force is provided by women. Despite the government strategies and large number of households involved in coffee sub-sector, coffee production has declined steadily from a peak of 4.2 million 60 Kg bags in 1996/97 to 2.5 million 60 Kg bags in 2003/04 (Bigirwa, 2005). Uganda has a very low internal/local coffee consumption rate of 3% (UCDA, 2011c), whereby coffee production is directly proportional to coffee export in terms of quantities. Table 2, illustrates Uganda coffee export trend estimates from the 2000/01 to 2009/2010 coffee year in million 60 Kg coffee bags, the production has been on a steady decline (Figure 2) as shown by the trend line drawn in comparison with the data from Table 2 provided by Nsibirwa (2010). Coffee production has been oscillating between a high of 2.72 and a low of 1.41 million 60 Kg coffee bags for a period of 10 years (Nsibirwa, 2010). Coffee accounts for 20% of the total national export (DENIVA, 2005) thus making it a major cash crop.

Table 2: Uganda Robusta Coffee Exports between 2000/01 and 2009/2010 Coffee Year in 60 Kg Bags

Year (20-	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	Avg
Quantity (in Million)	2.61	2.72	2.24	1.98	1.99	1.41	2.14	2.71	1.96	1.95	2.22

Source: Nsibirwa (2010)

Figure 2: A Graph Showing Uganda's Coffee production trend (2000/01 - 2009/10)



1.3.2 Causes of Coffee Production Decline

The cause of a decline in Uganda's coffee production is attributed to several factors. Some of the key underlying factors that have been attributed to this decline include; lack of good agricultural practices (coffee specific extension services), increased urbanisation, erratic weather patterns, lack and cost of labour (loss of labour due to AIDS related death), reduced engagement of women in coffee, and lack of involvement of youths (migration to towns). Some researchers and Nsibirwa (2010) alike, are correlating not only the national decline in coffee productions but also that of leading coffee districts like Masaka to global warming. The changes caused in the climate and weather have led Masaka to drop from first to second place in 2000/01 coffee year and now barely struggling to stay in production. Despite the fact that global warming has led to climatic changes, it is also attributed to the rise of new and increased incidence of pest and diseases. For example, Biting ants, Coffee Wilt Disease (CWD) and Coffee Berry Disease (CBD) are some of those pointed out as factors of economic importance. The loss of topsoil culminating into reduced soil fertility has led to a shift of coffee farms and reduction in cropping areas

(Hepworth and Goulden, 2008). This trend of events has proved cumbersome for smallholder farmers to cope with.

The Uganda Coffee Development Authority (UCDA) in its reports further notes from reports sent by its field staff of a low involvement of women and youth in coffee production (UCDA, 2011d). A trend that has left only the weak elderly to look after the coffee gardens while the youths (more so the energetic young men) are off in the towns to look for wage incomes. Household members that remain behind have to divert time and attention to caring for the elderly and the sick with less devotion to other livelihood options like income generation activities (coffee production).

Uganda generally has an HIV prevalence of 6.4% (Wanyenze et al., 2008); and a population growth rate of 3.6. Since the discovery of HIV/AIDS along the shores of Lake Nalubaale (Victoria), also still regarded as the epicentre (Blanc and Wolff, 2001), Masaka district has been among the leading coffee producing districts. However, Masaka district is also noted to have one the highest HIV prevalence rates in the country recorded at 3.6 percent higher than that of the country (Basudde, 2012). A high prevalence rate means high incidences of occurrences of AIDS and its related diseases. As a result reduced human labour (capital) on coffee farms is likely attributed to the impacts of AIDS. For example, A household losing or has one of its members (male/female) will start off a series of events like: reducing the time spent on farming cash crops (coffee) and spending more on food crops as well as an inability to attend extension education trainings because of taking care of the sick; the much needed labour to put in place the good agricultural practices for better and increased yield is lost to taking care of AIDS patients, lost death due AIDS related diseases, and migration of energetic youths to town in search of wage employment. The factors through which AIDS affects coffee production are mainly the impacts of AIDS causing a reduction in coffee production.

1.4 About NUCAFE

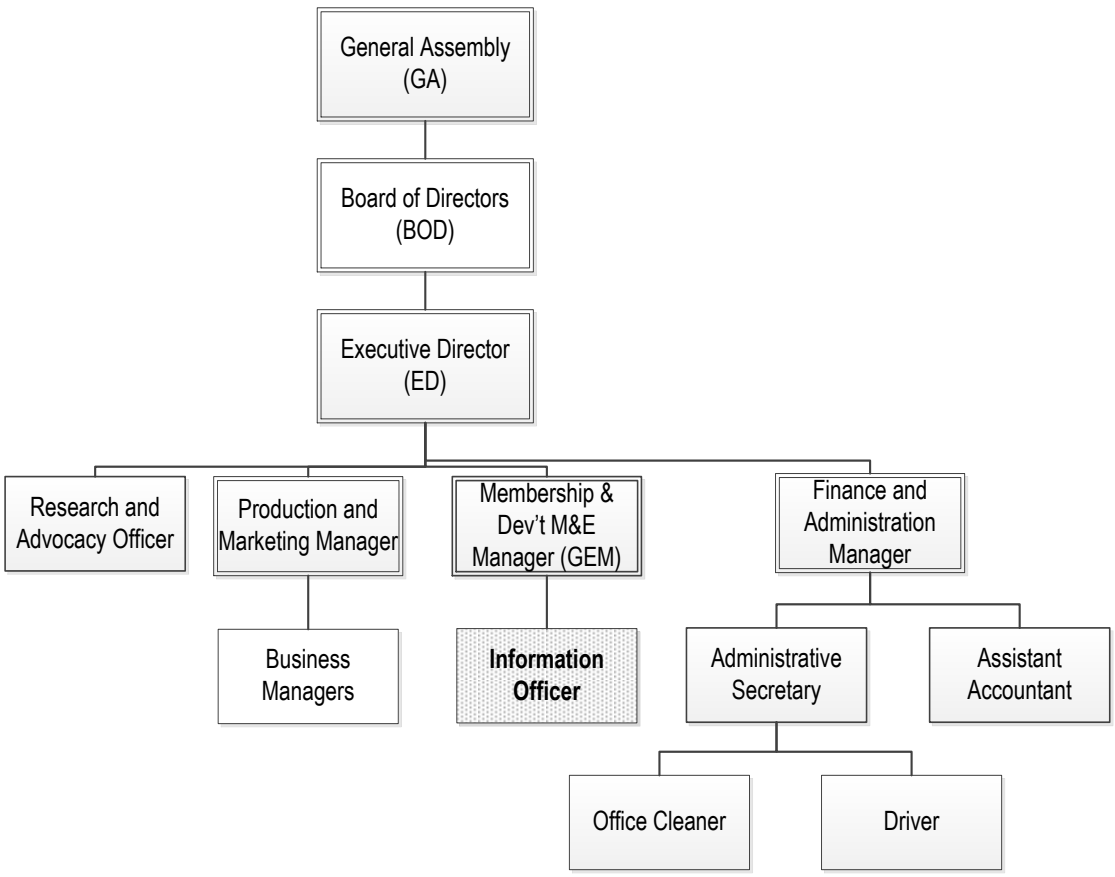
NUCAFE is a coffee farmers' organisation in Uganda. It was founded in 1995 with the brand name of Uganda Coffee Farmers Association (UCFA). In 2003, it changed name to NUCAFE in response to members' needs as a result of needs assessment and strategic planning carried out in year 2003 (Nkandu, 2007). The vision of NUCAFE is "Coffee farmers profitably own their coffee along the value chain for their sustainable livelihoods", while its mission is "to develop and establish sustainable market -driven system of coffee farmer associations and groups that are empowered to enhance their household incomes". NUCAFE and its programmes are run by several core values which are illustrated as; transparency and accountability, profitability and sustainability, democracy, market satisfaction, ownership and commitment to the union, and gender equity in decision making. It is through these values that NUCAFE attains its main goal which is, "To enhance livelihoods and incomes of coffee farmers through sustainable ownership within the coffee value chain, ensuring exporter and consumer satisfaction, confidence through production and marketing of high quality, value added coffee that meets food safety requirements, and undertaking measures to NUCAFE's and its member associations' sustainability" (NUCAFE, 2008).

NUCAFE uses the Farmer Ownership Model (FOM). The FOM is based on the farmer group-association framework designed to support coffee farmers to organize themselves to assume as many roles as possible in the coffee value chain in order to increase their market value share. The FOM builds the

capacities of farmers to remain in charge of their own affairs and be responsible for their own actions but work in partnership with other stakeholders as facilitators. Therefore, it addresses the inefficiencies of the linear coffee value chain which have been impacting negatively on farmers for decades. This model is an intertwined network value chain quite different from the traditional linear value chain which used to focus on only the active players in production, processing and marketing. The FOM emphasizes the way farmers are organized for effective advocacy, the systematic application of knowledge to the coffee value chain network and the application of innovative business practices.

My position in NUCAFE (Figure 3) puts me in charge of several responsibilities. I am responsible for lobby and advocacy at different levels in the area of its operation, develop and disseminate appropriate technologies, provide quality extension, value addition services to membership and many others that are critical to information collection and dissemination. I hold the position of the Information Officer.

Figure 3: The Organisational Structure of NUCAFE



Source: Nkandu (2012)

1.5 Problem Statement

The problems of Masaka district are the high mortality and morbidity rate due to AIDS related diseases, and the decline in coffee production that has been attributed to agricultural, climatic and technological issues. The prevalence of HIV in the district has remained high compared to the national prevalence for over the years. USAID and IMPACT (N/Y) carried a study and assessed that over 90 percent of the AIDS cases were between 20 – 49 years, and these being the economically productive ages. These age groups not being productive signifies how the impacts of AIDS on Human Capital—defined in section 2.5 on page 14 of this thesis—have contributed greatly to the decline in coffee production. Both genders are impacted differently, whereby the female gender has a lesser capacity to cope to the impacts of AIDS. As IISD (NY) notes that women provide 60% of the labour force in agriculture, they are the care-givers and despite that they still account for the most affected with an HIV prevalence rate of 8.3% compared to 6.1% among men (Reporter, 2012). This is compounded by an increase in the crude death rate of 47% and a drop in life expectancy from 54 to 43 years (USAID and IMPACT, N/Y). In this research I want to find out how households are coping to the impacts of AIDS despite the declining human capital in Masaka district of Uganda. A comparison of Figure 1 and Figure 2 shows a correlation between the increase in AIDS related deaths and a decline in coffee production. Equipped with this knowledge and skills, the coffee farmers' organisation (NUCAFE) shall incorporate the findings of this research into its HIV/AIDS training-curricula to empower households (famers) to cope better to the impacts of AIDS on human capitals to mitigate against poverty increment and a reduction in coffee production.

1.6 The Objective

The objective of this research is: to generate knowledge and make recommendations to NUCAFE on how coffee farming households mitigate the impacts of AIDS on the human capital by analysing their coping mechanisms. The gained knowledge will be used to inform NUCAFE's tailored responses to AIDS.

1.7 Research Questions

1.7.1 Main Questions

1. What are the impacts of AIDS on the human capital of coffee producing household?
2. What are the coping mechanisms of AIDS affected households in relation to human capital?

1.7.2 Sub-Research Questions to

1.7.2.1 Main Question 1

a. What are the differentiated impacts of AIDS on human capital?
b. What are the differentiated impacts of AIDS on household coffee production?
c. What are the roles do women in the household carry out that influence coffee production?

1.7.2.2 Main Question 2

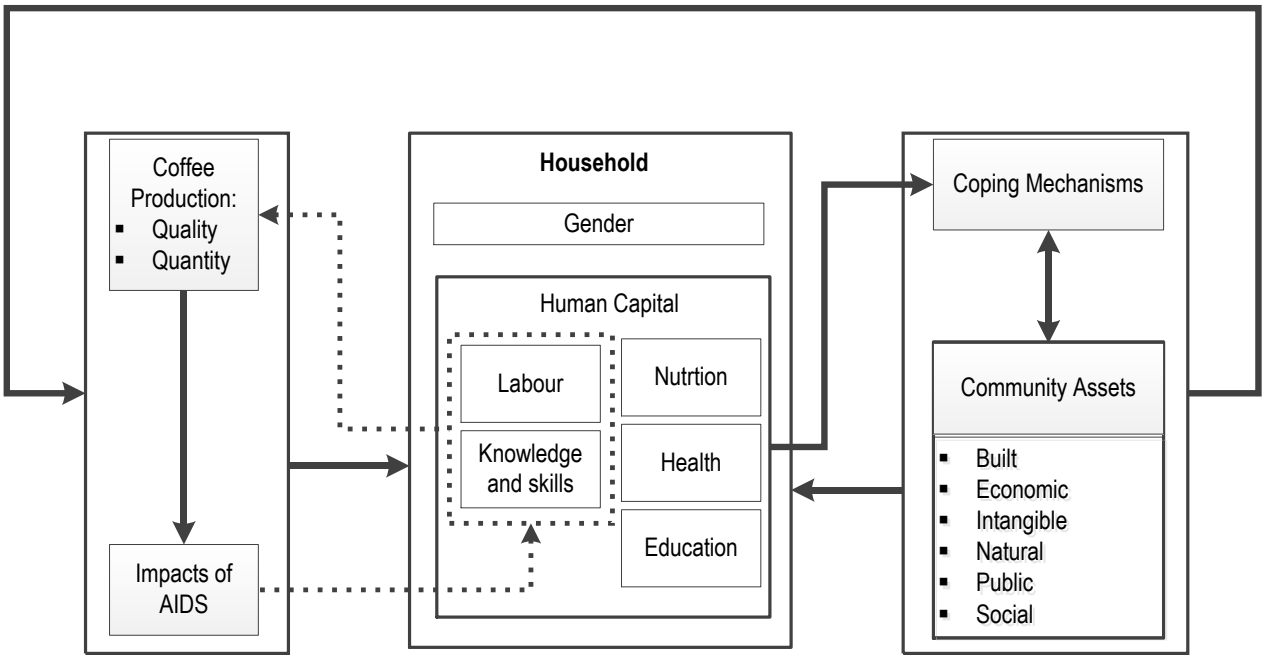
d. What strategies are employed by households to enable them to cope with the impacts of AIDS on human capital?
e. What are the differentiated coping mechanisms of coffee farmer households to declining coffee production?
f. How are women aiding the household to cope to the impacts of AIDS?
g. What are the expectation of households from their coffee farmer organisation in enabling them to cope with the declining coffee production and impacts of AIDS?
h. What are the existing community assets that influence availability of human capital and coffee production that are being used to mitigate the impacts of AIDS?

1.8 The Conceptual Framework:

In reference to literature and desk-studies done by the researcher about the research subject, a conceptual framework (Figure 4) to guide the research (data collection and analysis) process has been developed. Figure 4, shows the framework developed to illustrate the relationship between impacts of AIDS, declining coffee production (causes), human capital, and coping mechanisms, and community asset mapping (effects). This framework with its cause and effects relationship helps to understand the impacts of AIDS on coffee production and human capital and how households are using the available community assets for to boost their coping mechanisms. These effects later on affect the coffee production process and mitigate the impacts of AIDS.

At the centre of the framework is a core component (human capital) that has a bi-directional interaction with both causes and effects. It is at the centre of this research since it what it projects affects either side. The human capital is composed of several components that are considered crucial in the livelihood of the household member(s) namely; education, health, labour, nutrition, and, knowledge and skills. These are the building blocks of human capital. A deficit in one of the human capital components will influence the household's severity on how it utilises community assets or employs coping mechanisms. It is important to note that in either scenario, the coping mechanisms and community assets utilised by a household have an impact on how it averts the impacts of AIDS and counteracts the declining coffee production.

Figure 4: The Conceptual Framework



1.9 Thesis Organisation

Following the introduction, this thesis is divided into altogether five chapters. Chapter 1 describes about the introduction of the study which includes background information, problem statement, research objective, research questions, and the conceptual framework. Chapter 2 discusses different literatures reviewed. Chapter 3 focuses light on research design, the methodology followed in data collection and limitations of the study. Chapter 4 describes the results of the data collection process. Chapter 5 presents a discussion of findings in comparison with existing literature. Finally, chapter 6 describes about the conclusion and recommendation.

Chapter 2 Literature Review

This chapter illustrates and explains interactions between the concepts that are being referred to in this thesis. It shows how different researchers in literature utilised and defined these concepts in their research. We shall deal with the following concepts in this chapter; coffee production, impacts of AIDS, households, gender, human capital, coping mechanisms and community assets. All these concepts aid in understanding how coffee farming households are able to cope with the impacts of AIDS, they interlink and thus influence or affect one another.

2.1 Coffee Production

Uganda's coffee production has been on a steady decline over the years, and this is attributed to several factors. Two key components are into play in the production process of coffee notably; quality and quantity. There several factor that affect both the quality and quantity of coffee while others are limited only to one entity either quantity or quality. These factors may include, gender roles, weather, management practices, market trends and alternative income generating crops. Coffee quality mainly looks at issues like; the weight of the coffee beans, their size and mainly how much is harvested per coffee tree. Coffee quality looks mainly at the intrinsic characteristics of the coffee bean like; moisture content, shape, colour, acidity, flavour and damage on the coffee beans.

Coffee production a main source of income and plays a significant role in the livelihoods of those that engage in it (DENIVA, 2005) . Coffee production trends have been closely linked to poverty levels in the country thus labelling coffee as a poverty alleviation crop (Keane et al., 2010). It is dominated by smallholder household with less than 0.5ha (MAAIF, 2011), who contribute 99% of Uganda coffee production (DENIVA, 2005).

The liberalisation of the coffee industry increased the farm-gate prices of the farmers, reduced cost deductions on farmers income, money was received immediately and created competition among coffee traders removing the monopoly of Uganda Coffee Marketing Board (CMB). This was celebrated for a short period of time because competition for this limited prized crop, farmers have harvested unripe coffee, dried poorly, and some have used and handled over their coffee gardens as collateral in need of immediate cash. As for the traders they have hurled coffee with high moisture content, stock piled coffee prior to drying it under the sun and adulterated coffee with foreign matter to increase the bag weight. These practices have led to severe deterioration of quality and quantity of coffee that is being produced.

Coffee is regarded as a man's crop when it comes to marketing, however, women play many important roles in coffee production. Women are involved in weeding, light pruning, picking, drying and storing of the coffee while the men do the marketing and the heavy duty work like stumping, spraying and weeding. The Ministry of Agriculture through its coffee policy is looking for ways to mainstream gender and youth involvement, and encouraging both women and youth in coffee production as well as taking up more roles in the coffee value chain because women and youth are a major source of labour in coffee production (Nsibirwa, 2010). The coffee policy stipulates that, "Coffee development services shall be provided to all farmer categories as individuals and groups ensuring gender equity, with special emphasis on women and youth" (MAAIF, 2011). All these activities contribute to coffee quality and quantity.

Several other factors like; poor agronomic practices, coffee diseases like CWD, coffee pests like Coffee Twig Boarer (CTB), low use of labour and time saving technologies, lack of coffee specific extension services, lack of use inputs or use of poor quality agricultural inputs, poor agricultural input distribution networks and high costs involved in their purchase, coffee being owned by the elderly and weak person, low support to coffee research and understaffing of the coffee research organisation, and critically the lack of a coffee policy to regulate and direct the coffee industry (Nsibirwa, 2010). Hunter et al. (1993) are in agreement with the Nsibirwa (2010), however they cite factors like decrease in coffee prices, low investment capital, increase in poverty and increasing food crop production as factors also attributing to the decline in coffee production.

In this thesis coffee production was used as the entry concept into understanding the household, and the impacts of AIDS on the household's human capital.

2.2 Impacts of AIDS

The impacts of AIDS can be understood as the immediate and severe shocks or may be gradual, more complex and long terms changes caused by AIDS at different level: the individual, the household, the community or the nation (Barnett and Whiteside, 2006). It is important to note that even within the same levels the impacts of AIDS are different. This leads to what is called differentiated impacts of AIDS as noted in section 1.5. Villarreal (2006) exemplifies crop production where if women are affected the area of food crop production is reduced while if it is the men, the area under cash crop production is reduced. This is a typical example of differentiated impacts of mortality on area and crops cultivated as well as the differences in gender. In this subsection this thesis addresses findings from literature about impacts of AIDS on individuals, households, gender and gender roles, coffee production and human capital.

2.2.1 Impacts on an Individual

Barnett and Whiteside (2006) add that the impact of AIDS on an individual are influenced by several other factors but must critically the absence of treatment for the affected person. They cite an example of Judge Edwin Cameron in his speech at the International AIDS conference in 2000, that he was able to be available at the conference because he had access to medication. This has enabled him to continue with his daily productive activities, thus an individual with a good health, good nutrition and a good life style may not fall sick. Kapiga et al. (1999) note that the way to avert the impacts of AIDS on individuals it to provide them with quality care and their rights as persons living with AIDS. The impacts of AIDS is most felt by women says Gillespie (2008), due to the burden of care, nutritional wellbeing and psychosocial status. He gives an example of the most serious and un-noticed impacts which is the violation of women's rights to property. In some communities when the man dies, the woman has to live that village and go, yet she is no longer welcome in her father's home. The impacts of AIDS on the individual are most felt depending on the role(s) that person has been playing in the household.

2.2.2 Impacts on a Household

A household is conventionally conceived as the social group which resides in the same place, shares the same meals, and makes joint or coordinated decisions over resource allocation and income pooling (Ellis, 2000). Barnett and Whiteside (2006) give the typical view of a household as an entity going through the following stages: formation when people come together to reproduce; maturity as they have children and bring them up; and dissolution as children leave home, the parents grow old and weak to work and finally die. It is without a doubt that there some cultural variations, where children remain in the

household and are joined by their spouses; three generations may live in one household; or siblings for joint household with their spouses and children. Wiegers (2008) describes a household as a group of people, often family based, who normally live together, providing things for each other and often share meals. Members also include those who are temporarily absent but who returned at some point in time in the last year or may return in the near future." In this thesis, Wiegers description of a household was adopted and used because it was most suitable for the rural communities who have especially children going to boarding school for studies and husbands working far way and returning once a while in a month or a year. In this thesis the household is the central area of research; it is the source of human capital, it influences coffee production and is impacted by AIDS, however through certain mechanism and utilisation of community assets households can cope and become more resilient.

The impacts of AIDS at the household level are interlinked with the individuals in the household. Literature refers to the economic impacts of AIDS on household and not putting other factors in consideration (van Blerk and Ansell, 2006). The impacts of AIDS on a household are rather most felt because they affect the labour force which includes the youth and adults of productive age falling victims of AIDS, loss of knowledge and skills through the death of an adult and also loss of household income because s/he was the main wage earner (Stover and Bollinger, 1999). Gillespie (2008) is in agreement with this, adding that the household's savings are used to treat the sick, the loss of labour as a result of illness or death, the limited available labour is also diverted to look after the sick. As household labour reduces, food consumption is also reduced, the nutritional status deteriorates, assets are disposed of, cultivation land is reduced and the effects of knowledge loss intensify (Gillespie et al., 2001). Wiegers (2008) states that the impacts of AIDS on a household also include migration where children may be forced to move to relatives or to cities to look for employment, and AIDS is incurable therefore keeps many patients on lifelong treatments that are expensive to sustain, thus confirming the previous researchers' statements in section 2.2.1. However, Gillespie (2008) adds that where adverse effects like drought are not occurring, traditional responses aid the household in its coping process.

2.2.3 Impacts on Gender and Gender Roles

In my opinion, many educated persons still confuse the terms gender and sex. Groverman (2007) states that gender refers to socially defined differences between males and females. These differences are rooted widely in shared ideas, beliefs and norms about: how males and females should behave and express themselves; the type of social and sexual relationships they should have; what are 'typically' feminine and masculine characteristics and abilities; and what their key virtues are. The ideas, beliefs and norms reflect and influence roles, social status, economic and political power of women and men in society. Whereas sex, refers to the physiological features that identify a person as male or female. Wiegers (2008) uses a combination of simplified definitions to describe gender, she describes it as a socially constructed roles and relationships, behaviour and characteristics that societies ascribe to men and women, while sex refers to the physical and biological characteristics of men and women bodies. In this thesis, Groverman's definition was used because it brings out a wide range of ideas to address in gender issues.

In sections 2.2.1 and 2.2.2, it is noted that the women are facing greater impacts due to AIDS, however is this true? Gillespie et al. (2001) emphasises that predominant cultures and passiveness regarding sex stigmatises women who want to access treatment while the norm of virginity restricts adolescent girls

from accessing information and furthermore women are discriminated against with regard to inheritance rights. Especially in areas where property and user rights for household assets are not clearly defined women are likely to become less able to shape their future and that of their household members. This results in a reduced ability to make decisions relating their own needs and those of their children in regards to health care, nutrition and even time spent on work, Gillespie et al. (2001) adds. The impacts of AIDS in the household are most felt where gender inequality exist at household level and the woman's social safety is largely dependent on her partners occupation and status (Piot et al., 2007). Loss of a husband leads to immediate widowhood, in Busoga a region in—Middle Eastern—Uganda a wife who has not produced a son is cannot share part of the property of her dead husband unless she is taken by the inheritor. Non inherited widow are left to fend for themselves and their children and this is compounded if they shunned by their in-laws (Ntozi, 1997). Ntozi (1997) further adds that widowhood brings about poverty another compounding factor, leaving households and most especially women highly susceptible to the impacts of AIDS.

Gender is the central component in the household because gender roles have a great influence of the availability of human capital. In this research female headed household are those household that the woman heads the home and has full access and control over all livelihood assets. This is also true for the male headed household. The reason for selecting female and male headed household is attributed to the fact that, they are both impacted by AIDS differently and also manage the coffee crop differently. We noted in the earlier chapters the coffee production in Uganda is highly a male dominated crop, this indicates that responses applied by female head household would somewhat differ for their male headed counterpart.

2.2.4 Impacts on Coffee Production

There are two key impacts of AIDS on coffee production. First of all is the loss of labour, re-allocation of labour that would have been available in the coffee garden to take care of sick, or even worse the adult him/herself being sick that is sometimes followed by death influences greatly coffee production. Gillespie (2008) noted similar findings in impacts of AIDS on the household. The loss of labour results in poorly managed garden, high weed and pest infestation, garden becoming bushy, late or pre-mature harvesting of coffee berries, poor post-harvesting practices like drying and storage thus resulting in reduced quantity and quality of coffee. Some households sell part of their coffee plantations in order to raise money to cater for the sick and increasing medical expenses (Hunter et al., 1993).

The death of adult also results into the second impact; the loss of knowledge and skills acquired over time with experience that the deceased person had learnt and mastered over time.Gillespie et al. (2001) postulates that human capital is more than manual labour, It is the loss of an adult that reduces the transfer of knowledge and skills from the old generation to the next, lack of role models and verbal guidance as well as learning from someone experience that will affect coffee production.

2.2.5 Impacts on Human Capital

Human capital is defined as the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. At a household level human capital is a factor of the amount and quality of labour available; this varies according to household size, skill levels, leadership potential, health status, education and nutritional levels (DFID, 1999). Wiegers (2008) also uses quite a similar definition of human capital but adds an extra component

of experience. The key components addressed in this thesis are labour, knowledge and skills, nutrition, education, and health. This thesis focuses on the definition by DFID.

In reference to the sub-sections (sub-sections 2.2.1 to 2.2.4) prior to this one, several components of human capital are noted as impacted by AIDS like labour, knowledge and skills, nutrition and health. Exemplifying the impacts of AIDS on human capital is necessary. For instance, Death of a parent in a household will affect children's attendance in school, resulting in increased school dropouts (Smith et al., 2011). This further hinders human capital development and future opportunities for the individual who has dropped out of school. Labour and nutrition are also important to human capital and these two are in a synergy. Family labour is significant in production and is directly affected by nutritional intake whereby individual food consumption within the household is proportional to the nutritional requirements that vary by age and sex (Deolalikar, 1988). Higher prevalence rates will affect the investment in human capital over time. Fortson (2010) noted that orphans are less like to be enrolled in school than non-orphans, and yet their progress in education is also slow. This is associated with the impacts of AIDS on an adult that reduce the options of the children of the affected adult to returning to school. The years of going to school, attending school and even completely primary school is reduced in places with higher prevalence rates. This particular section is of great importance to this thesis and critical emphasis was put on the five mentioned components of human capital..

2.5 Coping Mechanisms

Coping mechanisms of a household are defined as the sequence of survival responses to a crisis or a disaster… [in this research that will be the impacts of AIDS] (Ellis, 2000). Ellis elaborates that coping is an involuntary responses to a disaster of unanticipated failure in major bases of survival. Gillespie et al. (2010) describe coping as a more often than not, an externally applied, value judgement that may not correspond to what is actually happening in the present and almost always neglects the likely future consequences. They add that many responses are a result struggling and not coping since they have no formulated strategy. Wiegers (2008) looks at coping as temporary responses that individuals and household employ to avert negative effects encountered. She adds that coping mechanisms vary depending on the factor that is being taken into consideration like famine or drought. In absence of other stress factors like price fluctuations, wars and droughts, household do cope to the impacts of AIDS. However, Wiegers (2008) notes with concern in her research that AIDS has adverse effects on traditional coping mechanisms that are employed by household. Wiegers cites an example of the "the new variant famine", where coping mechanisms would depend largely on the input of labour. She explains that additional labour is not an option since the impacts of AIDS are more severe on the labour force. Despite the challenges some household are able to utilise the meagre resources and cope to the impacts of AIDS. Coping mechanisms of small holder farmers in Sub-Saharan Africa may include but not limited to; mechanisms for maintaining consumption when confronted by disaster, such using saved up materials or items, sale of assets, receiving gifts from relatives, temporary migration, use of hired or exchange labour, and transfer of roles.

Coping mechanisms are employed by households in situations considered to be causing an impact on household goals and are more controllable, the household uses more proactive coping mechanisms. Coping mechanisms vary greatly within the household across different situations and also between households (Ouwehand et al., 2006). They use an example that; impacts on health results in immediate

coping mechanisms than threats to future social relationships. Coping mechanisms depend on a wide range of factors like environment, location, seasons and influences from demographic factors for example age and gender of the household head, and existing assets base (Magezi et al., 2011). Gillespie et al. (2010) also emphasises that these coping mechanisms involve complex interactions despite being formal or informal they include also the length of the epidemic impacting the household, the socio-economic status of the household, position of the ill or deceased person in the household and availability of community assets (natural resources) Coping mechanisms can either be formal or informal. They are also influenced by the use and effectiveness of formal coping mechanisms like access to credit and use of household cash saving or informal coping mechanisms like insurance, development and funeral oriented groups (Kamanzi, 2009). However, Kamanzi (2009) notes that some actors (community assets) that aid households in becoming resilient like NGOs, FBOs, and even businesses view impacts to AIDS as a social arena for opportunities to gain profits from infected and affected clients. For example; Owners of shops, drug stores, pharmacies and private hospitals will get the most recent prescribed drugs and even advertise with the intention of getting more clients and making more profits.

2.6 Complexity of Impacts of AIDS and Coping Mechanisms

When a household is affected by AIDS it faces several impacts as a result and in order for the household and its members to become resilient they employ several coping mechanisms. The complexity of this process is that the impacts due to AIDS in some situations themselves become the coping mechanisms that the household is employing and vice versa. Abebe and Aase (2007) exemplify this complex process by noting that areas with high incidence of AIDS are associated with high mortality rates due to AIDS thus resulting into migration in search for better livelihoods and caring environments among AIDS affected orphans. However, most orphans experience multiple migrations spatially and temporarily thus ending up coping with being orphans. Barnett and Whiteside (2002) also argue that the impacts due to AIDS are also viewed as short-term solutions to the rising crises. For example; with drawing children from school to help in household duties, sale of household assets, lowering diet are viewed on one hand as impacts but on the other children taking on agricultural and household roles, rationing of meals, use of income from sold assets for acquiring medicine to improve health are coping mechanisms. On the contrary Rugalema (2000) claims that households are not coping but the individuals in the household are surviving. For example an elderly man at the age of 86 years relatively rich in the rural area has 15 orphans to look after, this elderly man takes on a younger wife of 28 years old to help at home. This is seen as coping, but Rugalema says this is surviving. Impacts and coping are a complex system.

2.7 Community Assets

By definition: In the rural context, assets are popularly recognized attributes of communities. They are considered essential for the maintenance of rural life and vital for the sustainability of the economy, society and environment in a rural… [community] (Fuller et al., 2001). Assets come in different forms and shapes which include, built (physical), natural, social, economic (financial), public (service) and intangible (FBC, 2010), households that are struggling or coping use available community assets to avert the adverse impacts of AIDS. Assets in community assets and asset mapping are described as; an item of value owned; a quality, condition, skill, expertise or entity that serves as an advantage, support, resource or source of strength (Diane, 1998). Diane (1998) adds to describe mapping as, “To

make a map of; to show or establish the features or details of, with clarity like that of a map; to make a survey of, or travel over for, as if for the purpose of making a map". Asset mapping is increasingly becoming a powerful tool for change, prompting community members to view their communities from an assets-based perspective and becoming advocates for the transformation of the places they inhabit. Canada (2010) states that asset mapping is becoming increasingly popular because it is participatory and engages the concerned party in exploring assets within their social and physical surroundings with the aim of drawing out a concrete map that can be used in formal and/or informal community planning processes. Community asset mapping is different from a community needs assessment that looks at the problems of the community members their needs and seeks to address them. Assets mapping empowers the community to carry out asset building, which is defined as; The helping impoverished families save for education, home ownership, microenterprise, and other community revitalization purposes (Page-Adams and Sherraden, 1997). Community assets are a very important item for households that are coping. Household wealth, private and public asset endowments and regional characteristics play an important role in enhancing the profitability of the household endowment base (Bagamba et al., 2009).

2.8 Conclusion

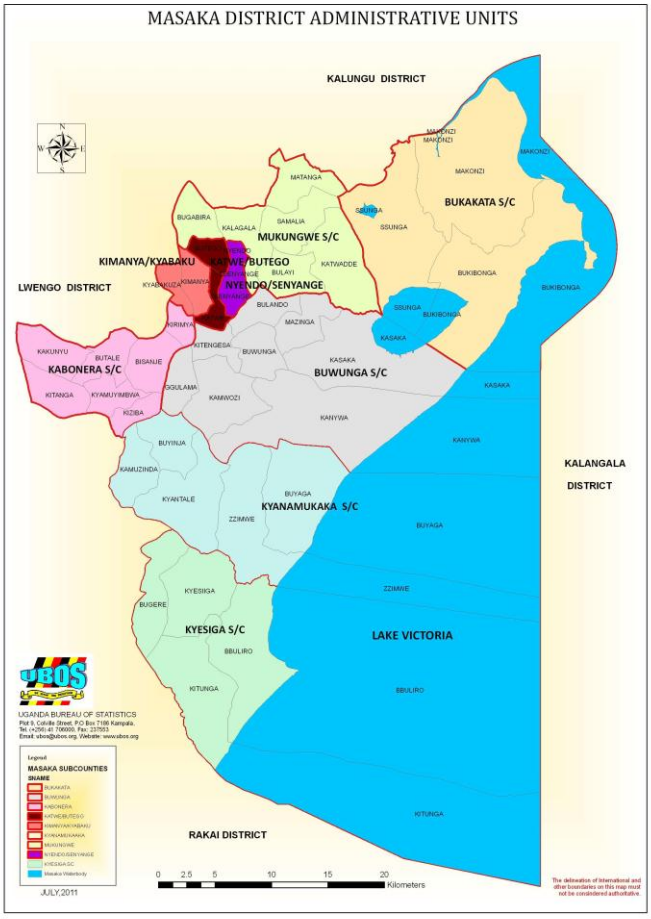
In sub-Saharan Africa, AIDS is causing a wide range of economical, health, educational, communal and agricultural problems. These problems are resulting in a various impacts, they may not be the same in all sub-Saharan countries. One of such countries is Uganda and more specifically in Masaka District, AIDS has caused a vast number of impacts on the coffee sub-sector in agriculture, targeting the coffee farming families. The coffee sub-sector has faced impacts on human capital and gender roles and responsibilities that in have affected thus causing a decline in coffee production. Despite the fact that the coffee farming families are being impacted by AIDS, they are adopting responses to these impacts. They are also accessing and utilising the community assets in their environment to enable them respond to these impacts. In other words the coffee farming families are coping to the impacts of AIDS and they are doing this with the aid of community assets.

Chapter 3 Research methodology

This chapter looks at the methodology of the research done in Masaka district in Uganda (study area). This chapter also looks at the research design, the selection of household, the methods used for data collection, and the challenges met during the research process.

3.1 Study Area

Figure 5: Map of Masaka District showing the 9 Administrative Units.



Source: UBOS (2012b)

The research was conducted in Masaka District (Figure 5). Masaka district was selected so as to assess the impacts of AIDS on coffee production and household coping mechanisms because of several reasons like:

- It is considered a high risk district because of its long shore line, sharing boundaries with the epicentre (Rakai District) of the epidemic, and a hub of three major highways (Hunter et al., 1993)
- It was once leading coffee producing district and now averaging in the second position (Nsibirwa, 2010).

- It has a wide shore line with a vast number of fishing landing sites. Fisher communities are considered a high risk group because of high mobility, and low social cohesion among fisher folks (Tanzarn and Bishop-Sambrook, 2003).
- Almost half of the entire district's population is living in its two major towns of Masaka Municipal Council and Nyendo Town Council both totalling to 89600 people (UBOS, 2012a) while the rest is scattered in throughout the district. With this size of population leaving in the municipal and town centre, little is available for providing labour to the farming community
- The researcher knows through working experience that coffee farmers' households face several impacts of AIDS and these are likely to be part of the cause of the decline in coffee production.

This research took place in three sub-counties namely Kyanamukaaka, Kabonera and Buwunga. During the identification of the household to participate in the research, these sub-counties were closer to other, thus saving on time that would have been spent during the connection travels. Kyanamukaaka was specifically included because it had a registered group at the local government specifically for HIV+ persons. The other two were to provide a contrast with the information gather with the participating household from Kyanamukaaka.

3.2 Research Design

The research design consisted of key activities that were done to ensure success of the data collection process. The activities included;

- a desk-study
- the selection of households
- The data collection process. This involved a combination of interviews, a case studies, asset mapping.

3.2.1 The Desk-study

The desk study was done to have a deeper understanding; identifying prior challenges and experiences of former researchers that gave the researcher extra knowledge and skills, and saved time and money to would have been spent doing a random research. The desk-study involved reviewing existing literature and identifying new information useful to the research. It also enabled the researcher to refine and have an applicable research framework. The desk-study enabled me to prepare and organise better for the field research work as well as to compare my findings with those done by other researchers in the similar studies.

3.2.1 Selection of the Households

The sampling process was challenging. From the desk-study, Agong (2008) in his research pointed out critical information that aided the household selection process. In his research Agong had to reduce his household selection criteria from four to two categories because in the research area it was very difficult to differentiate orphans due to AIDS related death from orphans due to contagious diseases like Tuberculosis, or Ebola. This gave the researcher an insight in preparing his household selection criteria. The households selected to participate in the research had to meet the criteria illustrated in Table 3. Critical to the research process was that each of the selected household had to be involved in coffee production. This selection format gave rise to the six households that were to be considered for the case study.

Table 3: Matrix showing the distribution of the six (6) selected households

	Household Headship	
Household Status (Caused by AIDS)	Female	Male
Illness	1	2
Death	3	4
Illness and Death	5	6

Due to several challenges noted in the limitations section, this criterion was noted follow during the data collection process. It was later revised to have four female headed household and two male headed household, because of the more willingness of the women to talk openly about their status and challenges encountered. The criteria listed below were used while putting special consideration that criterion 1 was a constant while the remaining three altered.

1. The household is engaged in coffee production
2. The household is living with or taking care of a person having AIDS
3. The household lost a member to AIDS related diseases
4. The household is either male or female headed.

Through consultations with Local Government (LG) officials in collaboration with TASO (The Aids Support Organisation) counsellors, participating household were selected randomly putting into consideration their location and willingness to participate in the research.

3.3 Data Collection

The data for this thesis was collected in a series of phases. These phases include the introduction, the case study, asset mapping, observation, focus group discussions and interviewing informants are described in details in the following sub-sections. Prior the actual data collection process a check list of unstructured questions and areas (hints) for observation was developed (Annex 2: Checklist and Questions).

3.3.1 The Introduction Phase

This phase involved meeting up with the selected household and informants that were to participate in the research. The informants' organisations included; Uganda coffee regulatory organisation, coffee farmers' umbrella organisation like NUCAFE and NAADS, speciality coffee organisation like Uganda Coffee Academy (UCA), Non-Governmental Organisations (NGO) like TASO and Kitovu Mobile and Home Care Services (Kitovu Mobile) working with PLWHA, and local council leaders. This was done to make formal introductions and also make appointments for an interview with each one of the representatives.

Secondly visits were made to the household that had been selected in the three sub-counties to get consent of the household heads to participate in the research. A household that agreed signed a consent form (see Annex 3: Informed Consent Form). These household had to meet the criteria that had been set prior to the data collection process. During these visits the researcher also took noted and

documented the various community assets that were present in these areas along the main roads. The introduction phase took a total of five days to get completed.

3.3.2 The Case-study

This method was used because it is the most appropriate way of gathering in-depth information from the respondents. This is because case studies are a great tool in understanding of why the instance (impact/coping strategy) happened as it did, and what might become important to look at more extensively when doing further research. It was through the case study that the researcher appreciated the emphasis and causes of certain practices (impacts/coping mechanisms), their origin (why are done that way), and how some are abandoned along the process and others carried forward by households.

In this thesis six case studies were at the centre of the research. I got a deeper understanding and an intense description of what the research was seeking. The case study involved four stages: Exploration of the household by the researcher and the household respondent, description, interpretation and explanation. The case-study was carried out in five standard steps; describing the experience, describing the meanings, focus of the analysis, examining thoroughness and writing up of the case. While carrying out a case study the researcher used several methods to collect data like; field walks, discussions and interviews, classifications of households responses (impacts and coping methods) and cross-checking with several members of the household or neighbours in the community. A questionnaire (see Annex 2: Observation Checklist and Questionnaire) was used to gather information on impacts of AIDS and how households are coping to them in relation to the declining coffee production and human capital.

A Case study in this research is the best option for the researcher to understand how differently each coffee farming household is affected by the impacts of AIDS on human capital and how it applies the different coping mechanisms to become more resilient. The researcher shall use this in-depth information and knowledge acquired to understand and document the complexity of impacts of AIDS and coping mechanisms of coffee farming households. This information is drawn up in Chapter 4 of this thesis.

3.3.3 Asset Mapping

According to Gaarder et al. (2003), they state that there is no pre-established methodology for community asset mapping process. They advise any researcher willing to use this process to adapt his/her methodology on a series of decisions made during the course of design, implementation of data collection tools and analysis of results. As a researcher several reasons motivate me to engage asset mapping as a data collection process for this thesis. To start with, the definition of and what entails the concept itself. Asset mapping is understood as a process by which the capabilities of individuals, civic associations, and local institutions are inventoried (OFF, 2012). It involves documenting the tangible and intangible resources of a community and viewing it as a place with assets to be enhanced, not deficits to be remedied. Assets may be persons, physical structures, natural resources, institutions, businesses, or organisations. The asset-based community development process involves the community in making an inventory of assets and capacity, building relationships, developing a vision of the future, and leveraging internal and external resources to support actions to achieve it. Secondly, asset mapping as a process of identifying community assets helps individuals, groups, and the community involved to feel engaged and appreciated, responsible and actively involved thus it engages all levels important for social change

to occur (SASA, 2009). Lastly, when organisations want to address community problems the approaches used sometimes conflict is the culture and norms of where the organisation is implementing solutions to the problem in this case impacts of AIDS and declining coffee production leading to most projects and approaches to fail. As a researcher a quotation bellow from a scholar encouraged me to venture into asset mapping. It states:

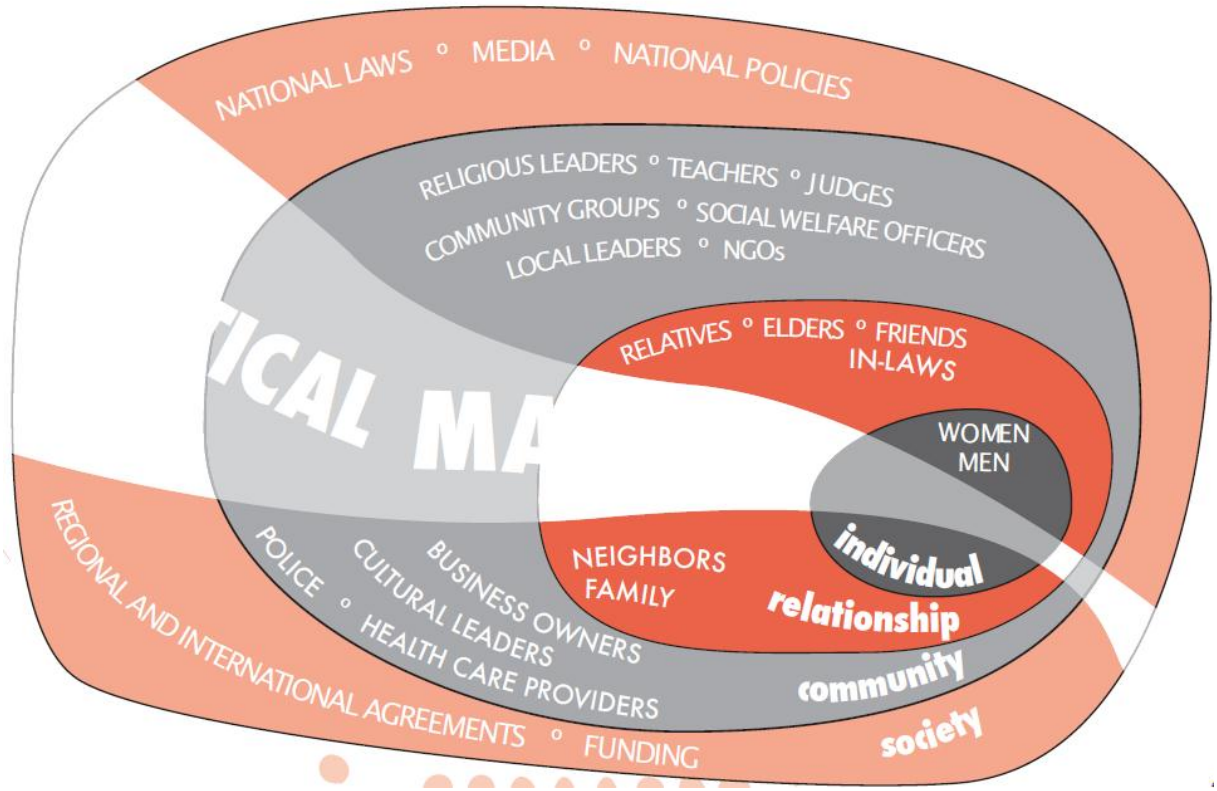
> *"When policy makers consider how to address the chronic situations faced by poor, urban and rural communities they have a choice between two different approaches to problem identification. The decision about which path to take has a significant consequence for the design of the corresponding community-based interventions. On one hand, there are needs assessments which focus on the identification and prioritisation of a community's needs as well as its deficiencies. On the other hand, there is the asset mapping approach that seeks to identify community-based capacities and assets as well as the project initiatives that communities themselves are undertaking to resolve their own problems"* (Gaarder et al., 2003).

Asset mapping as a process is focusing on the positive strengths of the community and is after empowering the community members. In other-words asset mapping analyses and provides valuable information on preferences and priorities among the target populations, and thus proves its usefulness for devising developmental priorities for the community.

Asset mapping is a completely new subject to the researcher but finds it rather an interesting process in this thesis. Several tools were looked at including literature and a series of reports to draw out a method of carrying out this process. The authors literature looked at include; Canada (2009), Canada (2010), Diane (1998), Fuller et al. (2001), Gaarder et al. (2003), OFF (2012) and Roossing (2000). In this research, the researcher used the "ecological model" (SASA, 2009), research area maps to provide locations, a digital camera for digital imaging, and transect walks to identify and mark locations of community assets accessed by households participating in this thesis. An asset mapping process was done at the end of every case study, this helped in crosschecking with the information collected during the interactions with the household as well as labelling and marking the identified assets.

For a household is to avert and cope to the impacts of AIDS, it needs to utilise all resources (community assets) available at its disposal and these are mainly available in the community. By carrying out an asset mapping process with the affected households, the affected household members identify, strengthen and sustain existing community assets that help them and other groups. The asset mapping process made the members of the participating households feel part and parcel of the research process. By using the ecological model as illustrated by SASA (Figure 6), the researcher and research participants assessed each circle of influence thereby exploring the assets of each circle to the fullest. It is important to note and make aware to the research participants that community assets are not only with/within individuals but they can include the following: People (for example, skills and knowledge); Places (like meeting places, hospitals, schools); Groups (that include women's groups, farmer groups), Events (for example traditional ceremonies, weddings) and, even items (like electrical equipment). In the end, asset mapping is a process that aid households coping to the impacts of AIDS appreciate and identify community assets that make them more resilient.

Figure 6: A Circle of Influence as Illustrated by SASA



Source: SASA (2009)

3.3.4 Observation

An observation technique was also used in this research. It was in aspects of community asset mapping as well as in the case study data collection process. In the case study, it enables the researcher to collect intrinsic information that might have been as an oversight to the respondent. While in the asset mapping process this was a crucial part because it was to identify the existing community assets located throughout the community. Much of the information on changed gender and agricultural roles, and asset mapping was collected through this process.

3.3.5 Focus Group Discussions

A group (Ani Yali Amanyi HIV group) was identified in Kyanamukaaka sub-county. This group was used in the asset mapping process. Using the entities mentioned in the "circle of influence" the group was engaged in an asset mapping process. This helped to correlate with the findings that the researcher had identified during the foot walks taken in the sub-county. The group provided a lot of information especially with the talents and skills with individuals that cannot be identified easily while foot walking through the village. A series of questions were raised to the group, similar to those that were raised to the households that participated in the case study. Some of the members that participated in the case study also participated in the focus group discussion, too.

3.3.6 Interviewing Informants

The informants (Table 4) were important while gathering information, they provided a professional and expert opinion about the research. They provided ideas and issues that the researcher might not have anticipated during the research. Further on, informants provided data and insight that could not easily be

found with several data collection methods. A checklist of main topics of discussion that developed acted as a guiding tool. During the data collection process a total of eleven informants were interviewed.

The informants gave subject specific information regarding their areas of specialisation as well an insight into what the research was correlating. A vast range of organisations were contacted to provide a resource person for interview, however, only those listed (Table 4) were willing to participate. These organisations selected include; UCDA representing the governmental organisation, UCA representing the coffee training experts, NUCAFE representing the researchers employer as well as coffee farmers in groups and associations, while Kitovu Mobile representing CBO's and TASO representing NGO working in the field of HIV/AIDS, and finally the local—council—government . Viola is one of the few women specialist engaged in both provision of expertise and coffee specific extension services.

Interviewing the informants was important to interview the informants because provided a triangulation point of view on all collected information thus enabling the researcher to cross check on facts and findings gathered from the case study and the asset mapping processes.

Table 4: Names, Organisations and Positions of Informants

Name	Organisation	Position
Edward	UCDA	Regional Coffee Coordinator (Central Region)
Robert	UCDA	Sub Regional Coffee Coordinator (Masaka, Rakai, Kalangala, Lwengo, Kalungi, and Bukomansimbi)
Robert	UCA/UCTF	Executive Director / Board member UCTF
Viola	UCA	Certifications and Farmer Groups Specialists
Joseph	NUCAFE	Executive Director
Hassan	NUCAFE	Field Business Manager
Robert	Kitovu Mobile	Counsellor and Extension Worker
Teopista	Kitovu Mobile	Counsellor and Field Personnel
Edward	TASO	Counsellor and Field Personnel
Resty	Local Council Mikomago	Councillor
Mrs Kakooza	NAADS	Women Representative NAADS Farmers Forum

3.4 Data Analysis

Several forms of raw data will be collected and grouped. Data collected from the case studies will involve written notes, sketches and audio recordings. Data from the case-study will also provide raw information to correlate with data collected during the asset mapping process. The conceptual framework and "Circle of influence" were used to analyse the case studies and community asset mapping respectively. These tools were used because the offered the best approach to answering the

research questions, also because computerised and statistical packages like Excel and SPSS could not be used to analyse very small samples.

3.5 Limitations of the Study

Some respondents felt burdened to talk their about their HIV status. Male respondents did not want to get known of their HIV status, and this was worse in household where both man and woman were still present. E.g. there were 2 households (A, B) that were known in the community that the husbands in those household were positive. However, the researcher was cautioned as a researcher to engage them carefully, because despite the fact the community knew of their status, they would not speak of it openly. The researcher approached the wife in household-A, she pretended as though she never knew a thing, surprisingly she referred the researcher to household-B. The researcher did not pursue this matter any further because it was likely not to yield any results.

Some of the household head were critically ill in hospital and could not say a word or did not want to be disturbed, while the persons present could not say much about the family, or were children and could not talk about their parents' condition. This limited getting the opinions of other household members without the consent of the household head, thus reducing on sources of information for the research.

Some of the questions raised during the interactions required the respondent to refer back to the time when they were critically ill, or taking care of some who was critically ill. This moment involved a lot of emotions and some of them especially the ladies broke into tears. We postponed the interview to another day when the respondent felt much better, but not on that same day. This meant that the researcher had to spend not only more hours with one household but also to find simpler ways of raising emotionally sensitive questions. Dealing with AIDS related issues is really a sensitive matter that should be handled carefully.

Despite the fact that the participating households selected to participate in the research process were from neighbouring sub-counties, the distances between the respondents was still long. The researcher could only engage one respondent per day for a maximum of 4 hours. This was so because the research time coincided with the first rains, and all respondents were rushing to clear their gardens so to plant timely. One respondent noted that, "Nowadays, you are never certain of the rains, as soon as the first few drops hit the ground, you better rush and prepare your fields or else you might miss out or the planting , or even worse lose all your crop when the dry season starts earlier than expected". This meant limiting the interaction with the respondents.

Because the research also focused on coffee production, household that are "not affected by AIDS" were also engaged in discussions, to gather information of the possible causes of coffee production. However, there comments are not included in the results section because the main focus of the research was about those household impacted by AIDS. Despite this limitation, the information gather from these non-affected household helped in building up justifiable conclusions and recommendations for the research.

Several informants that were critical to the research were contacted, and even followed up with abrupt visits to their offices for an interview, however, some were not available to provide a comment while others due to organisation procedures and protocol were not able to do so even outside office.

Community asset mapping was a completely new experience to the researcher. The researcher had to learn and also utilise this process in the thesis research so as to generate comprehensive coping resources in the research area. However, learning about it was interesting and empowering.

A lot of time was spent in data collection, analysis and documentation. The good thing with case studies is that they generate a lot of good and useful information, however, this also was a shortcoming. As a researcher and owner from the start to the end of this thesis report, putting valuable information as an annex (See Annex 1) to this thesis worries me.

3.6 Ethical Issues

The researcher introduced himself and explained in detail the importance of this study. Households that agreed to participate signed a consent agreement form (see Annex 3). Surprisingly all the six participating household wanted to have their pictures taken and their full names used in the thesis because the information collected had emotionally sensitive and personal issues, their personal experiences, and feelings that are not easy to talk about. They wanted their stories to be easily traced to them. However due to professional reasons this has not be done in this thesis.

3.7 Conclusion

All these methods used in this research had the aim of collecting the relevant information as it had said above. The combination of those methods helped me in collecting data from various sources by different means such as desk study, case-study, focus group discussions, asset mapping and observation. The presentation of the collected data is detailed in the next chapter.

Chapter 4 Results

In this section the researcher presents the findings gathered from the six case studies [cases 1, 2, 3, 4. 5 and 6] (see Annex 1: Case Studies), and interviews from the informants gathered during the data collection process. Each of the case studies is arranged in such a way that it highlights the impacts of AIDS on the household more so in Human capital, followed by coffee production, then the coping mechanism employed in the household. Conclusions hereafter referred to as summaries—presented below—are drawn from each case, informant interviews, asset mapping and a focus group discussion. These summaries are illustrations of the in-depth and critical information of each of the cases in Annex 1 that has been utilised to draw up holistic discussions of the results as well as drawing the community asset map of a selected area—Kyanamukaaka Sub-county—in this thesis in chapter 5. The cases were analysed basing on the conceptual framework while the data for the community asset mapping was analysed basing on the "circle of influence".

4.1 Summaries of the Cases Studies

4.1.1 Case 1: Margaret

Several impacts, coping mechanisms and utilisation of community assets are noted from Margaret's household. They are noted in the paragraphs that follow. To start with; the household not only lost labour, knowledge and skills through the death of two adults but also a reduction in strength of the household head. Because she is weak, she has reduced the area under cultivation and left the rest to fallow. However, she has hired cheap labour from students and growing less labour intensive crops for food production. She has also employed the use of herbicides and engaging the 11 year old child in agricultural production.

Followed by the impacts of AIDS causing a decline in coffee production not only because she sold off part of the coffee land to get money for treatment and poor agronomical practices but also because she is not replanting and replacing dead coffee trees with food crops. She lacks information on coffee prices and access to quality inputs, even in the newly acquired land she has opted to grow an alternative income generating crop. This has led to a reduced quantity of coffee; the quality has also gone down because she is only selling freshly harvested coffee. However, through her group she has applied for high yielding, faster maturing, and disease resistant coffee seedlings offered by UCDA. She received trainings on coffee production, and is adding animal manure as well as intercropping with legumes to improve on soil fertility.

Later, she became vocal about her status, joined up with several HIV+ persons and from a group. They collaborate with the local council to have their opinions heard in local government meetings. After incurring high interest rates from the SACCO, they formed a VSLA to lend at no interest to fellow group members in need of money. Food provision takes priority in her household. She has grown drought resistant—cassava—and high yielding—maize—crops to ensure that food availability at all times.

Then, she has taught even the 11 year old life skills and engaged him in all agricultural production roles as well as teaching him about AIDS and positive living. Her health is critical to the wellbeing of her household; she has also contracted the community milk-man to supply her with a cup of milk daily and ensures to take her ARVs that she receives for free from TASO daily and timely.

Finally, Margaret's household was able to cope to the impacts of AIDS as it did because she is able to access free medical treatment, support from family members, in-laws, group members and farmer groups, she owns land and a good housing shelter, has coffee as a source of income and even diversified to include more income generating alternatives like pineapple cultivation, piggery and poultry projects.

4.1.2 Case 2: Magdalene

Magdalene's (Magda) household nearly became destitute. First of all, her household has lost labour not only through the death of two husbands (lost first husband and re-married but lost second husband too), but also through illness, taking care of the sick and weakness resulting from strong medication that Magda takes. The knowledge and skills on coffee production that her two husbands had was lost. Her child had to migrate to the city in search of wage income which also reduced the amount of labour available. However, her child sends home money to aid in household requirements and Magda's relatives have joined the household thus increasing on the available household labour.

Secondly, the education of her children has been affected. One child dropped out of school, while the other is attending low standard—USE—education due to lack of school fees. Magda has increased her income sources by hawking snacks to add on the financial support she receives from her daughter in the city. Local organisations (TASO) have supported the education of her children, availed her with access free medication and ARVs that she takes promptly as well as—World Vision—building her a new house, and bicycle to ease her transportation.

Thirdly, her land and property were grabbed by her in-laws upon the death of her husband from AIDS related diseases. Her plantations—coffee and cassava—were sold off. She was evicted from her marital home, house broken down and material sold off too. She lacks land on which to grow food crops to feed her and her family there lacks proper and adequate nutrition. However, she joined several groups, received food supplement and quality improved seed, agricultural inputs, credit, received training in vegetable gardens management and support from fellow group members.

To add on that coffee production has declined, not only because her marital land was grabbed and coffee plantations destroyed but also due to poor agronomic practices on the land inherited from the second husband. The coffee trees are old, a poor variety and low yielding. However, she is inter cropping selectively handpicked coffee seedlings with bananas as well as beans to improve soil nutrients. She has also applied for high yielding, disease resistant certified coffee seedlings from UCDA.

Lastly, judging from the Magda's case and observations around her homestead, her household nearly became destitute. Magda was able to cope because she was able to get married to a second husband who had a piece of land that provided a great advantage. The second husband built her a home, empowered her to be able to speak in public, and her daughter who migrated to the city in search of work sends her money that aids in many of the household activities. She has furthermore accessed and utilised FGs and group members to rent or borrow land on which she grow her crops. Despite that she has meagre coffee crops, having a source of income has also helped her household to become resilient.

4.1.3 Case 3: Ruth

Ruth is an empowered single mother, she is educated despite that her household has faced a loss of labour due to sickness and weakness because of AIDS. Ruth could not grow food to provide for consumption nor maintain the existing coffee garden that was the source of income. Income was lost due to increased medical bills and expenses for treating Ruth. However family support helped the household to cope and avert the adverse impacts of AIDS.

Following the loss of labour, coffee production declined. This was a result of poor agronomic practices that favoured the proliferation of weeds, pests and diseases. Coffee traders also have contributed greatly to this through lowering of farmers' morale in coffee production. However, the availability of coffee as a source of income enabling the availability of school fees to ensure the education of the children quickened the coping process. This was further enforced by the fact that the household head—a woman—was already empowered and managed her own coffee garden, she managed the coffee production roles.

To add on that several organisations are important in aiding Ruth's household cope faster. Farmer groups aided in sharing of knowledge, skills and experiences among group members while VSLAs aided farmers to access low interest rate loans among themselves. Also to note are CBOs, NGOs and Faith Based Organisations (FBO) also facilitate the coping process, through provision of services like improved shelter, food supplements, free medication and trainings where she learn many GAPs.

Energy saving technology is essential in the household's coping process. The use of chemicals to control pests, weeds, and well conserving soil moisture as well as the use of an improved cooking fire place—that was observed—in Ruth's kitchen. Intercropping is essential for households with limited cultivable land. It ensures food sustainability by either growing drought resistant food varieties or fast maturing and high yielding crops. It improves soil fertility when legumes are used as an intercrop and maximises land utilisation as well as keeping weeds under control.

Also the diversification of nutritional sources is important. Several plants and animal proteins sources with both nutritional and medicinal purposes through networking with others were learnt. This aided in averting any nutritional and health impacts that would have occurred, since she started taking ARVs with Zero CD4 count and yet this increased with time.

Accessing and prompt utilisation of medication—ARVs—is important. The availability of free drugs provided by organisation is critical because ARVs are expensive. Openness among family members and knowing the status of the infected person also helps since they aid and provide the extra care and support. Through remind the individual to take medicine on schedule.

Ruth's case is summed up noting that her education background and non-reliance on her absentee husband empowered her, this was further boosted by the support from family members, the church and several other organisations that are active in sub-county. She also has a coffee as a ready source of income that she supplements with baskets made from raw materials collected from the grasslands and swamps. She also learnt a lot from participating on field visits that her groups took.

4.1.4 Case 4: Joseph

Joseph's household can be described well of in his village. To start with, his household has faced a reduction in labour not only due to weakness and poor health of Joseph from AIDS related diseases but also the migration of his wife to a fishing Island. As a result he no longer participates in heavy duty work like land opening and—his profession—carpentry. His household relies solely on family labour thus the children do the agricultural roles that require intensive labour like land opening and weeding. He has also employed the use of labour saving technologies like use of wheel burrow to fetch water and spraying to control weeds. Joseph plans out all duties to be done in each field beforehand so as to maximise the limited family labour available. He also takes a holiday when the children have return for their end of term holidays so that he can rejuvenate and relax his body for a better health.

To add on that, his family offered immediate support thus enabling his household to cope easily to the impacts of AIDS. The children migrated and permanently stay with their grandparents while his sister during his time illness took care of their educational requirements. Extended families aid households becoming more resilient, here his sister helped to pay children's school dues when he was sick.

Secondly, households with coffee as a source of income cope faster to the impacts of AIDS. It acts not only as an income source but offers motivation and encouragement to plan for the future. However, coffee production has declined due to natural causes like reduced soil fertility, and erratic weather changes and patterns. Joseph has added fertilisers, controlled pests and diseases so as to maintain quality and good coffee yield. In order to achieve this, he has maintained a high degree of openness and transparency, involved his children in all coffee production and marketing roles as well as accountability of funds accrued from coffee sales. He has planted a variety of crops to curb against nutritional deficiencies and food shortages. He has grown drought resistant and high yielding—cassava—and Vitamin A rich—potato—crops. He has also intercropped his banana plots with various crops like egg-plants and avocado to provide the extra food supplements. However banana wilt is claiming most of the banana plantation.

Furthermore, CBOs and FGs are important in preventing households from becoming destitute. CBO's provide farmers with access to quality planting materials and agricultural inputs like improved seed and hoes as well as free access to treatment like ARVs that would have been costly. FGs also provide an avenue of accessing new knowledge—about AIDS—through trainings and drama plays. Joseph received training with TASO and volunteers in a farmer group to provide training to those that are poorly informed. Through his Coffee Farmers Group (CFG) he sold value added—processed—coffee and got a good price. Through counselling, support and guidance from TASO, Joseph changed his way of life completely. Because of free access to medication and treatment provided by TASO, he no longer takes alcohol that would endanger his life. He interacts with his children openly every time they meets to such an extent that his oldest child has taken up a course in counselling and guidance.

To end with, Joseph's household was resilient to the impacts of AIDS because he had coffee as source of income and also because he stays alone in his household. Joseph has nothing to worry about, his parent take care of his children, has time for holiday to relax and replenish his body and receives free medications from TASO.

4.1.5 Case 5: Matia[1]

Matia's household lost labour. When Matia's friend and partner died their charcoal burning business slowed down. This was compound by Matia's—cohabiting—wife also leaving him (migrating). He got depressed, sick and weak thus unable to perform his duties as he used to. However, he has employed labour saving technologies like use of herbicides and hiring labourers to do heavy duties for him.

household members have moved to homes of relatives. Relatives are essential in aiding the household to cope to the impacts of AIDS. Matia's children moved to stay with different relatives where they stay. However, this migration has hindered the children from accessing the vast knowledge and skills that their father possesses in charcoal making.

Coffee production has declined. Due to several factors that arose because of Matia's being weak and other natural hazards like pests and diseases as well as erratic weather patterns, coffee yield has gone. This is further made worse by the fact the household need food whereby in the open spaces created by dead coffee trees, food crops are planted in them. Food production for the household takes priority. He has applied for improved varieties of certified coffee seedlings through his group to UCDA so as to replant coffee trees as well as using herbicides to control weeds.

Matia is under nourished. The drugs his taking requires having taken a meal prior to swallowing them but some nights he goes with one. He has accessed persons with free land (community assets) that he has borrowed or rented to grow food crops, and the surplus sold to raise income.

FGs and CBOs are essential in enabling household become resilient. He joined Ani Yali Amanyi HIV group, where he has benefited from group members support, they aid him with vegetables, food, and medicine when he has a shortage. He is a recipient of free medication (ARVs) from TASO, and he has never fall sick ever since he started taking them. This has aided him to reduce medical expenses. In other words access to free medication as well as taking the drugs as prescribed is important in enabling the household become more resilient.

Children's education has been affected. His girl child dropped out school when he got sick, she is now performing household duties at her grandfather's home. Her ability to manage human capital in the future will greatly diminished in future if she does return to school.

Despite the fact that Matia now is living along in his household as being one of the factors that have enable him to cope, thanks to his relatives taking away and caring for his children. His household is at the verge of becoming destitute. It is his relation as a group member and a friend of the chairperson of Ani Yali Amanyi HIV group that has aided his coping, she provides him with medication when there is a shortage at the health centre and even food most times. His ability to access land and loans from friends has also aided his coping process.

[1] Matia is a man (Matia is used synonymously to Matheus as Maria is to Mary)

4.1.6 Case 6: Maria

Maria's household experienced a great loss in labour. She lost her husband to AIDS, she devoted a lot of time from agricultural and income generating roles to take care of him. Maria herself also fell sick due to AIDS for a period of six months. She has also engaged her young daughter in agricultural production and wage labouring. However, Maria hired labour to clear on her fields, her parental family helped to take care of her and the members of her household. Her sister and Maria's son have collaborated with Maria to have contracted plots of land cleared on time. In other words extended families aid household to become more resilient.

Children have dropped out of school. Due to AIDS illnesses, Maria could not raise school fees for two of her children and they have missed out on education while another child has married at an early age. Maria has utilised partial bursaries provided by CBO's (TASO) as well as government sponsored—UPE—schools to secure education for her children. Through the death of her husband, Maria's household lost a vast amount of knowledge, skills and experiences that he had relating especially with coffee production and marketing as well as doing commerce like charcoal, fish, and poultry trade. All businesses that he was running collapsed when he fell ill. Through her group, Maria has attended trainings, she has acquired knowledge and skills that she has passed on to her children. For example Francesca has acquired life skills at a very young age of 12 years.

It more difficult to cope to the impacts of AIDS, for households with low gender involvement in their activities. This true for Maria's household, coffee production because she lacked the experience and expertise in coffee marketing as well as GAPs. Maria has engaged her children in all activities she does to ensure that they learn with experience from her. She is passing on her skills and knowledge to them. Coffee production has declined and it is attributed to the poor agronomic practices and low management as a result of AIDS. These led to proliferation of diseases, pests and weeds and compounded by low soil fertility as well as replacing dead coffee trees with food crops (competition for agricultural land). Maria's household was fast at coping to the impacts of AIDS because of the available—coffee—income source. She is adding animal manure, and intercropping to increase soil fertility while maximising on agricultural land utilisation. Nutrition in the household declined. Animal protein that was mainly provided by her husband is no longer available. Maria has resorted to growing bulk yielding drought resistant crops like cassava to ensure food availability at home as well as resorting to use of *Mukene and Nkejje* mixed with beans to provide the much need protein.

FGs and CBOs are equally important in building of resilience in household. Through these organised systems household can access and acquire new knowledge, skills and experience as well as—market—information. CBOs have also extended free access to medication (ARVs) to aid in sustain the lives of the infected member in the household. Affected households are able to network and support each other where necessary through these systems. For example, Maria joined a VSLA where she can access credit at low interest rates and pay back during the harvesting season.

Maria's household has been able to cope through hard work, she diversified her income sources by making baskets and engaging her youngest daughter in wage labouring, and that is needed in the community. The availability of her son and her sister who provide support in agricultural production roles also aided this process. She also has free access to medication thus reducing on medical expenditures.

4.2 Causes of Decline in Coffee Production

During interactions with informants several issues came up strongly and common to all of them especially about the factors that are causing a decline in coffee production. Below are some of the key highlighted issues leading to this decline:

- The scourge of AIDS has affected coffee production. The AIDS patients abandon coffee production and their planning is limited to short-term goals thus abandoning long-term goals/projects like coffee production. They resort to quick cash producing projects of the pressing need for quick cash.
- CWD and CTB are rampant in these areas. CTB are even more devastating and more rampant compared to CWD. I observe other[2] households in the community whose coffee trees have been devastated by CTB, and yet due to poor management practices resulting from low labour availability and time allocation to the coffee fields CWD has also affected much of the coffee.
- The long dry weather (drought). This has resulted into many floats (poor quality coffee), a lot of coffee beans aborted resulting in a reduction in quantity.
- Lack of irrigation water and equipment. Farmers are unable to irrigate/water the coffee trees to curb the long dry spells that affect coffee production.
- The prevailing unstable coffee prices have led to loss of morale for the coffee farmers. This has resulted in farmers finding alternatives, like vanilla where a kilogramme cost was as high as UGX 150,000/=. Therefore farmers switching to alternative crops for cash income generation.
- Lack of labour and times saving machines like tractors. Farmers are using slow and rudimentary methods to open up cultivable land, this would be more efficient if tractors are used thereby also increasing in soil fertility since the ploughed grass in mixed with the tilled soil.
- The cost of living and household needs, have affected the re-investment returns for the coffee fields.
- Farmer's no-longer want to harvest and retain coffee for longer periods of time because they are in urgent need for money. Farmers are faced with a wide range of issues that require monetary solutions, and so are the buyers who are not interested in the quality of the purchase but more on profit margins made.
- coffee liberalisation where there is no limit to who and where you set up you coffee mill. The lack of stringent coffee regulations too has contributed to the decline of coffee quality. Traders are purchasing fresh and/or partially dried cherries from the farmers and drying it at the milling plants, yet they do not have the facilities to handle bulk drying. Some have resorted to drying the coffee on road sides.
- All coffee not matter the quality is bought. The farmer/trader may receive a lower price for the coffee but when it has been bought or sold off. Whether much of the coffee sold is full of BHP or full beans, all that they person selling is interested in is how much money has been gained from the sales.
- The coffee trading processes themselves are not good. There several penalties associated with the coffee trade, especially relating with a higher M.C, and foreign matter found in the coffee. The traders have exploited this and cheated the farmers. Some have resorted to intentionally

[2] Not participating in the research but are coffee farming household

add foreign materials knowing that when penalised for foreign materials in the coffee they will still make a higher profit margin.

- Lack of women involvement in coffee production. Women are pulling away from coffee production they are unable to participate in the later stages of the value chain. Once they have harvested and dried the coffee the man take over the marketing process, and decides what to do with the money. The has given rise to several challenges; The woman will pick raw coffee (un-ripe coffee beans), "steal[3]" to sell and deal with her household demands, and since when she waits she will not benefit.
- Women do not own land. Unless a woman has been educated/empowered to purchase their own pieces of land. There is no incentive for engaging in perennial crops (long term investments). The land that is owned by the man is mostly claimed to be for the children, and women do not benefit even in inheritance unless she has young children to look after.
- Lack of Youth Involvement in coffee production. The youth in central Uganda look down upon farming. They would rather migrate to the urban areas and ride motorcycles than to work on the farm (labour on the farm); this is more of a cultural problem

4.3 The Community Asset Map

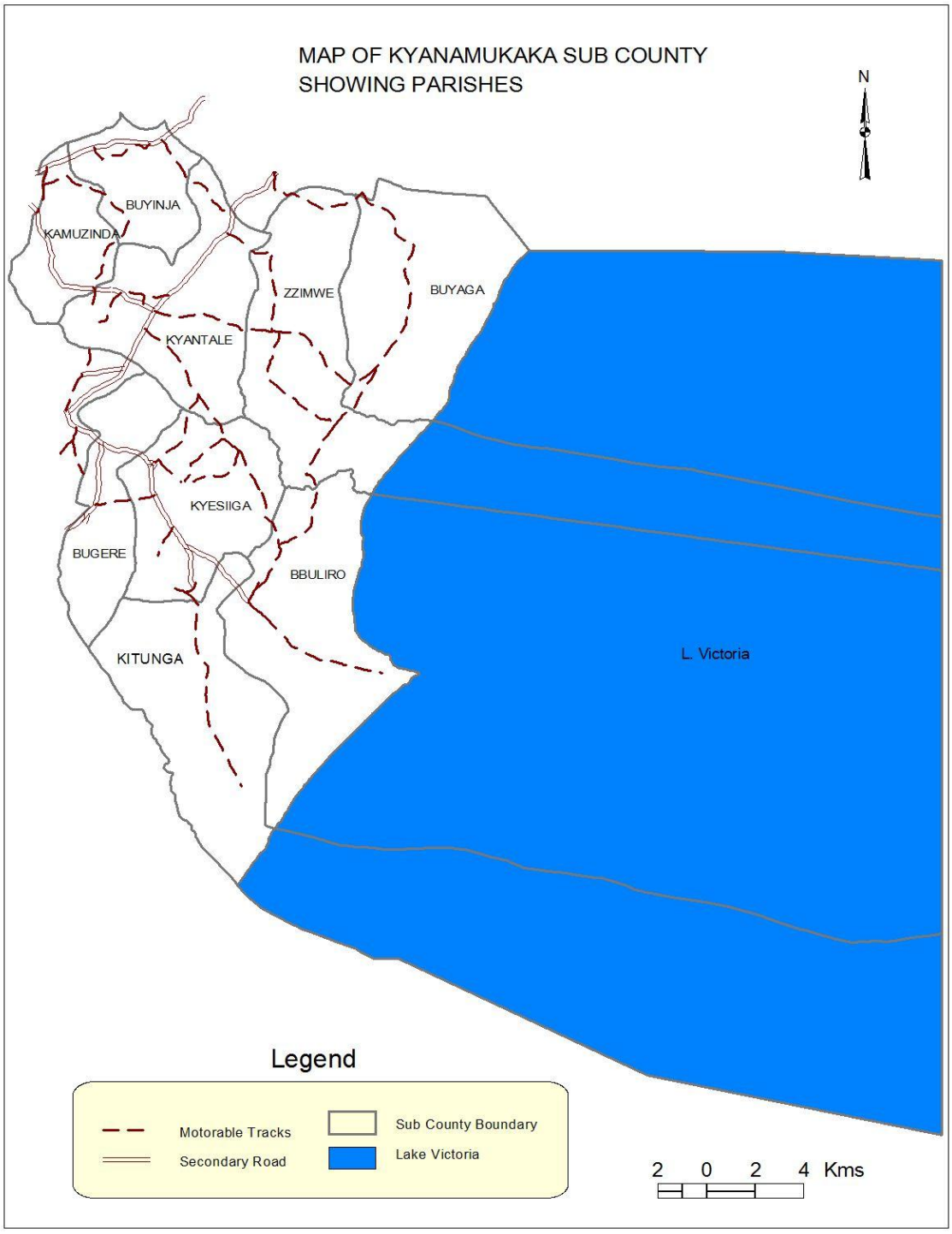
Through transect walks, interactions with community members as well as focus group discussion a community asset map of Kyanamukaaka Sub-county (see Figure 7) and neighbouring villages was developed. Because the group was members of Ani Yali Amanyi HIV group participating in this process were hailing from two parishes, the boundaries of this asset mapping process were also limited within these two parishes of Kyantale and Kamuzinda. Several key persons and organisations that are considered assets to the community by the HIV+ persons (See Table 6 in Annex 4) were noted as well as what the group wished to see its future society to be like. A sketch map (Figure 8) to indicate locations of key identified assets by the groups and those noted through the transect walks were noted. These identified community assets have helped household to cope to the impacts of AIDS through a variety of approaches. Following SASA's model in Chapter 3; the identified assets did not go beyond the community level of SASA. Upon conclusion of identifying the community assets in their neighbourhood, the group also put forward a list of aspirations they wished to have in the community. These are their future aspirations for their community:

- Electricity in most of the homes
- Murram reinforcement for Dimo Road
- Source of income for each household
- Transportation for affected persons to go to hospital to get medication
- Taxi services from Kyanamukaaka TC to Kampala
- A bicycle for each household
- A water tank for water collection in each household
- Re-installation of government bus services in local areas
- Clinical services at parish levels
- Kerosene and fuel access for homes

[3] Women harvest and sell freshly harvested coffee to coffee traders without their husbands knowing about it so as to get money for household use.

- A cow or a goat to get milk for home consumption and income
- A blanket and mattress for affected persons
- Enough food for consumption and home use

Figure 7: A Map Of Kyanamukaaka Sub-County Showing Its Parishes

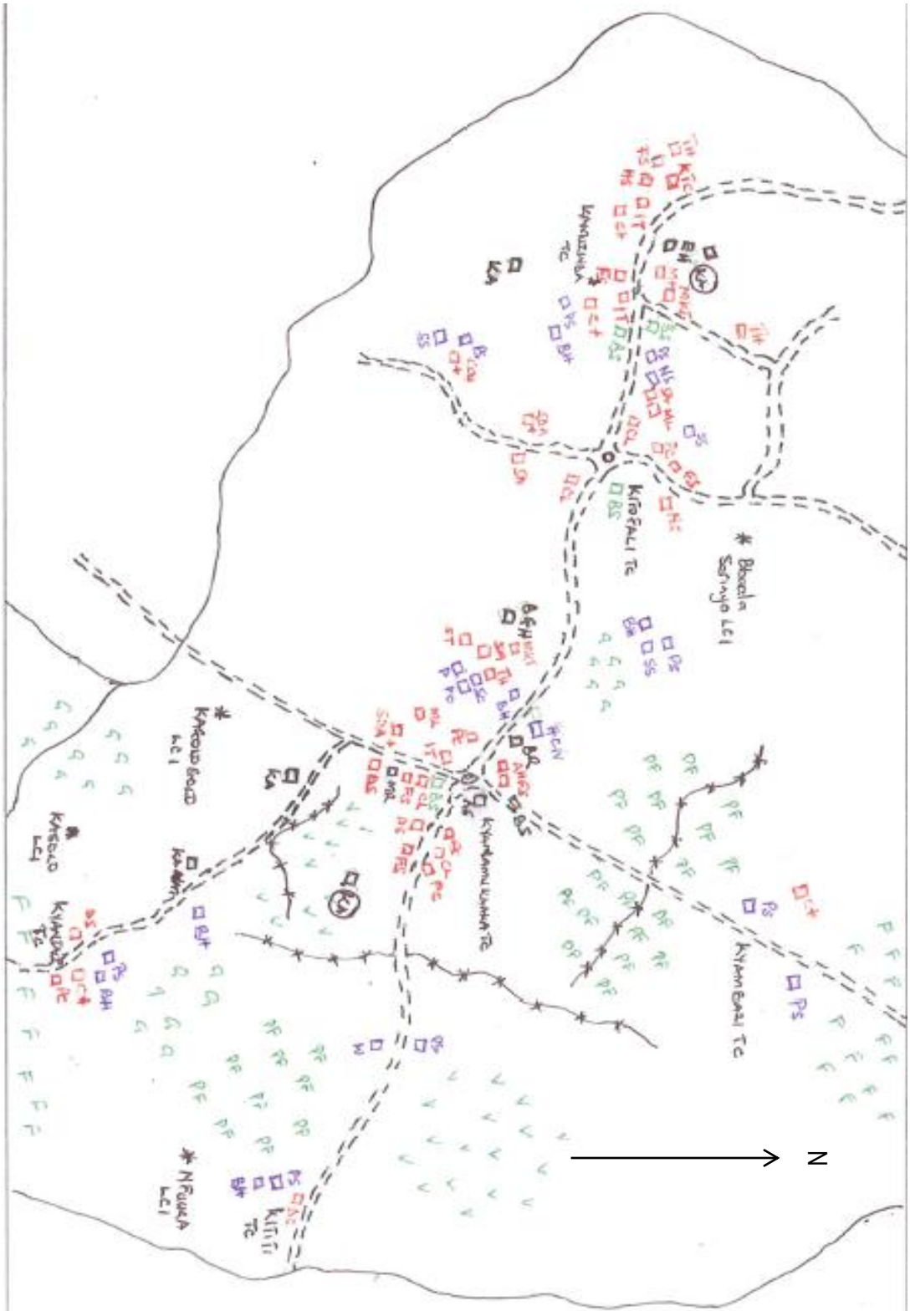


Source: UBOS (2012b)

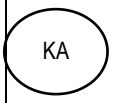
The sketch map (see Figure 8) shows assets that were identified, these were grouped into six categories of built, economic, intangible, natural, public and social assets. However organisations like

NGOs having been identified in the mapping process could not be mapped since they did not have offices in the sub-county.

Figure 8: A Sketch Map Of Community Assets In Kyantale And Kamuzinda Parishes



Source: By Author.

KEY TO THE MAP:		
Public Assets	**Natural Assets**	**Social Assets**
HCIV =Health Centre IV P = Prison Po = Police SC = Sub-County Offices PS = Primary School SS = Secondary School NS = Nursery School == = Roads BH = Borehole W = Water Well	F = Forest and Forest Reserve V = Swampland G = Grassland	BGH = Buganda Cultural Leaders office KA NM = Ani Yali Amanyi HIV group's meeting place EH = Elderly's Home AS = Announcement Loudspeaker  = Local Council leader
Economic Assets	**Intangible Assets**	**Built Assets**
BS = Bodaboda Stage PF = Pineapple Farm	BR = Bicycle Repair MR = Motorcycle Repair KA = Volunteer counsellor	MKT = Market TH = Training Hall AH = HIV/AIDS meeting Hall KTC = Kamuzinda Training Centre SA = SACCO IT = Internet and Telephony Service PC = Phone Charging FS = Farm Supplies Agricultural Shop ST = Agricultural Produce Store CL = Clinic DS = Drug shop HS = Hospital COU+ = Church of Uganda SDA+ = Seventh Day Adventist Church C+ = Catholic Church M+ = Mosque ML = Milling Machine

Chapter 5 Discussions

In this section we show the complexity of impacts and coping (table 5) as well as compare the findings—which are the impacts of AIDS, causes of decline in coffee production and coping mechanisms of the case studies in Chapter 4—in this thesis with existing literature. The analysis of these findings leads into conclusions and recommendations in Chapter 6. Although the findings are limited by the small sample size and reliability of the information gathered, given that it dealt with emotional incidences. The study was in-depth and information gathered is enough to justify signification conclusions, recommendations and actions that can be an option of adoption and implementation by NUCAFE. The respondents in the case-study told their stories depending on what they felt important to them. All the six case-studies each present a different way of coping to the impacts of AIDS on the household and coffee production.

5.1 The Complexity of Impacts and Coping

From the all the six cases (Chapter 4), a series of impacts and causes of decline in coffee production (causes), and coping mechanisms (effects) are put in tabular format (Table 5). The data shows how complex the impacts and coping processes are. What are impacts of AIDS on households on one hand are addressed as coping mechanism on the other hand. It shows these processes affected the household and aided them in coping and thus becoming more resilient. Some of the processes have a positive or negative effect on the household also affected coffee production.

From Table 5 it is visible that the more impacts of AIDS on a coffee farming household would also result into more effects on coffee production in all cases almost 50% of the impacts noted affected coffee production. However female headed households registered more impacts that affected coffee production than male headed households. This is also true for coping mechanisms that display a similar result, almost 50% of coping mechanisms affect coffee production. It is important to note that more the household was affected, the more it developed a coping mechanism to counter this effect.

The most interesting piece of information about this table is the complexities of the processes that it displays. Processes like non consistency of education, children dropping out of school, reduction in cropping area, children taking on agricultural production roles, increase in income generating activities and finding alternative sources of income as well as changing in dietary composition of a household are registered on one hand as impacts. However they are also registered as coping mechanisms of households to several other impacts. Some of these processes also have a direct impact on coffee production.

These interactions will be discussed further in following subsections of this thesis. In my opinion this complex interaction between impacts and coping is a tango that coffee farming households are continuously engaged in. In conclusion what we address as an impact at one point in time of a household is likely to be the coping mechanism of that household in another point in time.

Table 5: Table Showing the Complexity of Impacts and Coping

KEY: F = Female; M = Male; Prod'n = Production

Processes (Cause / Effect)	Case 1 (F)			Case 2 (F)			Case 3 (F)			Case 4 (M)			Case 5 (M)			Case 6 (F)		
	Impact	Coping	coffee prod'n	Impact	Coping	coffee prod'n	Impact	Coping	coffee prod'n	Impact	Coping	coffee prod'n	Impact	Coping	coffee prod'n	Impact	Coping	coffee prod'n
Loss of labour through death of an adult	X		X	X		X										X		
Loss of labour through long illness	X		X	X		X	X		X	X		X	X		X	X		X
Loss of labour by taking care of the sick	X		X	X		X							X		X	X		X
Loss of agricultural production knowledge and skills of doing trade	X		X	X		X	X						X		X	X		X
Poor health, long period of sickness	X			X			X			X			X			X		
Non consistent (on and off) education	X	X		X	X											X	X	
Children dropping out of school				X	X					X	X		X	X		X		
Reduction of crop production and cropping area	X	X	X	X			X	X					X	X		X	X	
Change of crops grown to more staple food crops	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X
Growing labour extensive crops	X	X		X	X		X	X		X	X		X	X		X	X	
Low nutrient intake by affected individual	X			X			X			X			X			X		
Have a full meal (high in protein) before taking ARVs	X	X		X	X		X	X		X	X		X	X		X	X	
Taking on agricultural production and household roles by children	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X
Women taking on roles of men and vice versa	X	X	X	X	X	X	X	X	X	X	X		X	X		X	X	X
Selling off coffee plantation	X	X	X	X		X										X	X	X
Increase in medical expense and expenditure on drugs	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Got tested for HIV, receives free ARVs, talks about HIV status		X			X			X			X			X			X	
Increased income base by increasing income generating opportunities	X	X		X	X		X	X		X	X		X	X		X	X	
Joined FG to access benefits of the group (trainings, inputs)		X	X		X	X		X	X		X	X		X	X		X	X
Use cheap labour from students for land opening	X	X					X	X		X	X					X	X	
Shifted from selling *Kiboko* to fresh or partially dry cherries	X	X	X				X	X	X	X	X	X				X	X	X
Borrowed money, from a friend, micro-finance institution or VSLA	X	X					X	X					X	X		X	X	
Changed dietary compositions (use of cheap protein source like silver fish)	X	X		X	X		X	X					X			X	X	
Use of energy saving agricultural technologies (spraying, intercropping)		X	X		X	X		X	X		X	X		X	X		X	X
Use of low standard education or not pursuing high school education	X	X		X	X		X	X		X	X					X	X	
Growing of alternative income generating crops	X	X	X		X	X	X	X	X	X	X	X	X	X		X	X	X
Total of ratio (processes that affect coffee production / processes)	12/22	10/19		8/19	6/15		7/18	8/17		5/15	6/15		5/17	4/14		10/23	9/19	

Source: By Author

5.2 Impacts of AIDS

In this subsection we discuss the various impacts of AIDS on the household, the various components of the human capital, gender and coffee production.

5.2.1 Impacts on the Household

All the six case studies that participated in the research noted that AIDS had a serious impact on their household. The main areas that focused on in this thesis research are human capital, gender roles, and coffee production. All the informants noted that the aspects of an interaction between declining coffee production and AIDS existed. UCA, UCDA, and NUCAFE informants noted that even the aspect of main streaming HIV/AIDS is still to be conceptualised. A key component that was noted during research was that AIDS affected very much the financial base of the household thereby affecting all other components, however all the impacts stemmed from the impacts of AIDS on human capital. An informant from UCDA describe agricultural sector as being characterised by "Peasant Agriculture", producing for daily usage and less for tomorrow. All case reported that they lacked finances to avail themselves with medication, food, and even transportation to the health facilities. As we note from the following quotes:

> *Case one: "I endured the distance and the costs involved—transport and meals—many times so that I could get medication." …*
>
> *Case two: "There are times that we were really poor, I would not even go to the neighbours to burry if they had lost someone, because I did not have suitable clothing."…*

As soon as the head of the household fell ill, and since s/he was the main bread winner also the income source and income itself was affected. Yamano (2007) noted similar findings that AIDS led severe and/or even permanent financial losses to the household especially after the death of an adult. This is mainly because the main breadwinner of the household is of a productive age.

5.2.2 Impacts on Labour

Out of the six cases, four cases lost labour sources permanently through the deaths due to AIDS, while for all the six respondents during the time they suffered from AIDS and were not being able to proceed with several key duties like farming and providing for the household members. Most of the persons that died were of the active working age—30 – 49 years—which meant loss of the energetic person, even those who did not die but got AIDS also fall in the same age bracket. For example, In all the six cases the respondents range from the youngest is 37 years old and the oldest is 45 years old. This is a very productive and energetic age group in Masaka. Bollinger and Stover (1999) argue that the loss of an adult in their productive years will affect overall production, this may include loss due to illness and that families tend to remove children from school to increase on the labour available in the household. The last component of removing children from school was contrasting with the findings of the research, most of the household tried all means necessary to have their children stay in school including accessing the help of relatives. However, children did leave school to look after their sick parents. An informant from UCA agrees that there is a huge reduction in labour, however, he does not attribute it to AIDS as other researchers say. He agrees that household rely heavily on household labour, however, the reduction in labour is due to the youth migrating to trading centres and cities in search of jobs. He adds that this is

mainly due to the cultural upbringing of especially the males in Masaka, where men have to leave home every day to work go and do work somewhere other than at home like engaging in commerce and trade.

Labour was not only lost through the death of a household member but also through time spent in looking after the sick. Four cases (cases 1, 3, 5 and 6) in this thesis reported spending a lot of time in treating and caring for the sick. All cases also reported falling sick for a period not less a month, a very significant setback on labour availability in the household. AIDS impacts labour severely by death of the energetic able bodied persons, falling sick due to AIDS related diseases as well as devoting time and attention to take care of the sick (Beraho, 2010, Rugalema et al., 2010). However, all the cases indicated that when the respondents recovered, they intensified their work though they worked for a limited time so as not to strain their health as well as involving all the children in the household in farming and marketing practices. Niehof and Price (2008) also note that household children take on farming responsibilities because to the ill health or death of their parents. The death of a household member is most severe because it also means a huge loss to the household in knowledge, skills and experiences that the dead person had accumulated over time.

5.2.3 Impacts on Knowledge And Skills

Coffee farming is men's dominated crop in Masaka. The loss of a man in a coffee farming household meant loss of a vast amount of knowledge and skills. For example case six indicates not only loss of coffee farming knowledge but also fishing, and poultry trading knowledge and skills. Case six illustrated an example a parent passing on knowledge and skills to their children. In this case the father-in-law is a fish trader and so was his son (husband), however, he died before such expertise could be passed onto his children. Both case six and one also illustrate men dominating coffee production and not involving much of their women, which upon the death of the men led to decline in coffee production. Cultural norms restrict women's access to information and knowledge, it is important to identify these immediate barriers so as to empower the women (Gupta and Weiss, 1993). A woman extension worker (informant) says that most women have been brought up knowing that anything that concern commerce and cash crops (coffee, vanilla and trade) is for the men. The death of a productive age adult results in loss of expertise, experiences, knowledge and skills learned and accumulated over time (Monica, 2008). The research was in line with Monica's findings, however, all the six cases indicated that after having counselling sessions, they engaged their members of the household even much more in all household activities. The children in these household, had more life skills compared to their counterparts. This two was in agreement with Niehof and Price (2008), they also noted that orphaned children were more knowledgeable than non-orphaned children. This was observed more specifically in case one and six, where young children of ages 11 and 12 respectively were equipped with life skills and could look after their siblings and parents during the times they were not in good health.

5.2.4 Impacts on Health

Having a person with AIDS means continuous visits to the health/medical centre or drug store/pharmacy. Every visit to the health or drug facility means more money to spend. households spend almost half of their entire income on health services. In case two, the second husband does not respond positively to ARVs, they (second husband and wife) assume that the first husband's in-laws were be-witching the second husband. The household was already poor but end up spending more UGX 700000/=, and to-date it still owes the witchdoctor UGX 300000/= (money) for services rendered. This meant more expenses for the household. Other forms of treatment include use of traditional

healers, and purchase of drugs from drug stores, however, failure to respond to treatment results in accusations of witchcraft as Bond et al. (2002) claim. Foster and Williamson (2000) postulate that a person who talks to another about their impending death exposes them to charges of witchcraft. A representative of the government coffee body and the farmers representatives (local council and organisations) affirmed that many people in the rural community still believe that AIDS is caused and can be treated by witchcraft despite the sensitisation programmes that are going on.

All household reported high costs on transportation, getting medication or check-up, even getting supplementary drugs when the health centre did not have nor had less. case two explains that in the initial days of starting to receive ARVs she had always to go with the *Kiyambi* who would aid and monitor her drug usage. This meant double costs yet transporting a single individual to the health facility was costing UGX 18000/=. Case five and six note of the health facility having a shortage on—ARV—Drugs ("Septrin"), so as to sustain their health they had to buy extra medication from drug dealers where the costs were so high. From UGX 1000/= for a single drug to UGX 5000/= a packet. Russell (2004) agrees with these findings. He notes that the costs households incur due to illness are high and dig deep into the household income to provide the necessary health care. Case five elaborates that sometimes, he would call onto fellow group members especially the chairperson who would provide supplementary drugs for at-least one week. Sumartojo (2000) argues that providing treatment in prevention of AIDS, requires behavioural interventions such as education, counselling and testing, small group counselling and skills development, and information provided by peers in the community context. The three counsellors interviewed agreed that for the new drug users whose CD4 count is higher than 250 per count are given Septrin. However, those receiving their monthly drug supply from up-country at the HC-III are given drugs for two weeks and told to return after that time because the HC-III gets drug shortages. They elaborate by noting that they have grouped all their patients (clients) receiving ARVs to ensure collaboration and information sharing among fellow HIV+ and AIDS patients.

5.2.5 Impacts on Education

During counselling session households are encouraged to educate their families about AIDS. All the households reported having open conversations and discussions about AIDS and how to mitigate it. The household heads believed that by educating their children, they reduce their rates of being exposed to risk. With education on business training and HIV/AIDS, the numbers of AIDS cases and HIV infections are likely to reduce (Kim and Watts, 2005). In line with Kim and Watts, all household reported engaging directly all members of the household including children in managing the family's sources of income.

However, at points where the household were most vulnerable is where the most devastating impacts were felt; in four case-studies children dropped out of school. Case six illustrates an example of a the girl-child got pregnant and moved to her boyfriend's home—got married—due to low school dues mobilisation at an early age of 18 years. In case four, the girl child's illness cannot be determine despite trying all the available treatment options by her father. While cases one and Three exemplify children losing concentration during their study. Specific to case three, she indicated that her children were being bullied at school of how she mother was going to die. Gachuhi (1999) argues that most of the children drop out of school because the parent has AIDS or the girl is pregnant and/or going to be married off, even to aid in generation household income. A similar scenario is observed in case Two where a daughter drops out of school and is working as a house-help in the city. She sends money home to help

with the education of her siblings as well as household requirements. In the labour section Bollinger and Stover (1999) argued that children dropped out of school to increase on the available household labour. However, case one notes that the child does not concentrate in class because he has to return home and check on her health as well as prepare a meal for her and his young sibling. This related to the roles that the child has learnt from Margaret. Her being a role model, the child has learnt skills—like in subsection 5.2.3—of a care giver and wants to ensure that his family healthy and well fed, thus not being to concentrate in class when Margaret is sick or weak.

5.2.6 Impacts on Nutrition

Banana is the main staple food crop in Masaka, however, due to AIDS illnesses the gardens have been poorly managed and there are incidences of BWD compounded with drought, the household have had to find other alternative food crops. All six case-studies reported growing Maize and beans due to rapid growth and quantity accrued from the yield. They also indicated growing cassava for food security because of its draught tolerance. All cases indicated a change in the nutritional composition of their food. Five of the six case-studies reported they no-longer have beef on their menu due to its high cost, while four case-studies reported reducing their meals from four to three—including breakfast—because of limited food availability. One severe respondent is case five; he sometimes goes to bed without food, the quality of food he eats is not nutritious (*posho and beans or sometimes cassava only).* I have interacted with him for three day but his is very small and appear weak, though mobile. This is compounded by the lack of income to buy food for consumption let alone land to grow food crops. Poor individuals are most vulnerable (Gillespie, 2008). Individual's resilience to disease depends on his immune system, which is also affected by nutrition. Nutritional deficiencies lead to low absorption of food nutrients in the body, while a lot if passed out through faecal matter and this increases and individuals susceptibility to AIDS (Gillespie, 2008). The two counsellors from Kitovu Mobile noted that there organisation has been working with PLWHA, training them on easier and sustainable ways of providing themselves with additional nutritional requirements like vegetables for home vegetable gardens.

In cases one and three they own their land, I witness a reduction in the cropping area, because they could not manage to cultivate it all at once and concentrate on what they can cultivate as well as maintain free of weeds. In case one land has been left under fallow to grow crops on the piece that is manageable to weed and plough. She is no longer growing yams and pumpkins like she used to. While in case three, land under coffee production has been reduced and planted with—cassava—a staple food crop in preparation for famine. This is mainly because of the limited labour availability in both cases as well as food provision being a priority in all cases in this thesis. Donovan et al. (2003) state that the land used for cash crops reduces and so is crop diversification. The household focus on growing staple food crops, however, because weeding and insect prevention is low, this results in reduced yield attained from the crops.

Three case-studies also indicated growing less labour intensive crops that require less management, however, they only grow crops like sweet potato when they have funds to hire labour. Before taking medication—ARVs—all the cases noted that they have been recommended to have a high protein meal, this has strained their incomes even further. This was also confirmed by the three counsellors from TASO and Kitovu Mobile, they noted that AIDS patients require a lot more nutrients than their healthy

counterparts. Gillespie et al. (2001) also argues with the same line of thinking that AIDS sufferers require higher protein and energy content meals to counter the low absorption rates in the body. Case Four did not note of any nutritional problems, though he grows cassava to guard against famine. Being the only person staying in his home, he is able to provide for himself as well as perform the roles that would have been performed by the female gender.

5.2.7 Impacts on Gender and Gender Roles

All the six case-studies were single parent headed households. Case-study three is a special case, the husband was still alive but has never involved himself in the lives or affairs of the household. Cases Four and Five are male headed households, both have never married, the live alone and they do all female related roles in their household. Case one, two and six are widowed women, they have struggled after the loss of their male counterparts to cope to the roles that were being performed by their husbands. These two cases illustrate the burdens women with orphans go through to avert the impacts of AIDS. In case Two, property, land, and farming implements were grabbed and some sold while in case Six; she is looking after her daughter as well as her grandchildren and yet her daughter-in-law stole her—UGX 80000/= savings—money meant for her use on her house. These findings are in agreement with De Waal and Tumushabe (2003), who emphasis that the burdens of responding to the impacts of AIDS fall upon women the most. They explain that widows with dependants and children become trapped in poverty through the loss of land, labour, inputs, and credit and support services. A local council informant said they are targeting and organising women in groups because they do most of the household work, while the farmers' forum informant said that the programmes being implemented are more geared towards empowering women.

Because they are the heads of their household, they do all the roles of the opposite gender in the household. Case five in this case has met a huge challenge in providing for himself food to eat, he spends a lot of time away working on his charcoal burning sites or wage labour and when he return home he hardly has anything to eat. He has resorted to preparing *Posho* (maize meal) because it is easier to prepare but less nutritious, he takes it sometimes without soup. While Cases one, two, three and six because they have orphans with them, they have worked with them in all duties. The children have learnt the roles performed by both gender, this is attributed to the high degree of openness and discussion between the children and the adults. Logan et al. (2002), argues that the behaviour and interpersonal relationships between men and women is defined by their gender roles. Especially the household's where the men did much in the coffee production process, the women had to learn these roles so as to become more resilient. Since coffee is their main source of income, and a decline in coffee production meant a decline in income.

5.2.8 Impacts on Coffee Production

Many of the factors that would have been presented in this section have been already discussed in the sections above like labour, health, and knowledge and skills. The remaining factors that are to be addressed in this section include: Coffee being man's crop, loss of a man in the household is detrimental to coffee production. Case two indicates how the death of her husband due to AIDS related diseases led to the grabbing of their coffee garden and later sold off. This has been discussed in the "*gender and gender roles section"* above. All the informants confirmed that coffee is highly dominated by men, and yet much of the maintenance of the coffee garden is done by the women. They note that when

a man dies from a household, women find it difficult to adjust to the change in roles because of their low involvement especially in the marketing part of coffee production.

Cases one and six indicated the selling of part of their coffee garden to raise money to treat the sick or treat them. As a result of distress, households sell off some of their productive assets like land (Niehof and Price, 2008). This is exactly true with the research findings, these two households sold their land were under distress, even though this meant that they were losing their main source of income. A key informant from TASO notes that by the time patients come to get registered and get started on ARVs they are in very poor health conditions and have sold most of their assets like land and animals to raise income for treatment from clinics.

Because food for home consumption takes priority, when a coffee garden loses coffee trees to CWD or CTB, the spaces created in between coffee trees are replaced with food crops—like cassava—that is provide more food security as well as intercropping the coffee garden with beans to maximise on the cultivable land. The reduction in land being used for coffee production as noted in the section of "*Impacts on Nutrition*" is further compounded by an increase in fallow land and proliferation of diseases pests and weeds. Case four provides an interesting turn of events, he intensified growing coffee when he was told that he was HIV+. He has kept himself busy in the coffee garden, because the counsellor told him that worrying is one component that breaks down the human immune system easily. He attributes all his children's education to the money got from the coffee he planted then.

5.3 Coffee Production in the Household

In this subsection we discuss the intrinsic factors that are contributing to the decline in Masaka. In all six case-studies the household noted that coffee was their main source of income, though other food crops and other income generating crops like pineapples are being grown to increase the household's income base. It was also noted that the funds accrued from coffee sales being the main source of income were largely meant for education of the children in the household and savings for future urgent use. This is in line with Sayer (2002) who states that for many people in Uganda, it is funds from coffee that paid for their education. Most of the plots of the case-studies are between one to four acres of land. This was found to be divergent from what the Ministry of Agricultures states that small-holders have plots less than 0.5ha in size (MAAIF, 2011), thus if small-scale farmers are the majority of producers of coffee having a land size larger than what the ministry has in its record might indicate even greater declines in coffee quantity. As Keane et al. (2010) notes, coffee being a poverty alleviation crop, greater losses in coffee production indicate increase in poverty, this leave make household vulnerable, susceptible to AIDS, and less resilient. However, the findings were almost similar to those of DENIVA (2005), that estimate an average small-holder land size of five hectares. An official from UCDA describes Masaka's coffee production as a farming system returning to peasant agriculture type of farming that can only sustain daily lives without planning for the future.

Causes Of Decline In coffee production

This subsection deal with the decline in coffee quality and quantity. Several factors have been noted with the six case-studies as well as through interactions with informants. In this case the informants echoed what the household head had mentioned during the case-study interviews. Some of the factors

intermix leading to a decline in both quality and quantity. All the six cases studies noted that a decline in coffee production was mostly related to poor management, this occurred while they were hospitalised, ill or weak during recovery from AIDS and undergoing treatment. Three informants (NFF, NUCAFE, UCDA) all field based, note that when farmers get AIDS, they abandon long term goals such as investments and perennial crop production and resort to quick yield and early maturing annual crops. When time is short regardless of age, people concentrate on what is important in their lives. The make emotional based (short-term) goals (Milam, 2004). However, case four present a different turn of events. He notes that when the received his testing results, counselling and advice from older clients (patients) of TASO, he intensified on coffee production to keep himself not only health but also busy to ensure a future with a sustainable income. He says that, he has made plans for 25 years ahead. To ensure this, he has bought a new piece of land that he wants to plant with coffee as well as replanting in the old coffee fields. He is also constructing a coffee store behind his house.

Lack of women involvement in coffee production. Cases one and six provide a good example of where coffee production decline because their husband to charge of most the coffee production roles. Case six notes that she had to learn from experiences with traders and fellow group members about coffee trade. A female informants (UCA and NFF) note that women are pulling away from coffee production because they are not benefiting from the profits accrued from the sales. The emphasis that men engage other women (concubines) after they have sold coffee, only to return home when they no longer have money, case six reported similar incidences occurring before the death of her husband. The major key component is the poor women involvement in coffee production, where the man does the marketing and is not transparent about the funds got from the coffee sales. This has led many women to “steal” coffee from the garden and sell it to traders without the knowledge of their husbands. The NFF informant argues that this is because of poor gender involvement, while informant with farmer groups experiences attribute it to lack of gender equity in the coffee farming households. A UCDA informant clarifies that women are the biggest labour source available in this peasant farming system, without their input production goes down. This is affirmed by Barany et al. (2001), they state that 70% of agricultural production labour force is provided by women, and that in a household where a husband is sick, there is a reduction in time spent in agricultural production roles by 60%. Case three, provides an interesting scenario, due to lack of involvement of her husband in household duties she has managed her coffee production and is fully empowered. Because coffee production is her main source of income she has engaged coffee traders every day of business without prejudice.

A female extension worker and informant notes that women do not own land. She adds that unless a woman has been educated and empowered to own land she will not engage into perennial crop production (long-term investments) because the land owned by the man is mostly claimed by relatives and children. Case two illustrates this, she is evicted from her marital home with her children and their land is grabbed and sold by her in-laws including their coffee garden. Ellis (1996) emphasises this by stating that women do not own land and access to productive resources is only possible through men. However, all female case studies noted owning land that they either inherited from their grandparents or were given by their parents.

All the coffee informants agree that coffee is owned by the elderly. The lack of youth involvement in coffee production has contributed to its decline. Informant from UCA clearly states that the youth from

central region look down upon farming. He relates it with cultural trends because they have seen their parents long before they came of age going to towns to work while their mothers worked in the gardens. He adds that the youth prefer to ride *Bodaboda* in towns than to go back and dig, they want a quick and immediate income. However, Case four is contradicting this information. He says that because he is not energetic he involved his children and they do most of the heavy duty work in coffee production. He adds that their grandparents have given them plots of land where they grow annual crops to raise money for their upkeep.

A NUCAFE and UCDA informant note that lack of labour and time saving technologies has also contributed to the decline in coffee production. They state that farmers are faced in continuous struggles against rapidly growing aggressive weeds, and a high intensity of destructive pests and diseases. These have increased because the farmers do not have enough labour to control them, are still using rudimentary, time consuming farming implements and methods. This is typical of peasant agriculture, another informant states. This is noted in all case studies that they were in a continuous struggle with diseases, pests and weeds ever since they were ill with AIDS, however, they have resorted to spraying and intercropping to control weeds.

Urgent need for money has affected coffee quality drastically. Due to limited labour availability and with several factors that require monetary solutions, farmers have resorted to marketing freshly harvest or partially dried coffee. Case three and four are good examples of farmers who have a good source of income and would not rush in for money so as to maintain the quality. However, despite them practicing GAPs, they say coffee traders have put many penalties on dried coffee therefore the best way is to reduce the penalties by selling off their coffee upon harvest or as soon as a trader is available. The three counsellor informants also noted this, saying that PLWHA are always faced with financial problems especially if they have not yet been signed up to receive free—ARV—treatment. An informant from NUCAFE blames all this on liberalisation of the coffee industry that left the sub-sector without stringent coffee laws to curb such bad practices. This emphasised by the UCDA field informant, too.

A high incidence of pests and diseases; where CWD has destroyed very much coffee. All the informants from the coffee organisations said that the destruction of coffee due to CWD is over 50%. CTB is a pest that respondent noted with concern, they claimed it to be more destructive than CWD. An LC, NUCAFE and UCDA field based informants noted that CTB is more aggressive and is spreading rapidly. Uganda has the highest incidence of CWD of over 44.5%, and over 90.3% of the farms in Uganda are infested (Oduor et al., 2005). Unless research can multiply CWD resistant coffee planting materials, more coffee farmers are going to become vulnerable making them susceptible to HIV.

Other factors that have contributed to the decline in coffee production included; farmers replacing coffee with alternative income generating crops like vanilla and pineapples, poor soils and low soil fertility, changing weather patterns attributed to farmers cutting down virgin forests to grow pineapples, long droughts, un reliable rainfall, poor quality and expensive agricultural inputs as well as farmers loss of morale in coffee production due to fluctuating coffee prices. In his research, Nsibirwa (2010) also hinted on similar factors affecting coffee production. Case two hinted that the coffee land was sold off and a house built which reduced their coffee production to minimum, while case five noted that the coffee plantation is mainly taken care of by his elderly uncle.

The factors mentioned above also attribute to the decline in coffee quantity and quality. However, certain key factors were mention throughout the research as leading to the decline in coffee quality. Other factors include; lack of coffee specific training and market information, old age coffee trees, farmers having the traditional and small berried Nganda coffee variety, poor quality seedlings that are picked from the farmers gardens themselves, traders buying freshly picked cherries from farmers and mixing them with already dry coffee cherries ("*Kiboko*"). Case three noted with concern that some traders deliberately add water to *Kiboko* to increase its weight on their way to the coffee mills. Finally traders who have continuously cheated farmers have led to the farmer's loss of morale in the coffee crop and not caring for it any more. UCDA (2011a) also noted similar factors leading to the decline in coffee quality and quantity.

5.4 Coping Mechanisms Of The Household

In this section, this thesis illustrates how coffee farming households have been able to cope to the impacts of AIDS while facing a declining production in coffee. Households have taken a series of responses, random but not planned out, some were immediate while other were as a result of further impact. Some of these responses were also directly influenced by the availability of community assets in the neighbourhood of the household, which created an interaction with them. These responses mostly dealt with the need to ensure the sustainability of human capital. There most immediate response is coping to AIDS impacts on labour, knowledge and skills, nutrition, health, education and coffee production. The responses to the impacts of AIDS on gender and gender roles seemed to be involved in many of those mentioned. Some of the general responses that the households have include:

During the time that the household respondents had AIDS, they moved to stay in their parental family to receive care and support. They moved with their whole families who were mainly composed of children. Evans (2005) also argues with the same line of thought that the movement of household members is mainly in search of care and support to ensure the survival of the family. Households have done several activities to increase their income base especially the women headed household that engaged in provision of wage labour, piggery and poultry projects as well as making a variety of baskets. All the respondents in the case-studies admitted to joining and are members of a group be it HIV/AIDS related or for access to organised farmer benefits and even access to the much needed financial credit. Borrowing of money to access wage labour, purchasing of seed, and clearing of weeds or adding of fertilisers in the fields was also important. Even after the household heads had recovered from AIDS, their relatives took away and cared some of their children and helped to look after them as well as ensuring their education.

In to respond to labour requirements, the households are employing several strategies. Children of the household are trained as they practice directly with their parents in most of the agricultural and household activities. In Case six, a 12 year old girl child is taking on agricultural production roles as well as doing wage labour to increase household income and ensuring food and financial sustainability. The relatives of the affected households still come in and offer not only financial support to hire labour but also they provide the much needed labour. All the six case-studies agree that they utilise labour provided by relatives, Case two, three and six in particular, their sisters provide them with the much needed labour and support. This is in correlation with Preez and Niehof (2008) who state that women

are not only dominant in providing labour but also could be attributed to their roles as care givers. In order to compensate for the lost labour, household heads are increasing their work load. However, this was done taking their health as a matter of priority in consideration. They are also adopting the labour and time saving methods like spraying, practicing zero tillage, and intercropping to control weed while conserving soil moisture. Special to Case three, she is using wood-fuel saving fire place in her kitchen, thus saving not only on funds to buy firewood but use less wood to cook for a longer period of time, she adds that food also cooks faster with her improved cooking place.

It is through working as a family that the children in the household improved their agricultural production knowledge and even learn new skills. Knowledge and skills have been passed on to the children, where all the households are grateful to the life sustaining drugs that provided the opportunity. Five out of the six case-studies confirmed that their children had acquired life-skills after having suffered from AIDS or its impacts. The children are more skilled and knowledgeable in all the household's productive and reproductive roles. Niehof and Price (2008) also demonstrated this in the impacts section of this thesis.

Young children of 12 years, are skilled enough to prepare a nutritious meal for the lunch without the supervision of an adult. The nutrition of the household has reduced to basic but substantial meals. Provision of animal protein has been reduced, however, household have adopted the consumption of *Mukene* which is mixed with beans or groundnuts as a substitute. All the case-studies reported growing of beans and maize because of its quick maturity supplementing it with cassava because its tolerance to drought. These crops were grown to ensure food sustainability. TASO and Kitovu Mobile counsellors also admitted that during the counselling sessions farmers are encourage to have more protein and starchy foods but also be able to get them from the household resources. They recommend each patient to have a meal at-least before taking his or her ARVs. Local churches (FBOs), CBOs and NGOs like TASO and Kitovu mobile provide food supplements to household taking care of PLWHA or quality improved and high yielding seed for planting.

All respondents in this thesis are thankful for the life sustaining drugs—ARVs—they have been taking and continue to take. Their health status was so poor that most of them believed that they reached the point of death. Fortunately when they got AIDS they talked to their relatives and members of their household, who have continuously helped them in various ways as noted in coping to labour shortage. They ensure that they take their medication on a daily basis and timely. Even the children time and again check on the adults to see if they have taken their medication. This was reported in all case-studies apart from case-study five. Yajima et al. (2010) argues that by patients letting their family learn about their status is a turning point in their lives this is further strengthened by them joining support groups. This was indicated in the coping to labour paragraph, too. An interesting scenario is presented by case four, having been informed that worrying was part of the leading causes of AIDS. He planted and spends more time in his coffee garden where he feels relaxed, and when the children return for term holidays, he takes a holiday leave from coffee work and leaves the children in charge.

The education of the children is still a challenging part of most of these household. Relatives have taken away some of the children and paying for their education. Specific to case one she has approached and talked to the head-teacher of school to allow young Godfrey to study as she pays the school dues in instalments. She explained to him in details her condition and he agreed to do so as long as the school

due to not get carried over to the following term of study. For case two and six, TASO has helped in financing their children's education. Edward of TASO confirmed this, saying that they support children from extremely poor household not only those affected directly but also indirectly by AIDS. The efforts of the household's relatives and TASO are strengthened by Gillespie et al. (2009) emphasising that children lacking education will be exposed to a great risk of getting HIV infections. Case six has enrolled her daughter—Francesca—in a UPE school. She says the quality of education is not good but she can meet at-least the school requirements thereby her child accessing education. In Uganda 54% of the children do not attend school due to calamities in which AIDS also falls. However, through UPE the percentages of children who do not attend school for costs reasons has dropped drastically from 71% to 37% but with difference in rural and urban areas as well as regions (Deininger, 2003). Deininger (2003) argues that the large increase in attendance was not matched by employing extra teachers by government leading to a decline in the quality of education. Before NGO's and CBO's come in to support the children of the household, the extended family is the basis for care, support and education of the children.

In order to cope to the declining coffee production, coffee farming household are attempting several approaches. Foremost they have increased on soil cover by planting legumes in the coffee garden to control the infestation of weed as well adding nutrients in the process. This has also helped in conserving soil moisture, a requirement that is essential for a good coffee yield. This is in line with DaMatta (2004). He emphasises that unfavourable climatic conditions particularly limited water affect coffee yield drastically. He adds that drought it the major environmental stress affecting coffee production. Due to the lack of improved planting materials, through their groups they have submitted formal requests to UCDA to provide them with the high yielding, drought resistant coffee seedlings. In the meanwhile five out of the six case-studies—apart from case five—mentioned having selectively picked seedlings growing underneath the existing coffee trees to replace those that have died out. A NUCAFE informant also noted that some of the farmers go to the forest to pick those coffee seedlings dropped their by birds. While the two UCDA informants agreed that coffee seedling distribution is now on demand basis and through formally recognised groups.

The coping mechanisms adapted by these coffee farming households and many others that have not been discussed in this chapter have been adopted through a continuous interaction of the household and its environment. The community assets in surrounding these household have enabled them to cope to the impacts of AIDS. For example; case one learnt about piggery and poultry management and vaccination from her neighbour and fellow group member (See Annex 1, Figure 9); Just like case one, case three also learnt basket weaving from a fellow group member (see Annex 1, Figure 11) and gets her raw materials from neighbouring natural resources (grass land and swamp land as shown in Figure 8); Case six gets her supplementary drugs supplies if there is a shortage at the HC-III she buys supplementary medicine from a drug hawker (Mugejera) instead of traveling to Masaka (See Table 6 in Annex 4). The household have adopted the coping mechanisms that are useful and abandoned those that are not beneficial. Through their interactions as community members or members belonging to the same group they have shared this information, spread a network of collaborators, information gatherers and breeders of information sharing. The map (Figure 8) is a sketch representation of community assets in Kyanamukaaka sub-county that are benefiting the Ani Yali Amanyi HIV group.

5.5 Community Assets Mapping

From the case-studies, observations and focus group discussions a community assets were identified and classified (Table 6), a community assets map was developed (Figure 8). Through the group discussion these assets were identified in order of importance. SASA (2009) describes this as creating a circle of influence to generate a critical mass that can effect real change. Through group discussions the group members identified members of the community starting with themselves identifying skills they have and could teach others, followed by family members and relatives, and then members of the community including organisations and other resources like natural assets and built assets.

The group and those household that participated in the case-study by identifying the strengths and abilities within themselves and those around them in the community came up with the two asset maps (Figure 8 and Table 6). Table 6 was developed during the focus group discussion. This allowed them to feel wonderful of what skills, expertise, and facilities their community had that were essential in aiding them to cope to the impacts of AIDS and the declining coffee production. Lack of access to household and community assets hinders household strategies to cope to the impacts of AIDS, especially where it can greatly influence access to health care and related services that are critical to human capital (Obrist et al., 2007). In all case-studies respondents talked of having approached a neighbour or a friend, a trader and even a relative (family member) for support in one or another.

The majority of the group members in the discussion including cases one, three and six agreed to having received a loan from a trader to help them solve an immediate problem. Case one has built a strong relationship with the baskets trader in that he leaves her with money for the ordered baskets. However, all group members were furious about the SACCO in Kyanamukaaka, the lamented that they borrowed money for three of their group members to start up income generating projects but they ended up paying so much money than they had agreed upon and they have never gone back for a loan. Mosley and Rock (2004) argue that SACCOs are for the poor through which poor individual benefit from as a result of linkages through households and generations. They add that SACCOs enhance human capital through increased expenditures on education and related improvements in health. The participants concluded the Table 6 with aspirations they want for their community, these are noted in chapter 4 - section 4.3.

Further in the discussion a sketch map of Kyanamukaaka highlighting the two parishes of Kyantale and Kamuzinda with assets identified during the transect walks was presented to the group members to point out which assets they utilised and accessed. Many of the participants noted the use of UPE and USE government funded school despite them claiming that the education standards were lower than in privately funded school. They also accessed health services from the HC-III (See Figure 8). HC-IIIs have brought health services closer to the poor. Women utilise health services more than men and the poorest have a greater access when they are in the neighbourhood of a health centre (Nabyonga et al., 2005).

Chapter 6 Conclusions and Recommendations

In this chapter this thesis focuses on conclusions and recommendations. The conclusions are drawn from the results and discussions held about the findings in the research. The conclusions are presented in two formats that is to say those drawn from the impacts of AIDS and others drawn from the coping mechanisms. While recommendations are what are proposed the organisation where the researcher works shall do to empower the coffee farming households to cope and mitigate the impacts of AIDS on the household's human capital as well as coffee production.

6.1 Conclusions

Coffee farming household have been impacted greatly through loss of labour, time, knowledge and skills resulting in re-allocation of roles. There has been a change in the nutrition composition; households are opting to grow labour extensive, drought resistant and staple food crops. In order to sustain the lives of the household members medical expenses and costs have increased as well as maximising and utilising children in labour provision. Specific to female headed households, they are taking on more roles especially increasing their income generating opportunities, joining farmer groups to gain benefits that come with the memberships as well as taking care of orphans.

Women are the main source of labour. They are adding value by intercropping and practicing GAPs. Through their networks and groups they are accessing knowledge and skills, and market information which they are using to manage production and increase their income.

There is a decline in coffee production. This attributed to a reduction in management practices due to AIDS, which has led to an increase in diseases, pests and weeds. Coffee production is also facing a stiff competition for early maturing, income generating crops like pineapples that farmers are opting plant. Due to lack of sufficient food, farmers are replacing dead coffee trees with food crops. Women lack access and control over land to engage in coffee production, while those who have access and control are being cheated by coffee traders. The men are promoting poor coffee quality by selling freshly harvested or partially dried coffee berries; this is enhanced by the traders competing aggressively for the limited crop to meet their contracts.

Despite the fact that coffee farming households have been impacted by AIDS, they have adopted several mechanisms to overcome these impacts. These household have adopted a vast range of coping mechanisms because they have deemed them beneficial to the sustainability of their livelihoods.

The community is well endowed with a vast range of community assets like; groups through whose networks information is gathered and shared, access to credit is possible, and knowledge and skills are learnt; health facilities that avail access to treatment and drugs; educational facilities both private and government sponsored; a wide range of communication channels including roads and a good neighbourhood where neighbours support and share with one another. This thesis has revealed the vast utilisation of community assets by AIDS affected household in their coping processes thus enabling them to become more resilient.

Households are utilising cheap labour and labour saving technologies as well as maximising on household labour. They are reducing on cropping land but intercropping to maximise utilisation of the

manageable land under production. Households are growing more staple crops and diversifying through vegetable gardens so as to avail household members with adequate nutritional requirements. HIV+ members of the household are vocal about their status and are accessing as well as taking promptly free life sustaining—ARV—drugs.

Farmers are replacing coffee gardens with food crops and in new plots they are planting alternative income generating crops. Some farmers have selectively picked coffee seedlings from their garden to re-plant. Women in particular are taking on more roles moving from production and taking on the marketing and value addition roles, too.

Women are accessing and utilising labour saving technologies. They are engaging all household members in productive and reproductive roles thereby through experience they are equipping children in the household with life skills. Through their networks they are learning and using alternative nutritious food sources for consumption. They are also taking with them their children during counselling sessions to learn about HIV and AIDS and encourage them to have their HIV stats known.

Coffee farming household are lacking access to market and market information which is lowering their morale in coffee production. There is no coffee specific extension education, thereby relying on the old farming practices. Farmers need access or linkages to certified quality inputs and suppliers so as to boost their production as well as CWD resistant coffee seedlings for replanting.

Farmers have organised themselves in groups (Farmer groups) to access benefits that come with being organised. However the FGs do not have enough capacity to provide or link their membership to the required services or materials.

In my opinion, impacts of AIDS and coping mechanisms are closely interlinked. A process that would be referred to as an impact on one end is most likely is a coping mechanism to another impact. For example, taking children out school due to shortage of money provides yet another avenue of increased family labour and even the children get to learn several life skills before the passing of the AIDS affected person.

Several conclusions specific to coping mechanisms relating to coffee production that have been drawn from this thesis are listed below:

- Farmers lack savings and immediate cash. In the struggle to solve urgent problems that require monetary solutions, farmers are selling part of their coffee gardens to get money.
- Another issue following the need of quick cash, farmers are selling freshly harvested or partially dried coffee in the pretext of reducing labour on coffee production to coffee traders a practice that has deteriorated coffee quality.
- Due to limited access or unavailability of agricultural inputs, farmers are carrying out good agricultural practices (GAPs) like; practicing zero (minimum) tillage and conserving soil moisture through spraying as well as intercropping to improve soil fertility and nutrient content.
- Farmers are carrying out their role as primary researchers, they are selectively hand picking coffee seedlings from high yielding and big berried coffee trees to plant or re-plant in their fields.

- Widow headed households face great difficulties to take on especially coffee marketing roles after the death of the husband especially if she did not participate much in the coffee marketing process. This has led the traders into cheating them of their valuable coffee and source of income.
- Children of the household play a great role, they are a family's source of labour and their participation in the coffee production systems is important, they are learning from their parents the experiences, knowledge and skills in coffee production.

In this research two new findings were noted and are important to be mentioned in the conclusion:

- Two households noted the existence of drug abuse in the community. HIV+ persons who are taking ARVs are dating unsuspecting persons in the community. This could be one of the reasons the HIV prevalence rate has increased.
- There are cases of stigma in the community where the respondents lived. Despite the fact that the majority of households are affected either directly or indirectly, three case-studies reported the existence of invisible stigma. This will most likely hinder the household's ability to cope and increase its susceptibility to the impacts of AIDS.

6.2 Recommendations

These recommendations have been drawn from the conclusions of this thesis. These recommendations are to draw the coffee farmers' organisation's attention to them, take action, and empower the coffee farming households in coping to the impacts of AIDS and becoming more resilient. This section has recommendations that require immediate action, future desired situations, and lastly areas that have been identified that might need further research.

The recommendations that require immediate attention of NUCAFE include:

- NUCAFE should organise tailor-made coffee trainings that are targeting specifically AIDS affected households, so as to empower them with coping skills. For example labour saving technologies like spraying and intercropping.
- NUCAFE should organise and carryout gender specific trainings to promote gender equality, encourage collaborations and sharing of information between men and women, in the areas of coffee production and marketing, impacts of AIDS, and coping mechanisms.
- Coffee farming is business. In all coffee households NUCAFE should encourage family to engage their children in coffee production systems so that in incidences where a parent dies of AIDS related disease, s/he has got the opportunity to pass on the experiences, knowledge and skills to their children.
- NUCAFE should develop networks with HIV/AIDS organisations working in communities where its membership is located so that their activities re-enforce each other. For example networking with Health Centres, Kitovu Mobile and TASO as well as SACCOs.
- Women have been most devastated by the impacts of AIDS. NUCAFE should design programmes that are specifically targeting women and more so women from AIDS affected households, these programmes should not stigmatise the participants.

- NUCAFE should realise that AIDS has contributed greatly to coffee production decline. It should ensure that all its trainings have a component to address HIV/AIDS to empower its membership to be ready to face its challenges if affected by AIDS.
- NUCAFE should organise and promote activities that encourage children and youth to participate in coffee production like football and drama competitions with a message of AIDS where winners are supported in coffee production by giving them items like seedlings, spray pumps or even improved seed.

In-order for NUCAFE to ensure the sustainability of its coffee business several recommendations are presented for future development of the organisation.

- To start with is gender equality. Women are the main source of labour in the household, empowering them and involving them in all the activities of the household will result into better coping mechanisms. In all its farmer trainings NUCAFE should not encourage but make it a point that household where both a husband and wife (man and a woman) are present should always attend training together. This will reduce incidences of widows whose husbands have died of AIDS suffering great loses or being cheated when venturing into coffee production.

- Secondly NUCAFE needs to carryout HIV/AIDS mainstreaming. Coffee production has declined as a result of the severe impacts of AIDS. By utilising the skills and knowledge attained by its staff, it can implement HIV/AIDS mainstreaming throughout its membership organisations. Through HIV/AIDS mainstreaming, farmers shall receive trainings on HIV and AIDS, its impacts on coffee production and how to cope.

- Thirdly by networking and building partnerships. In order to ensure that the vast numbers of its membership receive what they expect from NUCAFE, it has to network and partner with other organisations like extension education providers (HIV/AIDS and agricultural), micro credit institution and agro-input dealers. It has to create partnerships with organisations that provide services in which it has no capacity.

- This thesis (Chapter 5, section 5.5) has revealed that community asset mapping is essential to AIDS affected households in their coping processes. NUCAFE should carryout community asset mapping starting with a manageable sample size of farmer groups and then expand to associations. Identifying and linking community assets to NUCAFE's assets will result into strong community owned programmes and projects. For example AIDS affected households are usually faced with problems that require immediate monetary solution. By working with coffee farmers and identifying coffee traders who extend financial loans to these households, NUCAFE can train both parties (coffee trader and coffee farmer) to have a sustainable and lasting partnership. For instance Case Six (Ruth) has built this relationship on trust with the trader who buys her baskets.

Lastly, new areas have been identified in this thesis that needs to be researched upon or even that require in-depth research:

- Women provide the main source of labour and yet they seem to be benefiting less from coffee production. A research on the impacts of women on coffee production should be one area of research that should be looked into.

- All participants in this thesis noted that coffee was the main cash crop, however, the research revealed for farmers to cope to declining coffee production that have resorted to growing alternative income generating crop ("non-traditional cash crops"). A research on the impacts of alternative non-traditional cash crops on not only coffee production but also HIV/AIDS affected households is necessary.

- Community assets were found to be an ideal tool for aiding AIDS affected households to becoming more resilient and coping faster to the impacts of AIDS. More research is needed to assess the extent or influence of how community assets with the aid of community asset mapping support or hinder HIV/AIDS affected households.

- ARVs have been noted as important in aiding households to cope to the impacts of AIDS. Further research should be carried to assess the effects of ARV availability and accessibility to coping to the impacts of AIDS.

A recommendation to Van Hall Larenstein University. Despite the fact that developing training curricula takes a long period and the curricula it has to be accredited. This thesis has revealed the magnitude and importance of community assets in the coping mechanisms of AIDS affected households. I recommend that VHL University includes a module on community assets and asset mapping in the training curricula in Master of Development programme.

I end this thesis report but noting that even the though what lurks in the abyss is staring at us, we should not falter, let us stare back. It is a continuous tangle between impacts and coping. In the tango dance whenever you make a mistake you are advised not to stop but to tango along. Let us tango along with the impacts of AIDS and coping mechanisms of coffee farming households.

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Annex (es)

Annex 1 Case Studies

Case Study One: Margaret

Margaret is 37 years old, an HIV+ widow, her education stopped in Primary 6. She is taking care of two orphaned children in her household; Godfrey at 11 and Nakalanzi at 1 ½ years old. She is the chairperson of Ani Yali Amanyi HIV Group. Margaret tells a brief of her story bellow.

> *"I got married at the age of 18 years, to a man who never disclosed his status. He died in 1996 without having told me. That happened after having stayed with him for two years, leaving me pregnant. I went to get myself tested so that I could know my status, however, every time I went for testing but was found negative but when in gave birth in 1997 the child tested positive. The nurses then feared that I would not take the results of status lightly. I insisted that if I am positive they will help me get medication and thereafter be able to look others, unfortunately I lost my child to AIDS. These two children am with are not mine. Godfrey was a child of my brother who died due to AIDS, his mother left him behind when he was 8 months old and now works in Kyotera. While Nakalanzi was left here by my younger brother, she was two months old by then, now 1.5 years old. I was lucky I did not die early. By the time ARVs were available in the hospital, I was tested and my CD4[4] count was 211, and my weight had reduced from 50kgs to 38 Kgs.*
>
> *They journey form here (Kyanamukaaka) to Uganda Cares an NGO that offers treatment to people with AIDS is long, it is over 40Km. I endured that distance and the costs involved—transport and meals—many times so that I could get medication. I got training and counselling because my condition was very bad. The counsellors said that if I got better I would be the one to tell others about my improvement. My mother was against it at first, saying that the western medicine would kill me. Some members of the community also insulted me, but right now I am still alive. When I got better and gained some weight, many men approached me, they wanted me to cohabit with them, but I told them of my status. I saved them.*
>
> *There some people who feared to tell the community about their status but I found them at the health centre, previously they would gossip about my status, however they later felt shy when I found them at the same health centre. They feared that I would gossip about them too, but fortunately I could not do that because many have come to entrust me with their illnesses. I often ask them who sent them, and they refer to a fellow colleague whom I had helped out earlier. In the community they are now referring to me as 'musawo' (a medical practitioner). I make an arrangement with those who want to go for testing, talk to them, and we go together to the health centre for testing".*
>
> *I am ready to help all those who want to know their status. Because of the training that I received about HIV/AIDS, I talk to those who want to get tested and later take them to*

[4] CD4 also known as T-cell are cells in the body that activate the immune response system in the body through signals especially when they detect a foreign body like a bacteria or a virus.

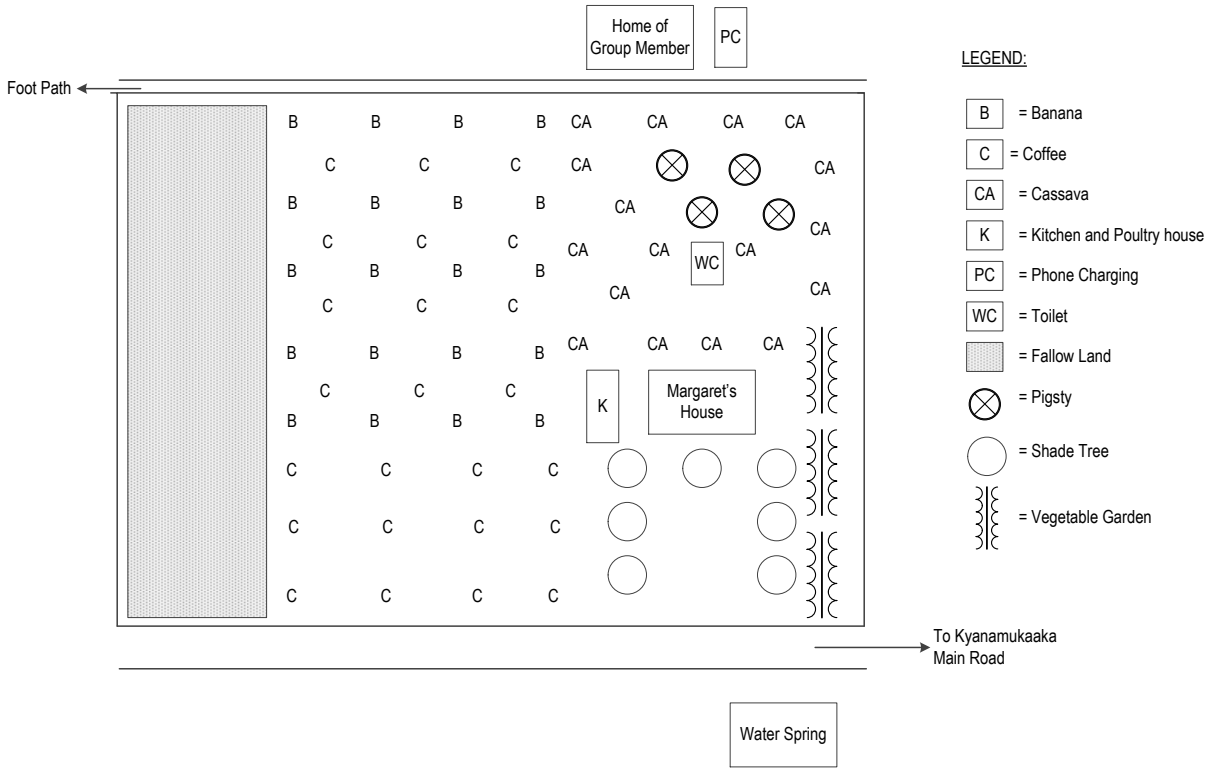
organisations that offer testing and counselling services. I also help most of the new HIV+ patients to stick to the time of taking medication in-fact most of them keep it here with me.

There several members of the community that are taking advantage of HIV+ persons and are use us for their own benefits. These persons (taking advantage of HIV+ people) are benefiting from the fact that some of us are able to speak out openly, they access funding and support because of our status and openness. However, when they get the support they divert it to those who are not HIV+. We HIV+ persons decided to open up a farmer group and even registered it with NAADS (National Agricultural Advisory Services) at the sub-county so that even we could voice out our issues. After several attempt we managed to get a spray pump, to help with the control of weeds in our gardens though it is not operational at the moment because its suction valve is broken. I called upon the group members to raise 70000/= UGX (Uganda Shillings) (23 euros) to have it repaired but they did not respond positively so I have kept it in my store until we do.

Margaret's Homestead and Assets:

Margaret's household is surrounded by a few community assets (Figure 9). First of all, Margaret has been gifted with a community murram road that passes a few meters away from her house, this road will reduce on her transport costs that she has been incurring. Secondly, she has access communication services (PC) like pay phone, charging of mobile phones, and use of SMS (Short Messages) to communicate to group members as well as Counsellors of TASO when there a need. Thirdly, Even though Godfrey can take care of himself, when Margaret goes to Masaka to receive her monthly medication, she contacts her fellow group member to help and keep an eye on the pigs and well as the safety of Godfrey. Margaret says that sometimes she borrows money from this group member to use in case of emergencies and pays her back as soon as possible. The group member has skills in animal management. She has de-wormed, vaccinated and even treated Margaret's pigs and chicken. Margaret collects animal wastes from her neighbour, these she adds in her coffee and banana gardens to improve on soil fertility. Another issue Margaret points out is that access to credit, their group was able to borrow money so that they could engage in income generating activities from Mukisa SACCO located in Kyanamukaaka Trading Centre (TC). The group borrowed a total of UGX 300000/= for three members each taking an amount of UGX 100000/=. Lastly, Margaret says there is no one who has been important forwarding their issues is their local council representative (see: KA in Figure 8). She is the voice of their group, forwarding their issues in every council meeting, Margaret notes. Figure 9 is a sketch map representation of community assets around Margaret's household, and the lay out of her homestead.

Figure 9: A Sketch Map Of Margaret's Homestead and Assets.



Impacts of Labour:

Margaret lost an energetic person, her husband, he died at the age of 45 years. She also became ill and weak and could not even wield a hoe to dig. In the past five years she has also lost two of her brothers to AIDS, they used to support her and the members of her household financially. She is not as energetic as she used to be, Margaret says, she can only cultivate the plot of land that she is able to manage during weeding. The land under food cultivation has reduced from four acres to three acres, the rest is under fallow (see Figure 9). Margaret uses the meagre incomes accrued from coffee sales to hire students, inexperienced in agricultural roles on holiday—looking for extra money to use while back at school—the quality of work is not as good as that of adult labourers but it helps her to timely plant her crops and even harvest timely. She is not certain of having enough maize for the coming year for home and animal consumption, because the rains have started later than expected.

Impacts on Knowledge and Skills:

Godfrey's father also died without having been able to pass on his tree logging and agricultural knowledge and skills to his son. Coffee being highly dominated by men, Margret's loss of her husband also meant that she also lost the vast coffee production and most especially the marketing skills her husband had.

Impacts on Health:

Margaret is constrained by the fact that she has to look after herself and the two orphans staying with her. Margaret is very vocal and energetic, no wonder she is the chairperson of her group and a counsellor to many persons in her community. I find her on all our encounters in her gardening clothes, she goes and change to her usual home clothes, in my observation Margaret is really small despite

being energetic. I can easily see her collar bones, a sign of emaciation, and she has a very strong cough. I suspect she is not very healthy, she tells me she has medication for her cough in our interview. The transport costs to receive medication are high, at UGX 28000/=[5] and the health facility is a 32Km from her town council. She adds that during the time she had AIDS before joining TASO, the drugs were also very expensive for her and yet she treated several diseases at a time. She also spent a lot of money on her husband's treatment, she speaks sadly.

Impacts on Education:
With the death of two brothers in the past five years, Godfrey's education now on and off. Before their death they would supplement the school fees requirements but now it's solely Margaret's duty to do so. Sometimes it's hard to complete the school fees deposits timely and his report-card is withheld. This means that even when the next school term session starts he will not go to school until the dues are cleared. Godfrey's education is hampered when Margaret falls ill because he has to stay and help with the household chores. Sometimes he is sent back home due to lack of or unfinished payment of school fees. He does not concentrate in class especially when he leaves when Margaret is not feeling well, he escapes from school during class to come and check on her.

Impact on Nutrition:
When Margaret was sick she could neither grow food crops nor prepare a meal at home for consumption, she was very weak. Currently, she grows crops that do not require a lot of energy to plant or require continuous management. She grow crops like cassava, maize and potatoes that can be consumed by both people and used as animal feed for her two projects (piggery and poultry). Due to lack of labour, she planted her maize late last season and lost the entire crop. The composition of her meals has changed, she no longer has a variety of food dishes like yams and pumpkins to complement her meals. A lot of pumpkin and yam vines were destroyed by unchecked neighbours' animals (pigs) that roamed free in her garden and uprooted the vines. Margaret was diagnosed with ulcers, this meant that as an individual she had poor food nutrient intake. She also had breast problems, she could not breastfeed her new born child, and she lost the child because she could not provide it with breast milk or diary milk for nutrition. Because all persons on ARVs are advised to have a high protein meal before taking the drugs, Margaret now has to share the daily half a litre cup of milk she buys from the milkman with the two children (Godfrey and Nakalanzi).

Impacts on Gender and Gender Roles:
Margaret has managed to sustain the remaining coffee trees and even market her coffee a role that used to be for her husband, she is solely responsible for the household's agricultural production. Godfrey who is only 11 years old has to take care of Margaret when she fall ill, as well do household duties. The researcher witnessed as Godfrey prepares a full household meal while Margaret was being interviewed.

Impacts on Coffee Production:
Margaret's late husband was solely responsible for the coffee garden, when he got ill much time was spent of taking care of him at his parent's home. The second time was when Margaret was ill, this time

[5] UGX 3000/= is equivalent to 1€

was worse than the first one because there was no one to go and harvest the ripe coffee from the garden. The coffee garden deteriorated rapidly.

Prior to his death, Margaret's husband was responsible for marketing of coffee, however now that he is not around she resorted to selling freshly picked coffee from the garden, she believes the price is more favourable than when you sell dry coffee cherries and she not have to through the burden of drying.

Part of the land that was under coffee production has been used for beans, cassava, and maize and potato production. Margaret explains that despite that coffee was the main source of income, due to the CWD infestation this is no-longer an option, and the household still requires its daily dietary requirements.

Causes of Decline in Coffee Production:
Several factors have led a decline in her coffee production. Most of the factors that affect coffee quantity also affect coffee quality. However, factors that affect quality are specific to coffee quality only. Below are some of the factors that have led to a decline in Margaret's coffee quantity:

- Margaret dedicated a lot of time looking after her sick husband, during this time the coffee trees became bushy, the garden was infested with weeds, and the trees were attached by CWD.
- Lack of prioritising money to buy improved coffee—clonal coffee cuttings—seedlings, they are expensive and yet she also has to cater for her health and household needs.
- The new road that has been cut through her parish, claimed part of her youthful, high yield, improved variety coffee trees located in the fertile part of her plot of land.
- Not replanting with improved or locally available seedlings, to replace the trees killed by CWD.
- Competition of land from food crops. Part of the land that was under coffee production is now being used for food crop production. The availability of food for home consumption takes priority in her household she adds.
- Alternative cash crops. Even in the new plot of land she acquired, she preferred to grow pineapples since they were faster maturing than coffee.
- Poor and/or untimely harvesting methods. She speaks of the time when she was taking care of her husband and all the coffee ripened and dropped on the ground without being harvested, an entire season of the coffee crop was lost.

Specific to coffee quality, Margaret says that because she is a woman engaged in coffee business, she says traders take advantage of her and cheat her claiming that her coffee was not fully dry or the pods were not full developed and filled "*emwanyi zilimu ebilelya ate sinkalu bulungi*". This is associated with the point mentioned in the impacts of AIDS on coffee relating to the death of her husband and her getting engaged in coffee production systems.

Coping Mechanisms:
Margaret adopted several *coping mechanisms*, some were immediate responses while others were responses to long-term impacts. The coping mechanisms adopted by Margaret include:

- She sold of most of her husband's coffee plantations to get not only medication for him but for her also.

- After her husband's death, she fell ill, got tested and found that she was HIV+, she started receiving ARV treatment and dedicated herself to taking them to sustain her life.
- Her in-laws allowed her to stay in her late husband's house, at the same time her parents catered for her medical bills, gave her food provisions, and a plot of land to cultivate.
- When Margaret got better and could wield a hoe, she planted food crops (beans and cassava) near her home, and once the community members saw that she had some food provisions, they also helped in providing her with food supplements.
- Margaret started to speak out about her status, this motivated many that did not have the courage to do that they joined with her and later formed Ani Yali Amanyi HIV group. Group members assist one another in times of need like; if a member is lacking vegetables or maize flour for food they provide that member with them. They support one another.
- She made many friends, one group member (Figure 7) staying near her house shared with her the idea of a piggery project. They joined together and started a piggery project; Margaret also added a poultry project to increase her sources income.
- She attended trainings and counselling by TASO and Kitovu mobile, she trained as a counsellor. With her new acquired skills she has helped many who want to know their status, helped those new on ARVs to take their medication timely.
- Through trainings she learnt about vegetable gardens that she grows at her home. The vegetable garden provides vegetables for nourishment all year round, even in the dry season they can be watered easily.
- They (30 members of Ani Yali Amanyi Kwagalana Group) started a Village Savings and Loans Association (VSLA) to save and lend money to fellow group members at no interest.
- She borrowed money from the micro-finance institution (SACCO) though she paid it back with a very high interest, the money was meant for the new pineapple field that she planted the plot her parents gave her.
- Margaret is HIV+, and the sole provider of her household, she works harder to ensure to provide for the needs of her household.
- She hires labourers to help with land opening, use fertilisers to improve on yield, sells her—coffee and pineapples—produce from home, and grows starchy foods like cassava, potatoes, and maize to ensure food availability as well as animal feed for her two projects.
- Margaret has worked with Godfrey on the fields and at home, she has taught him life skills (washing, cooking, cleaning the house and looking after animals) as well as GAPs, soil conservation, soil fertility management, crop rotation, as well as utilising available open spaces for food production.
- She also approached the Head-teacher to Godfrey's school and explained to him her condition; she can now pay his school dues in instalments until they are all paid prior to the end of the study term.
- She has shifted from selling *Kiboko (pronounced CHIBOKO) [dry coffee berries]* to selling freshly harvested or partially dry coffee cherries so as to reduce on the time and labour allocated to coffee drying. She also sells her coffee from home therefore she does not have to incur costs of transporting her coffee.

Case Study Two: Magdalene

Magdalene (Magda) is 38 years old; she has lost two husbands to AIDS. She lives with six persons in her household including her cousin Florence aged 18 years. She has sustained her for 13 years now because of the free ARVs she has been receiving. Magda realised that something might not be right when she saw doctors meeting with her husband privately. Much of what is stated in this case study happened with her first husband and less of the second husband is mentioned. She narrates her story;

"The medical workers would tell me to stay outside, they were interested in only talking to my husband that neither me nor was my presence necessary. He started to have on and off fevers, emaciated, his lips turned red, and developed a skin rash. I knew something was not right and went to Kitovu Mobile for check-up, they refused, they asked me so many questions that I got fed up and left. I had a child then, now she is in Primary 7.

In 2000, I went with my neighbour a woman to TASO Masaka branch and we got tested. Our results turned out positive, I got so emotional devastated, every time I would drift in thoughts of how I was going to die, leave my children without anyone to care for them and my friends were all okay. My hair started to drop off, and so was that of my child. There was a lot of gossip in the village about my case of AIDS. Many people came to visit me but their intent was to witness my condition of AIDS, because they had heard rumours of how severe AIDS could be to a person, so they came to see and believe for themselves.

I and my first husband were not very healthy but we could provide food for ourselves. At the time of his death we had three children aged 5, 3, and 1 year. Prior to his death, he told me to stay, look after the children and the property we had acquired. He warned me of his family's intent to take his assets which he had acquired for his children and yet he had sold off most of the land with his mother. He also added that if I intend to marry again, I should stay with that man on this land and protect this property. After his death I and my family were chased away from our house, we moved from Kyengerere to hear.

A former friend of mine at one time told me that since my husband had died of AIDS; I would not last more than three months unfortunately he died before me. I received a lot counselling and support from TASO, after some I was able to be emotionally strong, and resume my duties as the mother of my children.

I have a small piece of land to cultivate and rely heavily on rental plots to produce enough food to sustain my family. There are times that we were really poor; I would not even go to the neighbours to burry if they had lost someone, because I did not have suitable clothing.

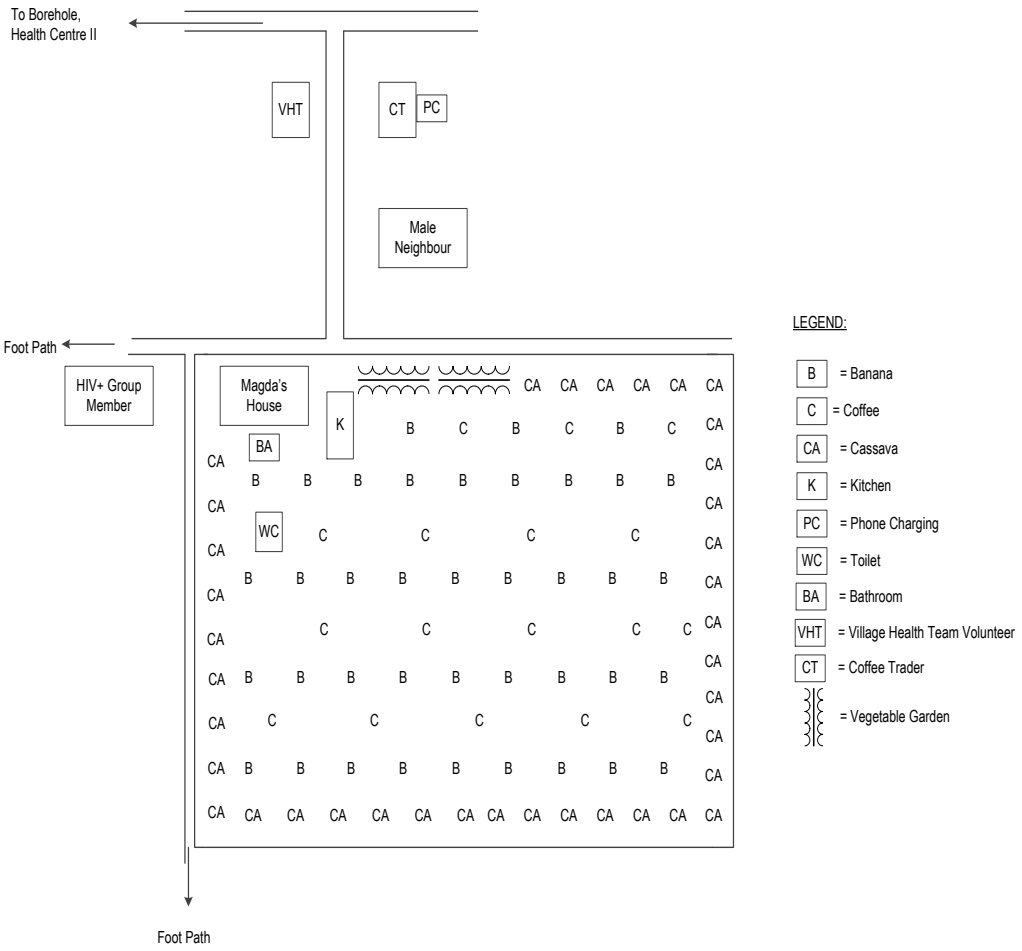
Because of my good behaviour and attitude, the training and counselling, and good community relations several members in the community approach me for advice. This happens mostly when they have a strange and persistent illness and want to get tested, while others want to find out their status. However there are some persons who are on ARVs but still do not want to disclose their status, they hide their condition from their family members, some even keep the drugs here at my home and only come here every after three days to pick their drugs. I have

told them now and then that they are endangering their lives and those of the persons they are going out with."

Magda's Homestead and Assets:

Magda says that several members in her community have to her aid when she called on them (Figure 10). She has also accessed and utilised the Health Centre II that was built in her parish by the government, it is at this health centre that they collect clean water from the community borehole. In her immediate neighbourhood, there is a Village Health Team volunteer worker who has helped Magda on several occasions with medication for her household members and even monitors their health. Magda says that those that have been of the greatest help are; the coffee trader (CT/PC) who lends her money and she pays back when she has harvested coffee. He also has a phone charging system as well as providing pay phone services. She also has a male neighbour who has provided her with a sense of security. She cites an example when the relatives of her first husband came and threated to beat her up, she raised an alarm and he came to her rescue immediately. Lastly Magda cites the relationship of her fellow group member, they both in a NAADS group whom she went with for HIV testing. She says ever since that day, they have offered themselves emotional, moral and even financial support where necessary. They still go together and receive their monthly ARVs at the same time of the month. Figure 10 is a sketch map representation of community assets around Magda's household, and the lay out of her homestead.

Figure 10: A Sketch Map of Magda's Homestead and Assets.



Impacts on the Household:
Magda's household has suffered several impacts due to AIDS. Under the guidance of her mother-in-law her first husband (Kivumbi) sold off three plots of land, because she had produced only daughters. When he died, she and her children were chased away from her house, it was demolished, the bricks and iron roofing sold, and all her household assets grabbed by her brothers-in-law. Her mother-in-law also sold off the two acres plot of cassava leaving Magda without any food. After the death of Kivumbi, she re-married but also lost the second husband to AIDS. Because they could not afford the monthly house rental fees, her second husband had built a two roomed shack on his land, the front wall part of the sitting room collapsed inwards when he was ill. She is weak and rarely participates in community events. Her first child (Rose) is in Kampala working as a house-help. Magda has been counterproductive for 1.5 year due to the psychiatric drugs she received for treatment; they made her so weak and unable to do any work. Food production decreased because she could not borrow neither rent anymore land to cultivate nor travel 40Km to Dimu where she own eight acres of land given to her by her grandparents.

Impacts on Labour:
Every able bodied person in her household is involved in the cultivation of food for consumption, even those in school any spare time they get they have to participate. As noted from above Magda two husbands to AIDS, her daughter has gone to work in the city; the drugs she has been taking have made her weak most of the time. She has been unable to do any work and stays indoors most of the time.

Impacts on Health:
Magda had to travel long distances to community functions to sell snacks to raise income even though this had its toll on her body. She and her second husband spend over UGX 700000/= on treatment from a witch-doctor because he was not responding ARVs, she still owes the witch-doctor UGX 300000/=. Despite that Magda is grateful to TASO for giving ARVs, she is also worried because she has seen persons on ARVs dating young school girls and endangering them since they look healthy.

Impacts on Education:
Rose's (Magda's first daughter) school fees were being paid by Magda's second husband. When he died, Rose dropped out of school. Joan the youngest daughter of Magda is currently in Primary Seven, in a government sponsored school. Magda says the quality and standard of education is not that good compared to private schools, but that's what they can manage.

Impacts on Nutrition:
During the aftermath of Kivumbi's death our children would to their grandparents for meals, but they were later stopped by Magda's in-laws. Her in-laws also grabbed and sold off a 2 acres cassava garden leaving her and her children with no food. Magda believes it is because she never got along with her in-laws. The banana garden is heavily infested with Banana Wilt Disease (BWD); they are struggling to have sufficient food for their nutrition. Sometimes Magda goes without a snack prior to taking her medication and yet it is recommended. She uses rented or borrowed plots to grow maize, beans, and ground nuts because of ease of their early maturity. She had vegetable gardens around her home; they have all dried up in the long dry spell. She could not water them, the borehole at the health centre had broken down and the gravity water spring is further away.

Impacts on Gender and Gender Roles:
Magda says, Kivumbi never disclosed his status, maybe he would be on ARVs and still alive, too. He embraced the fact that he was going to die, and allowed her to re-marry. It is through her second husband that she learnt to become vocal and speak out. There is a high degree of openness and family members all contribute on what is to be done with the task at hand. The plot they were tilling at the time of the interview had been identified and secured by Florence.

Impacts on Coffee Production:
Magda's coffee farming trends have not been the best. Her first in-laws grabbed and sold of her coffee plantations, which the new land owners replaced with a house and a banana plantation. With her second husband they intercropped coffee and banana to have a source of income, however, the yield is not good and the trees are scanty. She never planted more trees in the when he fell ill. Magda has a plot of land in Dimu of 8 acres suitable for coffee production, however, she is weak and it is over 40Km away from her home, she cannot travel there every day so she has not yet planted coffee in it.

Causes of Decline in Coffee Production:
Magda attributes coffee quantity decline to several factors like:

- The loss of their coffee plantation to her in-laws and was replaced with a house and a banana plantation.
- Very old coffee trees with a very small and high canopy for yielding coffee berries. She refers to these trees as "*emwanyi za movement anti zambadde enkofiila ya Museveni*" (movement coffee trees, because the canopy similar to the President hat).
- The variety of coffees that she has on her small piece of land is the traditional "*Nganda*" Variety; it is a low yielding tree crop.
- Seedling distribution in her area has been politicised, only accessible to those supporting the ruling party, those who access them either re-sale them or keep them under the shade until they die off.

Coping Mechanisms:
Even though Magda household has faced several impacts, it has been able to cope to them through several strategies:

- Magda upon eviction for her husband's house she rented an apartment ("omuzigo") to stay in with her children. She was paying UGX 10000/= per month.
- Magda got married to a second husband. He had a plot of land intercropped with banana and coffee, and built her a home and they moved out of the apartment. He also helped to pay school fees for her first born child (Rose).
- She sold snacks on community functions to raise income to sustain her household.
- Every time she went to TASO for her monthly medication, she told the counsellors of her urgent need of a house, fortunately after sometime World Vision built her one.
- She received food supplements for TASO under WFP in 2003, the practice was later stopped in 2006 and she was offered quality seed for planting.

- She also received a bicycle from TASO because of her role in helping community members get tested, it helped ease on her transport cost.
- She has told the children about her status, she takes them along to TASO when she is going to receive her monthly medication, so that they witness first-hand the health of those receiving treatment.
- She received training and counselling from TASO, and has aided several persons who want to get their status known, she uses herself as a living testimony. From the training she learnt to grow vegetable gardens that provide nourishment on her meals.
- She joined two groups; a NAADS group for agricultural inputs access, and Kwagalana group for networking with fellow HIV+ persons. A colleague from Kwagalana group lent Magda a plot of land to grow food crops; however, Magda has to confer with her for every season she is to use it. Magda usually grows maize and beans because of their early maturity and bulk yield.
- She also joined a new group called Nigiina group, the members have a revolving fund of UGX 100000/= and also save UGX 1500/= on every meeting. The savings are shared every end of year as a bonus.
- She rented a plot of two acres for two seasons to grow cassava at UGX 20000/=.
- Rose was taken to Kampala where she found a job as a house-help and sends money home to help with household utilities and education of her siblings, while Magda's sister (Florence) joined her household to offer care and support.
- TASO has helped to pay half of school dues for one child (Joan) and the rest is met by the government and Rose. The children ensure that Magda takes her medication timely even when she is in the field.
- She has handpicked good coffee seedlings underneath old coffee trees and planted them in places where banana trees have died of BWD.

Case Study Three: Ruth

Ruth is 45 years old, a Uganda Certificate of Education (UCE) holder, a second wife, a single mother and a primary school teacher. She has been taking ARVs for eight years now. She stays with her sister, Maria, 30 years old with her 2 years old son, and her three daughters aged 18, 16 and 12. Ruth says that what keeps her striving forward is to ensure that the education of her children, her health, nutrition of the household, and income generation of the household take priority. She engages in piggery, poultry, basket weaving and wage labouring to raise income. She digs a plot at a minimum of UGX 20000/=, while she buys raw materials for baskets ("*ebibbo*") at UGX 2000/= and she sells each basket at UGX 3000/=. From each cluster of raw materials she usually makes six baskets. Even though Ruth is not a widow, she does not talk of any involvement of her husband at any one time in her household. When I tried to probe further about this matter, she appears to be agitated by it and we leave that matter alone. Ruth gives a brief insight about her household from when she learnt that she had HIV/AIDS.

> *"I had been ill for six months when my brother came and told me that he is taking to Masaka for check-up. Unfortunately the machine (microscope) was broken. He took me to Byansi Clinic for check-up and the results were taken back to TASO. The medical personnel were so surprised that I was still alive, she had to crosscheck with my identity for confirmation. She wrote gave me my results card reading Zero CD4 cells and I weighed 35 Kgs. Initially I was given Septrin,*

fortunately Uganda Cares wanted to work with 600 HIV+ persons, I was among the first ones to get prescribed ARVs. He took me always to get treatment, until when I was better and had regained some weight; he then let me take myself. Every time we went to the hospital my CD4 count was measured, it rose gradually from 0, 4, 10, 50, 70 then 120. I was now energetic; however it is not simple to raise your CD4 count level. It is because of the high abundance of fruits and vegetables that I ate. I ate very many fruits at all times even in the village. This, I did sometimes unknowingly.

At that time, World Vision also offered a vehicle to transport the positive persons to Masaka to receive treatment. This vehicle was nicknamed "emotoka y'abalwadde" (meaning: the vehicle of the infected), in the community. It took a lot of courage to board it, since everyone would know when, where and who boarded this vehicle. However, the cost to Masaka was so high (UGX 18000/= at the time) and as an AIDS patient I needed all the support especially financially that I could get. We were about 10 people from my parish alone; this vehicle was the only way we could ensure our health.

World Vision later built some hospital facilities at the sub-county headquarters, and when they were closing office in Masaka they requested that we receive our medication from the Health centre (HC). We were transferred from Masaka Hospital to Kyanamukaaka HC-III, where I receive my medication, too.

Several people offer me testimonies, claiming that they went for check-up and are receiving treatment because of me, because when they look back and remember my condition and how I am now, they get really motivated. I was going to die and leave my children very young. I have educated them, now they are all grown up and able to sustain themselves. There is still a lot that I have to do for them before leaving this world.

At the hospital, we are not separated between the HIV+ persons and other patients. However, if you are looking for a room with HIV+ persons you might not recognise us or be able to pinpoint anyone and claim they are infected. We are all healthy; I can do all my duties without any hesitation. We call ourselves as HIV+ persons but do not have AIDS".

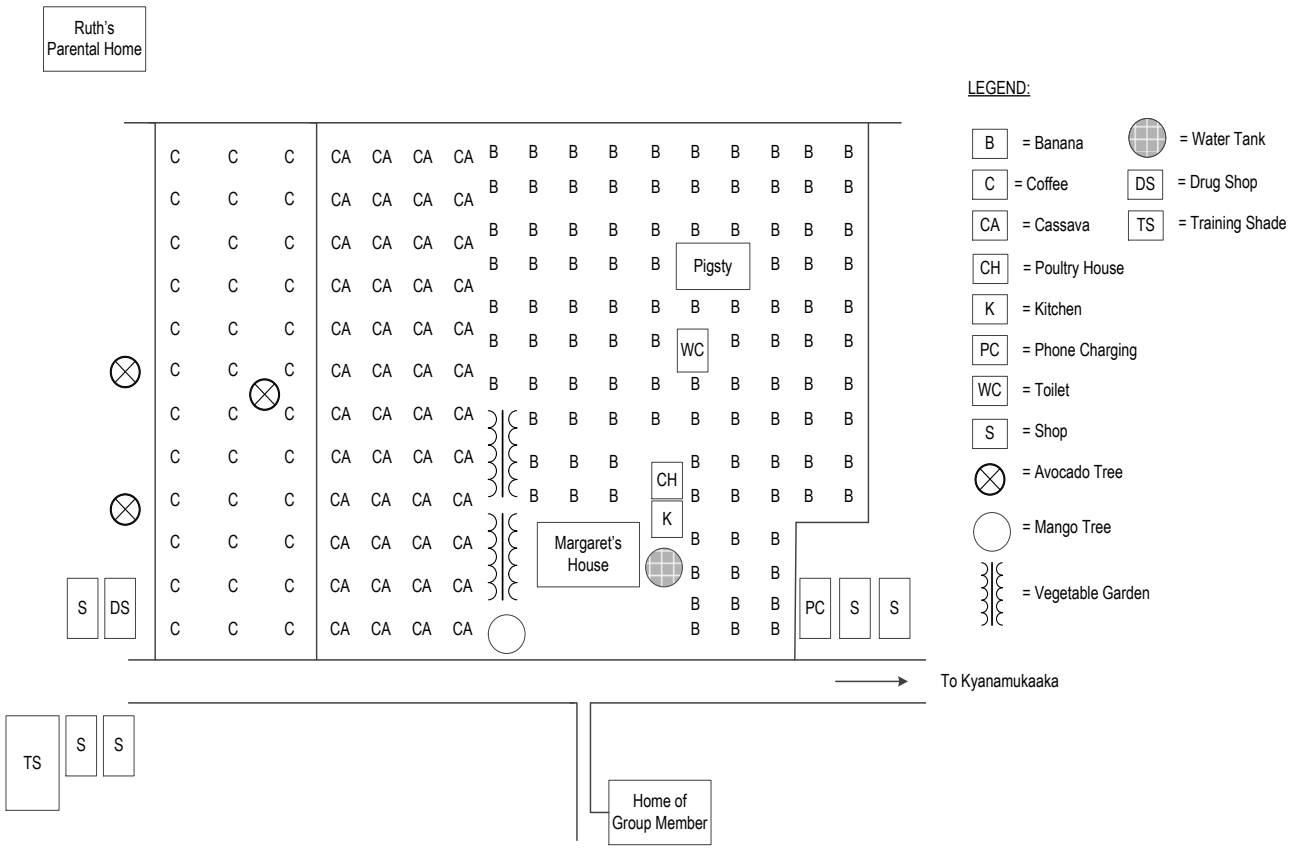
Ruth adds the last remarks with vigour in her eyes and a big smile on her face. Like any other AIDS affected household, her household has had several impacts of AIDS.

Ruth's Homestead and Assets

Ruth and the members of her household have accessed and utilised several community assets in their neighbourhood. She describes how she has benefited from those in her immediate surrounding (Figure 11). She starts by talking about Kyanjale TC, she says it is small and has eight shops (S), these provide most of the household and scholastic requirements. The TC is not far away from her home. The drug store (DS) is the most important because it provides all the community members with drugs and has a nurse available all the time to administer treatment and minor check-ups. She has utilised the telephone charging and pay phone services especially when she wants to communicate to someone or purchase

airtime[6], however, she has her own mobile telephone. About 100 metres opposite her home is a—Kyanamukaaka HIV—group member with whom they receive medication (ARVs) together from Kyanamukaaka HC-III. She is also a member of several groups including Ani Yali Amanyi HIV group and Kyanamukaaka HIV group. She joined the former first but when Kitovu Mobile was contracted to provide trainings to HIV+ persons, all those in her parish receiving ARVs from Kyanamukaaka HC-III formed Kyanamukaaka HIV group. This group receives training from the community training shade (TS). Figure 11 is a sketch map representation of community assets around Ruth's household, and the lay out of her homestead.

Figure 11: A Sketch Map of Ruth's Homestead and Assets.



Impacts on Labour:

Ruth stayed in a dilapidated mud-walled, iron-roofed house until she got support for Goal-Uganda that built her a semi-permanent house. Children mostly fetch water from the community borehole about 500 metres away and do gardening duties over the weekend. During the time that she was sick the coffee garden was poorly managed and got bushy (many branches emerged on coffee trees and plenty of tall weeds covered the garden), could not manage to grow food crops near her home. She was very weak. Ruth's parents despite the fact that they stay nearby they are old and could not offer much help because they have also their land to cater after, however, they offered her support.

Impacts on Knowledge and Skills:

[6] Mobile telephone credit in Uganda is referred to as airtime.

Rut's children apart from knowing that they have a father, he has not been involved in any activity in their lives. He has not provided his children with the knowledge and skills that he has experienced and accumulated his life. As long as all factors remain constant they will never learn for his knowledge, skills and experiences.

Impacts on Health:

Her medical expenses were always increasing; sometimes there were limited drugs (ARVs) that she had to travel to the hospital twice a month. Transportation costs for a single individual form her trading centre were at UGX 18000/=. In the initial days of starting to use ARVs while undergoing counselling, it was mandatory (Uganda Cares policy) to go with her "*kiyambi wo*" (helper) who would monitor her drug usage and remind her in case she has delayed or forgotten. There times when the drugs were in short supply that she had to buy from local clinics nearby, these drugs[7] each costs UGX 2000/= yet the regular ones a packet of 10 tablets costs UGX 500/=. "Obulamu bwebugaga" (health is wealth) she adds, even if it was costing her extra she managed to secure it for the twice a day dosage of ARVs. The counsellors also advised and encouraged her to have a high protein meal at-least a cup of milk before each session of taking the ARVs.

Impacts on Education:

Ruth's children got bullied at school, other children yelled at them their mother was going to die; they suffered a lot emotionally, and even skipped class for several days. At home the children do not concentrate with their study when Ruth has an ache or feels weak, they are prefer to be by her side until she is better. Before getting AIDS, Ruth was supporting her brothers' child in education that stopped thereafter; he dropped completely out of school. Annette (Ruth's first child) has completed her UCE exams and wants to continue her education to high school and attain a Uganda Advanced Certificate of Education (UACE); Ruth wants her to take a vocational training. Ruth knows that if Annette took a vocational training course she would be able to help her siblings too; Ruth likes Annette's zeal to study but also worried due to high incidences of insufficient drugs at Kyanamukaaka HC-III. Ruth might at a certain moment fail to get her medication and get AIDS. It is a struggle that Ruth is losing, because Annette is fixed on attending high prior to any other form of education, Ruth states.

Impacts on Nutrition:

The banana garden is heavily infested with BWD and so are the entire banana gardens in the neighbourhood, and maize flour is expensive a Kilo of maize flour cost UGX 1800/=, this provide only one meal—of *kawunga (*posho*)*—a day. She also can no longer supplement her meals with meat protein because it is very expensive costing UGX 8500/= per Kilo. Ruth also recalls the times when she was critically ill, had it not been the support from her family; she could not manage to provide food for household.

Impacts on Gender and Gender Roles:

[7] I learn from Ruth that the Septrin drugs they use are ***oval shaped*** they are more potent than the round—'normal'—Septrin drugs available on the market

Ruth is the head of her household, all responsibility rely and fall on her. Even though Ruth has had three children from the same man, he has not provided for or played his role as the father of his children. He does not stay in the same household with them or nearby.

Impacts on Coffee Production:
When Ruth was sick, the state of her coffee garden not good, it was poorly managed. It was during this time that very many trees showed signs of nutrient deficiency—leaves turned yellow—and high infestation of CTB and CWD. Most of the work in the coffee garden required a labourer and she had little income to spare, most of it was for her medication or transportation to the health centre. Her immediate family (her elderly parents) could not help; they also had gardens of their own to look after.

Causes of Decline in Coffee Production:
Ruth owns and grows coffee on two acres of land, inherited from her grandparents. Several factors have contributed to the decline in coffee production; biting insects, low soil fertility, poor agronomic practices, drought, old age coffee trees, CTB and CWD. She says CWD has already destroyed over half of the coffee trees in her garden. Ruth is not happy with the current coffee prices, every coffee trader has his own price and for them always the price is low. She says these factors have contributed to the low harvests as well as the poor quality of the coffee. However, she adds that certain factors are key to the decline in coffee quality. She says that:

- The traders are critical in deteriorating coffee quality especially those who buy the dry cherries and the same who buy freshly picked cherries and mix them up.
- The traders have lowered farmers' morale and interest in coffee production because they are always finding ways to deduct farmers' coffee weight, this affected quality and quantity of harvest.
- The farmers have resorted to selling freshly picked coffee cherries than waiting for the coffee to dry.
- Some extremes of traders even add water to the dry coffee cherries to increase its weight on their way to the coffee mill to market it.

Coping Mechanisms:
Like all affected household, Ruth's household has adopted several mechanisms to cope to the impacts of AIDS as well as curb the declining coffee production. These mechanisms some were immediate while others came a response to further impact, however, there is no particular format that they followed, Ruth states. They include:

Her parental family supported her with food and income while she was sick. They continued to support her in several other ways like training and monitoring the children when they are in the garden, they guide and train them on ways they have mastered through experience. Her brother took her to hospital, and catered for hospital expenses until she was better as well as encouraging her to join their farmers group. Her sister (Maria) came and joined her and helps out in many household duties. Maria and Ruth also advise the children especially during coffee weeding, picking, pruning, and de-suckering.

Ruth—in her brothers group—with her group members went on a farm visit Soroti District where she learnt to tame, train, manage and use an ox and ox-plough; however, she also noted the soils and

cropping patterns in Masaka do not favour animal traction. In the same she received a variety of improved quality planting seed. They worked together as a group and the benefits accrued were shared equally among all group members

She attended trainings with Kitovu Mobile where she learnt making and managing vegetable gardens, and got to know fellow HIV+ persons. Through her new found friends she has been able to learn other nutritional alternatives. They also contact one another in case one had a strange complication or lacked something to use, they could help out each other easily. She learnt of garden weeds that were being used as animal feed and yet they were essential in building up a person's CD4 count, these and vegetables have become part of her daily meal. On every meal family members make it a point to include vegetable like Amaranthus mixed with Black Jack (*Ddoodo* ne *Serre*). Fruits like pawpaws (*amapaapali*) and *ensusuti* (not certain of English/Scientific name) have also become part of her menu. Her church group also offered her with maize flour, beans and soap twice a month so that she could have food in her household.

Ruth also joined a VSLA group of 30 members in total, they save UGX 1000/= per group member every meeting and lend fellow group members. They hold meeting every after two weeks. The loan attracts a small interest, that is to say; for every UGX 10000/= borrowed the person return an interest of UGX 500/=. The loans helped her especially when the children were going back to school or during land preparation.

She started also a poultry project due to high marketability of local poultry for example a cock costs UGX 45000/=, a hen costs UGX 25000/=, while local chicken eggs cost UGX 700/= each. After she had started growing maize and had plenty in storage, she also started a piggery project, the two projects helped to boost her household income. With a boosted income she supplemented her protein dietary requirements with silver fish ("*mukene*") which she mixes with beans or ground nuts.

Coffee sales are the source of children's school fees and household items, and they know it. The children can weigh and market coffee even when she is not around as long as she informed them of the selling price. She is replanting seedling handpicked from her garden to replace the one acre destroyed by CWD. Ruth stopped digging in the coffee garden and resorted to spraying it, it was cheaper, faster and more effective, it boosted yield because the soil was not disturbed and the rate of growth of weeds was controlled—at the end of the day—saved up some finances.

She has ensured a high degree of openness among members of the household, everyone knows of her status and they cross checks with her to ensure that she has taken her medication.

Case Study Four: Joseph

Joseph is 43 years, he stopped studying in Senior three for his education and lives at home alone. In 2005, he got very sick and also started taking ARVs, since then he has made plans to as far as 25 years. "I do not have AIDS but I am HIV+", he says smilingly. He is well known in Mikomago Village because he talks about his status openly. He gives a brief insight his life, he starts with the lines he told a colleague of his who did not want to have his status known by others.

"I told him, you have the right privacy and not have your status known or revealed to anyone unless you chose to, you have a right to put a security officer to stop anyone from coming to visit you, however, when you die we burry you, everyone will know the cause of your death. Then what would have been the whole reason behind hiding your status from the general public. It is better to let the people know it is then that even other will be able to lend a helping hand not because of pity but because of they want to.

There several persons who have come to me with strange illnesses and want to be taken for testing. I do not go around looking for people, for all my life I have been on this village and everyone on it knows me and my status. Some come to my house in the morning, I get my motorcycle immediately and transport them to Masaka for testing at no cost. I participate in Masaka Research Council (MRC), I am with those researchers every time in the field offering VCT services, however, they confirmed to me that the longest window period of the virus is 15 years. This is very dangerous. The best solution is to start that person who is HIV+ on ARVs as soon as found positive but this corrupt government is letting many die so that a few can live a lavish life.

The very first person I met was the doctor who tested me, she looked at my results slip and seemed to be finding it difficult or finding ways of how she could disclose my status to me. This doctor was so surprised when I told her that the only new thing she could tell me was that I am negative, however, if I am positive that will not be news to me. The doctor was so amazed and laugh, she said that if she had been working on people like me, her job would have been a lot easier.

What motivated me the most is what Dr Zakara said, that if I started taking ARVs at the age of 40 years, and I lived for 40 years more. If I died at the age of 80 years would the persons burring me say I died of AIDS, or old age. She added another example about most HIV+ persons, that most HIV+ persons do not want to engage in long-term projects like planting bananas or coffee under the pretence that by the time this crop gets to maturity they will be long dead, however, even a person at home can make a meal and leave it on the stove as that person crossed the road to buy groceries across the road s/he dies in a car accident. Death is coming for all of us, it how you are prepared to meet it that matters, whether you are poor and burdening your family members because of your illnesses or financially stable and able to provide for yourself and members of your family. It is then that I made up mind to go and start working on my plots".

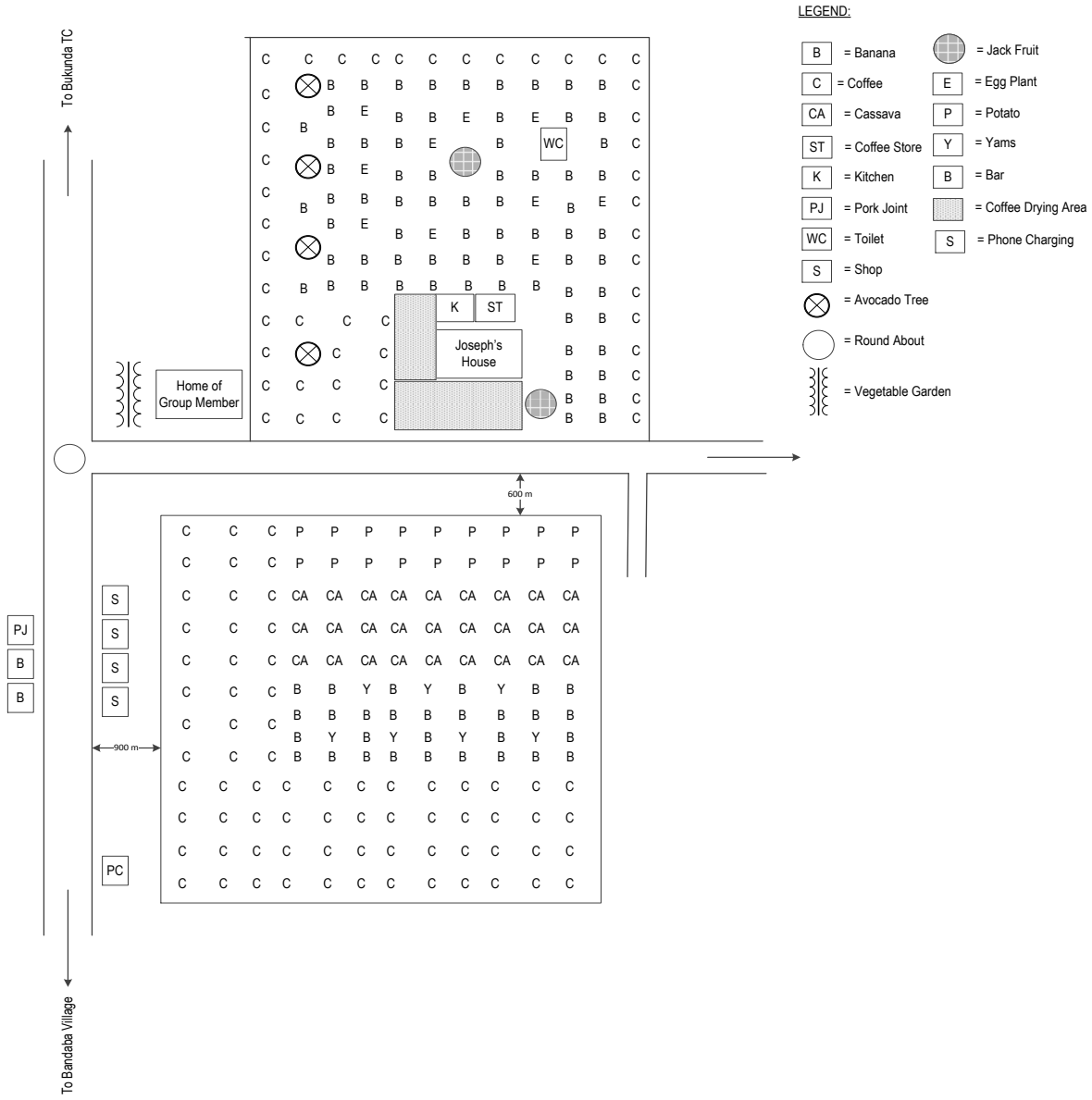
Joseph's Homestead and Assets:

Joseph's neighbourhood (Mikomago village) is not endowed with many community assets (see Figure 12). His immediate neighbour is a fellow group member from a NAADS Farmer Group (FG). What is described as Mikomago TC; are about eight shops facing each other about 900 meters from his home. Five of the shops are involved in the selling of a local beer and gin (*tonto and enguuli),* butchery, a Pork-Joint[8] and a shop that has consumable materials. His nearest water source is also a gravitational water

[8] A Pork-Joint as commonly known in Uganda, is a bar that also serve roasted or fried pork on the side. It is a common meeting place for men and youths in the evening.

spring that is also more than 600 meters from his home. He has access to a murram road thus able to move to hospital or the market place with ease, this has kept him in contact with coffee traders. He has worked with the LC councillor to ensure that they attract several trainings in their villages, and so far Kitovu Mobile had trained them twice by the time of the interview. Figure 12 is a sketch map representation of community assets around Joseph's household, and the lay out of his homestead.

Figure 12: A Sketch Map Of Joseph's Homestead and Assets



Impacts on Labour:

Joseph gave up carpentry as a result of being weak due to poor health and he no longer transports his coffee to milling plant. He does his coffee marketing at home even though the prices does not compare to those got from the milling plant. To him marketing at home is less taxing, not tiring and the dues accrued cater mainly for the children's needs, and savings for future use. I learn from the LC Councillor that his wife left him and she stays in Buvuma fishing islands. However, by the time she left him he was an alcoholic and abusive he had not yet declared himself HIV+.

Impacts on Knowledge and Skills:
Joseph has three children (two boys and one girl). His children no longer stay with him, despite the fact that he got better. His children only get to interact with him when they have work to do in the fields, and then return to their grandparent's home. Due to lack of a mother, the girl-child is lacking the knowledge and skills that her mother would have passed onto her.

Impacts on Health:
Joseph fell sick for a month, at the time his went and stayed with his parents. His greatest worry was because his parents who had hope in him were getting overly worried that he was going to die before them. He also worried about how he would leave his children and who would take care of them, he says this was what made him get very weak and prone to all those diseases that he got in the one month that he was sick. As soon as he got sick, he suspected that it might have been AIDS, went and got tested, he was HIV+. Luckily, he was started on "ARVs" immediately. Joseph has seen some people on ARVs getting their health a little better thereafter they start sleeping with un-suspecting persons.

Impacts on Education:
Despite the fact that it is not AIDS related but worth noting. Joseph's daughter at the age of 16 year dropped out school, she is now 20 years old. He says she had an illness that neither western medicine practitioners nor traditional herbalists—not witch doctors—could diagnose. He has even be referred to "Spiritual—evangelical—healers" but all in vain. She stays at home with her grandparents and helps in household duties.

Impacts on Nutrition:
During the one month that he fell ill, his parents were taking care of him and his children. He has three gardens (two are indicated in Figure 10), his parents also own a vast piece of land.

Impacts on Gender and Gender Roles:
Because Joseph stays alone in his home, he has had to take care of all household and agricultural roles and duties that would have been performed by the opposite gender. He co-habited with an HIV+ girlfriend for some time—not disclosed—but they split.

Impacts on Coffee Production:
Joseph that he no longer does heavy duty work in the garden, like using a forked-hoe in the coffee garden or using a hoe to weed. He minds about his health and lets the children do the heavy duty work, as he does the rest like spraying of weeds, picking and pruning.

Causes of Decline in Coffee Production:
Joseph also cites several factors that have led to the decline in the coffee quality like:

- In order to avoid extra labour involved in the drying of coffee, he dries coffee for about three days and sells it to traders. It is up-to the trader to find where dry the coffee and most times they do so at the milling factories or at their collecting stores

- Middlemen are very aggressive, persuasive and persistent; even when the coffee has been dried for a day they want to buy the farmers coffee. So if he is in need of immediate cash he will market at the sight of the coffee trader.

Joseph knows that the factors that are causing the decline in coffee quantity though all are not happening on his coffee farm, he has noticed many taking place in the village. He says these factors include; Poor quality coffee seedlings on the market, low and unreliable rains, CWD that has wiped out so many trees, traditional coffee varieties that are not high yield, changing weather partners as a result of farmers cutting down forest to grow crops, farmers planting alternative crops like vanilla and pineapples to replace the coffee fields, and the CTB an aggressive pest as well as more destructive compared to CWD.

Some of the factor also common on his plots include; low soil fertility, lack of good quality inputs, and the use of poultry refuse is extremely expensive. E.g. 2 acres requires 60 bags each at UGX 5000/=, and compared to the use of liquid fertilisers where a Jerry-can costs UGX 150000/= and two jerry-cans can be used on the 3 plots for 2 years. Use of poultry husks is further hampered by lack of enough rains, because if they do not rot in the garden the purpose is not fulfilled. The high cost of living has affected the re-investment rates of household, thus reducing the harvested quantities and quality of the harvest.

The declining coffee market prices, where those who had coffee trees, replaced them with other crops like Vanilla and Moringa. He too was persuaded to grow these crops but was resistant, now that the coffee prices are stable those who uprooted their coffee are running around looking for seedlings to plant coffee, again.

Lack of start-up finance. Even if s/he owned land, most likely s/he would plant the tree and wait for harvest without adding any fertilisers or spaying pests and weeds. Only a few trees would be able to grow or those able to invest that amount of money are left to grow coffee, yet it is the many that make the bulk. Joseph calculates that bring up a coffee tree to maturity costs UGX 15000/=, if a farmer is to plant 100 trees he would need UGX 1500000/=. Very few farmers in the village can be able to afford bringing up that number of coffee trees or have had this much money at a time in their lives.

Coping Mechanisms:

In his trend to coping to the impacts of AIDS. Joseph received good counselling, his counsellor told him, "*Ekyokubeera n'akawuka siyenkomerero y'ensi oba ey'obulamu bwo*." (Being positive is not the end of the world or your life). He got to witness and engages in dialogue with those who started taking medication earlier than him. This gave him motivation to work hard and strive for better health always.

Joseph's family members especially his sister who is a teacher helped a lot with school dues and requirements of his children. His parents also took over looking after of the children, they only come to his home when they have work to be done in the fields. Those who could not dig, could fetch water and pour it in drums located in the fields. Joseph would go and spray the fields with herbicides. He bought a wheel burrow to use at home to aid in moving coffee from store to drying ground and even transporting water from the river. Joseph plans out the work to be done, rations out labour so that all plots are

covered equally. His children have been taught and can manage and run all gardens even when he falls sick. His parents offered the grandchildren land, on which to cultivate any crops of their own choice, and raise their own income

From his counselling sessions Joseph learnt that in order to keep himself from worrying, he needed to be active, he spent most of his time working in his coffee garden to secure a future for his children where they have financial security. Joseph planted coffee seedlings, so that he could have some long term goals and income for his family. He planted 1300 coffee trees after receiving his results which have been the main source of his family's livelihood. Funds from coffee are used to pay for all the children's school dues and household requirements.

Children do the heavy duty work in the garden especially opening up the soil and weeding, while he usually participates in adding of fertilisers, pruning and spraying. Harvesting and marketing is done by them all, the children get to know all about the proceeds from the sales. They are able to participate in marketing processes, know all the procedures and deductions or reductions that can be incurred when marketing, even at the time of marketing

Joseph has benefited from coffee because of its good quality, by controlling weeds and pests through spraying, adding fertilisers, and thus ensuring a good yield with heavy coffee beans. He takes a time off when the children are in holiday to rest and restore his health, only on occasions does he visit the fields to monitor their activities..

Ever since Joseph came open about his status he no-longer has to worry about costs of medicine, he can access free medication at any one time, at the referral hospital in Masaka with his registration book. His oldest son is doing a diploma is counselling and guidance, this is attributed to the discussions he has always had with Joseph. Joseph does all household chores by himself, relates with his children well, and engages them in conversations in the garden.

Each of his three plots has a portion planted with bananas, though they are being affected by BWD and increasing bouts of drought. He also grows maize, cassava, potatoes for both food security and income generation, and a variety of fruits in his garden for the much needed food supplements. He believes farmers need agricultural loans, access to inputs like fertilisers and herbicides, and good planting materials to improve their coffee production.

Joseph changed his way of life, he no longer drinks beer though he still meets with friends in the town centre to chat. Joseph is grateful the counsellor-patient relationship that TASO has for its clients. He says he can call up a counsellor anytime of the day or night if there is something urgent to tell him or her, and sometimes they send a vehicle if the condition is medically urgent. He says, ARVs have completely turned his life around. Joseph received training for two weeks as Community AIDS Support Agent from TASO and participates in a local farmers group called Bigalasa Group to help and sensitise the community about HIV/AIDS.

Case Study Five: Matia

Matia is 45 years old, he stopped going to school in Primary Three. He has two children that do not stay with him, he is single and rents a room where he stays at UGX 10000/= per month. When he is walking through Kyanamukaaka TC and most especially on Wednesday because it is the day they usually go to receive the free ARVs, he says, he hears people gossiping about him that he has HIV/AIDS. This no longer disturbs him because he is after getting his health better. He inherited a One acre of land from his father, it is located 60Km from where he is staying, his elderly uncle helps to look after this land. Matia narrates the incident that led to his getting AIDS in the brief below:

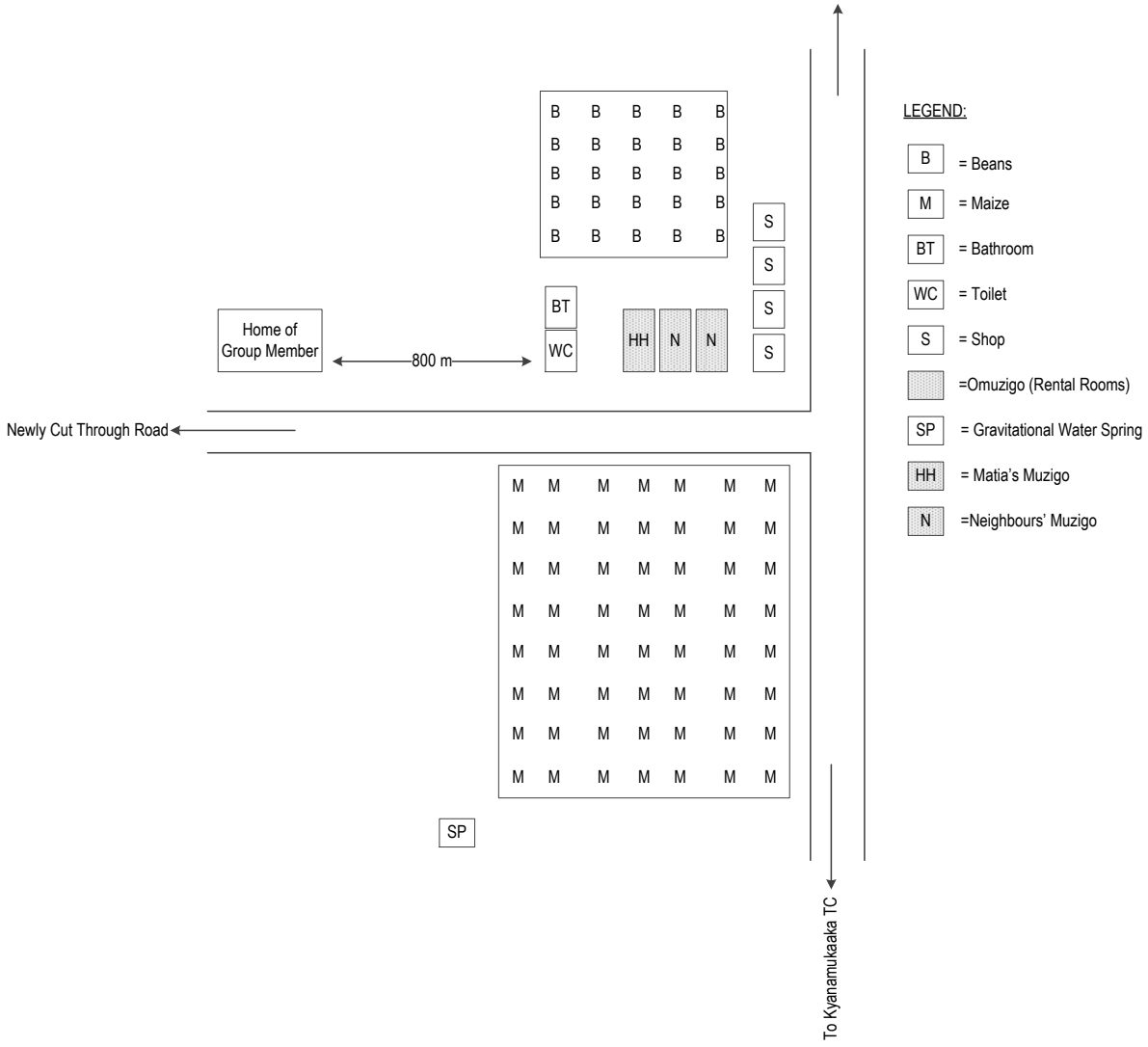
> *I had a friend who was HIV+, and helped him whenever he wanted to go to hospital. We were close, one day my friend's wife approached Matia and asked about the condition of her husband. His wife was concerned because she would see him with a wide range of drugs. I blushed it of saying that they could have been drug for stronger fever than malaria. Later his wife found some documents that had an inscription of TASO – Masaka Branch, but I could not tell my friend's wife that her husband was HIV+, I t was him to say that. After 2 months, one morning, I coming from visiting the charcoal we were making, his wife called that her husband was foaming in the mouth and shaking. I rushed to their house to see what was going on. Immediately I realised that this condition required emergency, I called the number on his TASO card, and the hospital sent a vehicle to pick him up. The vehicle was from TASO. I think it was then that the wife got to realise that her husband was most likely to have been HIV+. He died after spending three days in intensive care, he confirmed to his wife that he was HIV+. Because he had died in such a short period, at his funeral there was a lot of talk that he died of disease with diet. They said at his funeral, "Omugenzi yafudde kibwatukira" (the deceased suffered sudden death), while other said, "Affudde ndwadde z'abagagga" (meaning: He died of diseases of the rich).*
>
> *My friend's death put me in great depression, it was over a month after his burial, that I started getting fevers and a running stomach. These went on for a while, I lost weight and even developed a dry cough. I went on taking a wide range of medication until the chairperson of his—Ani Yali Amanyi HIV—group approached him and encouraged me to go for testing. We went to TASO together, I got my blood tested, the counsellor confirmed to that I too was HIV+. I got registered with TASO, thereafter given several prescriptions and after 3 nights I felt much better and could move around more easily than before. I keep my drugs at the chairpersons' home, she aids me in taking the drugs timely. It is now close to 1 year since he started taking ARVs (Septrin) and I have never fallen sick ever since. I have resumed my job of charcoal burning as my source of livelihood and income.*

Matia's Homestead and Assets:

In Matia's immediate neighbourhood (Figure 13) are a few community assets that he can access and utilise, however, he says he utilises most the natural forest where he cuts trees to burn for charcoal. Charcoal burning is his livelihood and main source of income. There is a gravitational flow spring (SP) down in the valley from his rented *Muzigo* (rental rooms) where he collects water for home use. He has access to the main road to Kyanamukaaka TC, thus making it easy for him to getting to the Kyanamukaaka HC-III for medication and treatment. Matia's greatest benefit from community assets is

being in the neighbourhood of the chairperson of Ani Yali Amanyi HIV group. She has offered his counselling, advice and even support. He says sometimes he has no food at his home but this group member gives him some to use. He has also approached several community members who have idle pieces of land that he has borrowed or rented to grow food crops (B and M) for home use. There are also a few shops (S) near his home where he buys groceries. Figure 13 is a sketch map representation of community assets around Matia's household, and the lay out of his homestead.

Figure 13: A Sketch Map Of Matia's Homestead and Assets.



Impacts on Labour:

Matia lost his colleague and business partner, he was working with in the charcoal business, after his friend's death also Matia's—cohabiting—wife also left him. Matia and his colleague would do all the work together. He fell sick and became weak, now charcoal burning is more tedious and very difficult to accomplish in a short time. Because of being weak he sells his charcoal at UGX 15000/= from home, he cannot push a bicycle loaded with a sack of charcoal to town centre where he would sell a sack at UGX 25000/=.

Impacts on Knowledge and Skills:
Matia visited his uncle and explained to him his status, showed him his drugs and registration card he uses to receive medication, he wanted to rule out the fact that his uncle might think it is witchcraft. His daughter who was in Primary three saw him taking his medication, asked him why yet he was healthy. He explained to her, but he does not believe she understood because of her age (9 years old). Matia does not stay with his children, therefore he does not interact with them. He knows they will never learn how to make charcoal from huge logs of freshly cut trees. These skills and knowledge he will never be able to pass onto them due to the limited interaction.

Impacts on Health:
Matia's poor health has hampered his charcoal burning business and main source of income, he does not have money to hire labourers to help him cut down or carry huge logs of trees. There cases when there is no medicine at the health centre or they have little, the medical personnel prescribes for him the drugs to get from any health facility or pharmacy, the drugs are very expensive a dosage costing UGX 5000/=. Sometimes he does not have enough money with him, he buys half of the required medication as he looks for money to get the remaining dosage.

Impacts on Education:
When Matia got ill, his daughter—in primary three—stopped going to school. He can no longer afford the school dues, and also take care of himself, she stays with her grandfather,[9] and she helps him with household chores while his son was taken by his sister. He is in Primary Five, she is taking care of him and all his school requirements.

Impacts on Nutrition:
Matia grows mainly maize and beans on the rented plots of land. He has not been able to till his father land not only because he is weak, but it is also far away from where his home. Last season he rented a one acre plot at UGX 10000/=for one season, he harvested nine bags of maize each weighing 100Kg and sold seven at UGX 200/= per Kilo. He used the money to pay rent for his house, bought seed, herbicides and fertiliser for the following season and also bought some trees for charcoal making as well as clearing an earlier debt that he had with the person who usually buys charcoal from him. The two bags that were for home use got finished, he now buys maize flour from the trading centre at UGX 1700/= a Kilo. Because he does not have enough money, even to purchase food, some nights Matia goes to bed without eating. In other cases he goes to his neighbours and asks for vegetable for soup on his meals. He has identified a suitable plot to grow maize this season, the land owner wants UGX 100000/= as land rent but he does not have the money.

Impacts on Gender and Gender Roles:
Even though his wives left him, they neither check on him nor their children's wellbeing, he has not heard from them in a long time. Matia does all the household and gardening roles himself. His daughter who is no longer attending school performs most of the household duties at her grandfather's place. He says she cooks as well as washing his clothes and looking after the home and him, he is old.

[9] Not real grandfather—culturally grandfather—(Matia's Uncle)

Impacts on Coffee Production:
His father had intercropped coffee, banana, sweet bananas, fruit trees and other food crops on the land Matia inherited. The land was previously and mainly a banana plantation, his father tried to plant some coffee trees in between the banana plants. The number of coffee trees is lower than that of bananas, he estimates the land to have close to 50 or fewer coffee trees are still standing. The coffee trees are old and are managed by his elderly uncle. Matia had started tilling his father's land, when he got ill and could not continue, his uncle being old and weak too he could not continue to complete the work. Both cultivated and un-cultivated pieces of land got bushy again. All the proceeds that are got from this land got to aiding his uncle's household, not only because Matia is far way but also because his uncle being an elderly man is the caretaker of the land as well as looking after Matia's daughter.

Causes of Decline in Coffee Production:
Matia cites the main causes in coffee production decline as:

- The high intensity of aggressive rapidly growing weeds that have lowered coffee yields, the coffee is under nourished because of a high completion from the weeds for nutrients.
- Very old and poor yielding *Nganda* variety coffee trees.
- Unreliable rains and long droughts that cause flower abortion or even worse loss of an entire coffee tree.
- CWD that has destroyed over 200 coffee trees
- Replacing of coffee land especially where coffee trees have died with food crops because of the need to avail his uncles' household food.

Coping Mechanisms:
Matia has employed several methods to cope to the impacts of AIDS:

- When Matia got sick, his children were sent to live with their relatives (Migration). His sister took in his son, while his uncle took in his daughter. The relatives help in looking after the children.
- He went and got tested and registered with TASO, he is a recipient of free ARVs thus reducing on medical expenses.
- He joined Ani Yali Amanyi HIV group to be able to access help and support that existed among fellow HIV+ persons in the group. On several occasions when he has a drug shortage, he has called the group's chairperson, who through TASO gladly gets for him drugs for about one week thus reducing on his medical costs.
- Through his group he has signed to receive 60 coffee seedlings from UCDA to replant in his father land.
- He has borrowed money from his main charcoal client, hired labour for UGX 10000/= to help with the heavy tree logs. He used part of the remaining money to buy herbicides and cleared weeds in the rented plot to plant maize and also on his father's garden.
- Matia rented a 2 acres plot of land for a period of 2 year at UGX 100000/=, he agreed with the land owner to pay a down payment of UGX 60000/= and after harvest he would pay the balance on payment of UGX 40000/=, this was because he did not have all the money. He is going to grow maize, bean and cassava—for food security—on this plot of land.

- While planting maize, he adds fertilisers to boost his yield and also hires labourer to help with the timely planting so as to increase maize production.
- He has also taken up wage labouring in the community to increase his income base.

Case Study Six: Maria

I find Maria at home with three little children and ask whether they were all hers. She tells me that, the wife of her son ran away and left this child (as she points to a young boy) behind when she 8 months, she ran off with Maria's UGX 80000/= that she had saved up to build an extra room on her house. The other child is for her daughter, she is married, however, heavily pregnant and since her husband does not stay around with her, she decided to bring her child to stay with me. Maria is 42 years, and a Primary 6 graduate. Her husband died in 1996 at the age of 32 years and left her with three children aged 6, 4 and 2 years. After her husband's death she also got sick for 6 months but got better. It is 10 years now and Maria is still receiving Septrin from TASO, she has not been given ARVs because her CD4 count is still high. Maria gives a brief about her household in the narration bellow:

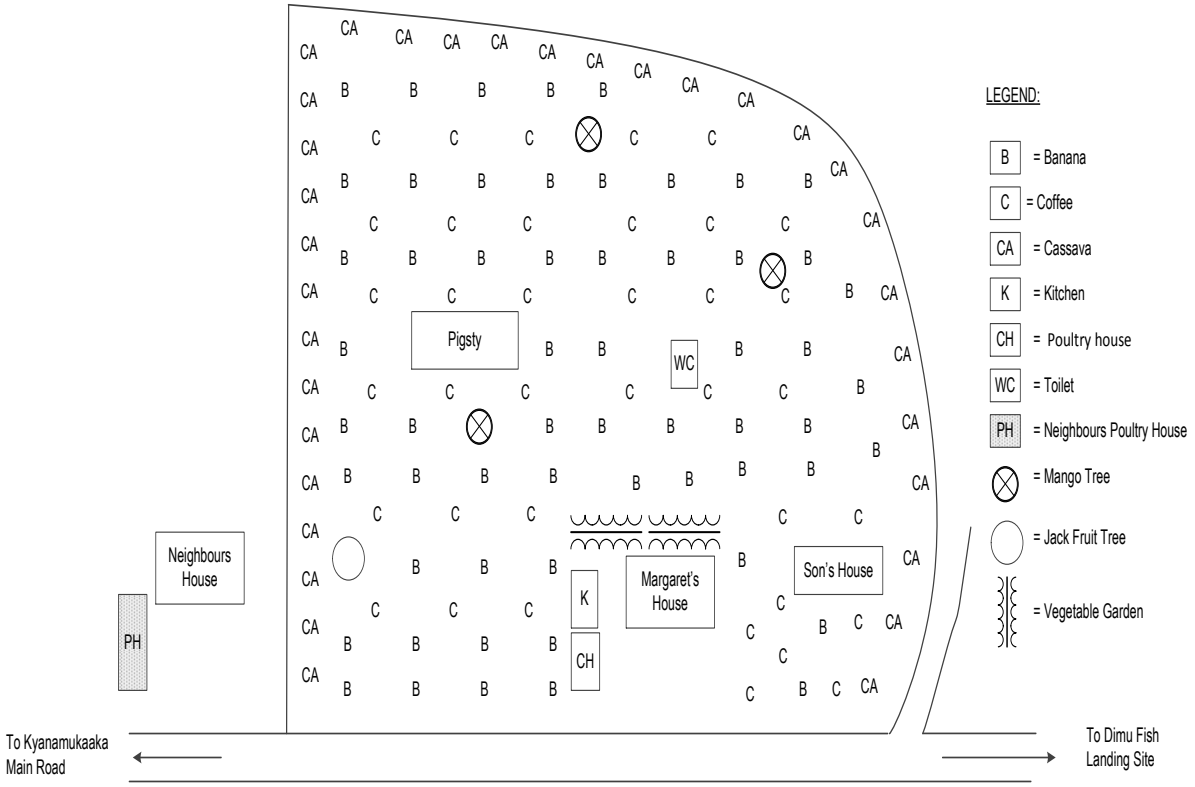
> *"He used to trade in fish, chicken and charcoal. Two of my children, a boy and a girl stopped Primary 6, however, I got support from TASO and Josephine continued her education. Josephine was 2 years old at the time of her father's death, now she is 18 years old. If only she had not played with her education, she was a bright girl. I dated another man, Francesca's father who also died and left me with her at 3 years of age, she is now in Primary 6 and 12 years old.*
>
> *My husband got other women and moved out of the house. He left me alone with the children and I looked after them, when he got sick he came back and I took care of him until his death. I knew that he had three other women, unfortunately they also died. I got several challenges, to such extent that the children who were at school, lacked school fees, I did not want them to leave school. Two of them dropped out school at an early age. It was through faith in God that I borrowed money and paid school fees so that Josephine is not expelled from school.*
>
> *When my husband was still alive sometime he acted like he was mad, sold off two plots of land one of four acres and the other of three, I stayed in this small one acre plot. Whenever I raise my voice about the selling of land, he would tell me that this was not my father's home that I should go back. I went to my parents and talked to them, my father gave me encouragement to stay he was a council chief. My father said he would give me whatever I needed, so that I could stay and take care of the children. He sold most of the plots while I was around. It was about the same time that my father died, I was devastated. He went with other women and bought land far away from here. He sold that plot of land when he was critically ill, I could not go that side to dig since the distance was far approximately 10 miles in Magile. Prior to his death my first husband sold the land in Magile, bought a two acre piece of land a little closer to home, this land is rocky and not fertile, and most of the money was used to treat him.*
>
> *I planned as a woman, got an idea that of I fetching and selling firewood in the village. I also worked as a wage labourer, especially when Josephine started school. I have worked as a wage labourer to raise school fees for my child and also get money to sustain myself. I usually get contracted by Joseph's wife, now that the rains have started I will have to reduce on the time that I devote to basket making and assign more to the garden assigned. I always find ways to get land and grow food crops at-least potatoes so that I have food for my household. I usually rent these plots of land in the village*

I engage myself in basket making to generate extra income. I buy raw materials for making baskets called 'Nkolokolo', scrape their thorns off, dry them and make baskets. The bunch of these materials costs UGX 10000/=, giving me 10 baskets which a sell at UGX 2000/= each. If they are on demand ("season y'ebisero"), a basket will range between UGX 3000 – 4000/=. There are times when the bunch of the raw materials has gone up between UGX 15000 – 20000/=. I still make a difference that can enable me to sustain my family. I cannot go myself to the forest where they are cut, it is very far and the forest rangers can arrest you for cutting these materials down. I always wait for those who trade in them and buy from them. It requires someone who is energetic and may be when you have a bicycle. Then you can go to the forest and spend the whole day there cutting them and then transport these materials back. They are very difficult to handle because they are so thorny. Now that the forests are being cut down by those planting pineapple farms, we shall not have any raw materials to use anymore".

Maria Homestead and Assets:

From Maria's narration above, she talks of access or utilising several assets from her community. However, some of these assets are not included in a sketch map representing her homestead and immediate neighbourhood (Figure 14). She talks about accessing raw materials from the forest through middlemen to make basket, as well as being contracted by a community member to work as a seasonal wage labourer. Maria has also accessed and utilised materials from her neighbour who is rearing poultry. She is using the old chicken husks that she has bought as fertilisers in her coffee garden. She also has two water sources in her vicinity a protected gravitational spring and bore-hole that was put near the school. However, during school time, the bore-hole becomes in-accessible due to the vast number of students using it. It is then when she goes to the spring in the valley. There is a school in her vicinity too, Francesca attends her studies from here. Her son who was taken to the Masaka town at a young age returned and built his house on his mother's plot of land. She says that he provides her with a sense of security, she knows that in-case of an emergency even at night he will come to her rescue. Figure 14 is a sketch map representation of community assets around Maria's household, and the lay out of her homestead.

Figure 14: A Sketch Map Of Maria's Homestead and Assets.



Impacts on Labour:

Maria lost her husband to AIDS. He was most of the time engaged in trade but during the time he was at home, they worked together especially in the fields. He went away with other women but returned when he was ill, Maria spent a lot of time and money taking care of him. He died, unfortunately. After the death of her husband, Maria also got sick for a period of six months, she could not do any work and weeds grew in the fields. Her main source of income was wage labouring and marketing firewood, ever since she got AIDS she can no longer carry heavy loads of firewood, each bunch would cost between UGX 20000/= to UGX 30000/=. She lost that source of income. Francesca is also engage in wage labouring, performing agricultural and domestic household roles.

Impact on Knowledge and Skills:

The death of Maria's husband was detrimental to her household. "He was excellent in commerce and trade", she notes. He trade in poultry, charcoal and even fish all the knowledge and skills he had, he died with them. Maria's father-in-law and her husband were both fish traders, unlike him; his children did not get to learn from him. The children were still young and could not learn from him, but in areas where Maria would have learnt from like the coffee trade, he would tell her to go and do something else. She did not learn the coffee trade even though they worked together in the coffee field during weeding, harvesting and pruning.

Impacts on Health:

Maria recalls that all their problems started when her husband fell sick. Most of the money that was got for the sale of the plot land was spent on his treatment. Maria herself also fell sick for a long period of

six months. She can no longer do roles like fetching and marketing of firewood, this required a lot of energy, all the roles she is performing she has to put her health into consideration. Every month Maria had to travel to Masaka Referral Hospital (TASO offices) to receive her free ARV monthly prescriptions, this meant expenses on transport which were as high as UGX 15000/=. She also has to incur an extra expense of UGX 5000/= for testing to have her CD4 count recorded.

Sometimes the drugs that she receives from the health centre get finished before her scheduled appointment date has reached. She has on several occasions had to buy drugs from a drugs hawker called Mugejera to ensure that she continues with her daily dosage until her due date of appointment. These drugs are rather expensive, she adds; each tablets costs UGX 1000/=. She notes that the highest number of drugs she bought from him was ten equivalent to UGX 10000/=. She seems to be okay with the price since it reduces her time and also costs spent on transportation to Masaka town where she can access several drug stores. When she runs short of her tablets, she gets very worried that most times the even gets a fever. This is something Maria tries very hard to avoid from repeating itself.

Impacts on Education:
Maria's two older children—a boy and a girl—dropped out of school, they both stopped in Primary Six, during the period she was critically ill. Her other daughter—Josephine—got pregnant, Maria pleaded with the head-teacher who allowed her to sit for her final—UCE—exams, she passed in third grade. She could not continue with her education yet as Maria was still raising enough money to send her to a vocation college, Josephine has moved in with her boyfriend the father of her child. Maria says this with tears in her eyes, she believes Josephine is in for marriage and her education has stopped at that level. Young Francesca is attending her education in a nearby government sponsored school, the education standards are not the best, but at-least Maria can manage to raise the school dues compared to those of a private school.

Impacts on Nutrition:
Nutrition at home changed drastically when her husband died, she could not provide the family with fish and animal products like milk and meat. Maria never got much support from her husband's family. Sometimes Maria's husband would want to have fish on his meal especially during the time his was ill, she had to go and buy the very fish from her in-laws to feed their son. Her father-in-law could offer her fish even on credit. Maria grows bananas, beans, cassava, ground nuts, maize and potatoes, she sells of some to raise income. She grows a lot of cassava to ensure that she has a food reserve for the famine periods. Last season she harvested three bags of maize and the sold of two each weighing 100 Kgs, one remained for home consumption, she sold each Kilo at UGX 400/=.

Impacts on Gender and Gender Roles:
Apart from the roles that Maria performed with her husband, she never got to learn much from during his time. She has had to learn through experience all the coffee production roles he was performing as a man as well as those he performed as the household head. Francesca has little time to play as a child because most of the time she is either performing household duties or doing wage labour with her mother to increase family income, or in their garden to ensure food security.

Impacts on Coffee Production:

Coffee production is the main agricultural source of income. Several impacts are noted by Maria:

- Coffee yield and thus income declined when she was taking care of her ailing husband. Limited time was devoted to the coffee garden; she only went there to pick coffee berries for marketing to raise money for use.
- The yield further deteriorated during the time she was ill because there was absolutely no attention devoted to the coffee garden, which led to the proliferation of weeds, pests and diseases.
- As a result of working together in the coffee field, Maria and her husband, the production side of the coffee garden stabilised faster, however, she did not know much about coffee marketing. Maria has learnt through experience the challenges involved in coffee marketing especially the tricks done by the coffee traders.
- Because of immediate need for money, limited labour and time to share within roles, and ensuring that she is less cheated by the trader, Maria no longer sells *Kiboko*, she sells her coffee as soon as it is harvested from the field.

Causes of Decline in Coffee Production:

Maria notes that some of the factors noted in the impacts section also contributed to the decline in coffee production. Like the close involvement of traders and immediate for money by farmers resulted into the deterioration of coffee quality and her being denied to participate in some coffee roles by her husband. She notes several other factors that have led to the declines in coffee production as indicated below:

- She realised a disease had affected her coffee trees when she had recovered; it caused the trees to dry like they had been scotched in the sun. She was later told that, it was CWD. She is saddened by the fact that CWD affected the high yielding and big berried coffee trees.
- Maria needs money to solve household financial problems as well as food to feed her family. On her small plot of land much is used for food production, and little is being left for coffee production. As more trees succumb to CWD, she is replacing that land with food crops like cassava that are drought tolerant.
- The soils are poor and rock, they do not favour growing of a majority of crops.
- She believes that the lack of especially coffee specific training and market information, has also contributed to the loss of morale and vigour in growing of coffee.
- She has been exploited so many times by traders.
- Her husband did not engage her in coffee business also contributed to the decline, especially during the transition period, she did not know much about coffee production and marketing apart from the time they were picking and when she intercropped coffee with her beans and thus maintained the coffee garden in return.

Coping Mechanisms:

In order to cope to the wide range of impacts faced by the household and on human capital, Maria is using a wide range of coping mechanisms to ensure the sustainability of her household.

- When she was ill, Maria's parents took her in and her entire family, they even helped to pay for the education of the two older children.
- Maria's son was taken by his maternal aunt, where he stayed until he was old and returned to build his house near hers. He built his house next to hers, he offers security, he checks up on her every day, and they even have meals together.
- When Maria was ill, she went and got tested, she told her family about her condition, and they were supportive of her and encouraged her to visit TASO. She found many gravely ill patients; she knew she was not alone, that there were others worse than her. She was registered and is a recipient of free—ARV—medication.
- TASO has helped Maria to pay for half of Josephine's school fees, from Senior One to Four, TASO paid UGX 60000/= per term throughout her study, while she paid other school dues and the remaining balance on school fees.
- She hired labourers when she felt a little energetic who would take food for payment and helped in weeding the fields.
- Maria makes baskets and mats to boost her income, she has built a strong trader-manufacturer relationship, that the trader leaves money for pre-ordered baskets. He had offered her an order for 30 basket each costing UGX 3000/=, he left her with UGX 90000/=, only awaiting her call when the baskets are ready. She makes baskets and keeps them in her house, so that she can sell them in bulk unless there is a pressing need for money.
- When she has pressing order to deliver, she hires her son and Francesca to help with preparing the raw materials for the baskets and pays them UGX 2000/= per bundle or depending on the price of the baskets.
- Maria has taught her youngest daughter—Francesca—life skills at an early age, she is able to make beautiful mats and baskets on her own, she even does wage labouring and uses the money to buy her school exercise books.
- She attends trainings on coffee and HIV/AIDS, upon return she tells her children what transpired throughout the training. Through her group she has learnt especially about animal husbandry (piggery) poultry farming and coffee related intercropping.
- She also started a piggery project, she keeps boars since they are fast growing and easy to manage and each mature boars sales for UGX 150000/= in her village.
- Much of the businesses her husband was running came to an end when he fell ill; Maria has ensured a high degree of openness and a good relationship in her household. She discusses with them every activity, even when she wants to sell of some grain.
- She continues to do wage labour for her livelihood and income base increment. Marias sister stays nearby, they collaborate and work together whenever there is a piece of land to clear, thus getting the work done a lot more quickly. Maria and her son also work together in the fields since the food harvested feeds both households.
- She adds animal wastes and poultry husks to boost soil fertility in the coffee fields. She buys poultry husks from her neighbour at UGX 1000/= per wheel burrow, and the piggery project provides the pigs dung and urine.
- Much of the land under coffee production is being replanted with food crops production, especially with cassava that is drought tolerant and yields in bulk.

- She joined a VSLA, they save UGX 2000/= per group member at every sitting, the money it lent out to the group members attracts an interest of UGX 1000/= for every UGX 10000/= borrowed.
- In order to ensure that her household receives its dietary animal protein requirements, she buys silver fish ("*mukene")* and "*Nkejje*" that she mixes with beans or ground nuts to make soup.

Annex 2 Checklist and Questions

Checklist

Coffee Informants

Impacts of AIDS on coffee production

- What are the different impacts of AIDS on household coffee production that you have witnessed during your working years of experience in the coffee industry?
- What negative effects have noticed with household affected by AIDS on coffee production
- What are your reasons for and/or persistence of these effects
- What solutions and recommendations to coffee farming households

Impacts of AIDS on human capital

- What are the mains sources of labour in coffee farming household?
- What can you tell me about trainings and education (Transfer of knowledge and skills, accessibility) that you conduct and their gender representation and participation.

Community leaders:

- What are the existing community assets influencing availability of labour, health, education, and food supply.
- How do household utilise of community assets
- What measures are in place to ensure the sustainability of community assets
- What recommendations and suggestions for sustainability can you give?

AIDS organisation informants:

Differentiated coping to the impacts of AIDS on human capital

- What nutritional changes (evidence of nutrition deficits, supplements) have you observed with the AIDS affected households?
- What changes have you observed with household labour availability or source, and education of the children? How has your organization helped these household.
- What is their rate of access and accessibility to health services (treatment and drugs)
- What strengths of households affected by AIDS have you observed in your line of work(coping methods)
- In your opinion what are the reasons for their success
- What could be the most likely challenges for these coping methods

For ALL

Differentiated coping mechanisms households to declining coffee production

- What production methods or systems being employed by affected household
- What alternatives (crops or sources of income) are being adopted by household
- What are your suggestion and recommendations to these production methods or alternative crops?

Expectations of households from their coffee farmer or AIDS organisation

- What are the key services rendered by farmer organisations
- What are the requirements for access, how accessible are these service to the rural farmer
- What are the challenges faced by farmer organisations

- What are your recommendations and suggestions for sustainability

Observation Checklist and Questionnaire
Household:

Household occupants' details:

Name (s)	Position in the household	Sex	Age	Relationship with H/H head	M/S	Faith	Educational level

How do the household members associate /relate with the head?
How does this relationship portrayed by the household head affect the relationship within household members?
If the household head is a woman, how many co-wives does she know of if any; are they all staying in the same household?
Are all school going age children attending school currently (time of interview), if not why? Explain?

Livelihood
What is the main source of livelihood of the household head? (Husband and wife)
What is the main economic activity of the household?
Does the household head (husband and/or wife) have other jobs elsewhere?
Where is this job (workplace) located?
A questionnaire is a list of questions you directly ask to the respondent. The way you formulate it here is like it is a checklist for yourself.

Illness and death.
Is the household taking care of a person suffering from AIDS related infections and diseases?
What is the relationship of the household and the person suffering from the AIDS condition?
Has the household suffered loss of a family in the last five years to AIDS related diseases and infections?
What are/were the responsibilities (to coffee production (labour, and knowledge and skills)) of this person to the household?
Are there any orphans being taken care of by the household? If so How many are they and who were/are their parents?

What Knowledge and skills can the household members provide on the two critical issues of research (coffee production, impacts of AIDS)? Coffee production:
You could ask the farmer here to draw a map of his/her farm and fields. If you ask them to do, it can lead to a natural way of asking questions.

1) What is the land tenure (land ownership) system on which the household exists?
2) What crops are grown by the household?
3) Who has control over, what crops? State crops grown for cash, food or both?
4) What is the importance of the crops grown?
5) What land size is occupied by crops and how far is it from the homestead?
6) Are there single stand or mixed crop plots? what crops are intercropped?
7) If part of the crops grown is marketed, what quantity of the produce is marketed?
8) Who is in-charge of marketing what crops?
9) How are the finances from the sales managed?
10) What are the implications when the person in-charge of marketing falls ill?
11) Who owns the coffee garden?
12) If a man owns the coffee garden, is the woman allowed to own a coffee garden or part of it too? If so on what basis is this possible, and why?
13) How has having a household member dying from or suffering from AIDS related diseases affect the labour available in the household?
14) How has the quality and quantity of coffee produced changed?
15) How do the changes in coffee production affect the effects of AIDS on a household?
16) What are the underlying factors causing these changes?
17) If drastic changes in were to occur coffee production, how would the components of human capital be affected?
18) What are the roles of men and women in coffee production?
19) What are the roles and functions of other household members (boys and girls) in coffee production?
20) What functions/activities play a critical role in determining the quality or quantity of coffee?
21) Who is in control of these functions/activities and why?
22) What changes have occurred or happened in coffee production?
23) How have these changes affected the household?
24) How have the changes in coffee production affected human capital of the household?
25) How is coffee production affected when a male or female member of the household is affected or dies of AIDS related diseases?
26) How does having a man or woman in the household who has died or suffering from AIDS related diseases affect the labour force in coffee production?
27) What changes are experienced in knowledge and skills access or transfer when a man or woman of the house is affected or dies of AIDS related diseases?

Impacts of AIDS:

1) What are the roles (productive, reproductive, community) played by the men and women in the household?

2) How have the children in the household been affected? How differently are girls and boys affected and who was called upon first when a member of the household was/is suffering from AIDS related diseases?
3) How has AIDS affected these roles?
4) What are the main problems faced by household members when they have a person suffering from AIDS related diseases?
5) How does the person(s) suffering from AIDS related disease feel about their household members?
6) Are there any household members who have died because of AIDS related diseases, if yes, who?
7) At what age did this person die or got affected of/with AIDS related diseases?
8) How has the death of these persons (this person) affected the household?
9) How is a household affected when it has a member suffering from of AIDS related diseases?
10) What is the perception of the household of a member who is suffering from AIDS related diseases?
11) How does the religious denomination of the household affect the person with AIDS related diseases?
12) How has the relationship between household members changed due to AIDS?
13) What is the likelihood of a household member to disclose that they are suffering from AIDS related diseases? Why is this so?
14) How are men or women suffering from AIDS treated? What are the differences causing this treatment?
15) How has AIDS affected the components of the human capital (labour, nutrition, health, education, and, knowledge and skills)?
16) Which of these components of human capital are most affected and why?
17) Which components are affected when a man or woman in the households is suffering or dies from AIDS related diseases and Why?
18) How have nutritional provisions of the household changed? What are the reasons of having these changes?
19) What happens to the roles these affected or dead persons were playing in the household?
20) How is the transfer, sharing or acquisition of knowledge and skills affected by AIDS in a household?
21) Has there been a change in human movement (migration, birth, death) in a household as a result of AIDS affecting the household?
22) Are there any orphans being taken care of in the household. If so how many, how many are male or female?

Coping mechanisms:

1) Now that there is a labour a labour shortage in the household; how has the household responded to this reduction in labour?
2) What exactly has changed due to a reduction in labour due to the impacts of AIDS?
3) What mechanisms are being put in place by the household to avert the impacts of AIDS?
4) What is being done specifically by men and women to avert the impacts of AIDS?

5) How many meals a day are the household members having per day? Why the mentioned number of meals, if it deviates from the basic 3 meals per day?
6) How is the household suiting to avert the impacts of AIDS on the nutritional status and level of the household members?
7) What immediate responses is the household putting in place to become more resilient?
8) What roles are males and females playing in the household to cope to the impacts of AIDS?
9) What roles are taking up more of the woman's time and why?
10) How do women cope with the change/shift in roles?
11) In terms of workload, which gender seems/appears to be putting in more effort to build the resilience of the household? Why is it that this gender seems/appears to put more effort
12) How is household addressing the labour shortage?
13) Are their extra costs involved in addressing labour shortage; if so, what the terms or conditions attached with these extra cost?
14) What are the children in the household doing to help the household become more resilient?
15) Do the AIDS patients in the household have access to medication; if so when is it available, where can supplies be found, who provides the medication?
16) How have relatives and friends helped the affected household?
17) What crops are being grown to supplement the cash income that was generated by coffee production?
18) What has become of the coffee garden?
19) What the elder members of the households doing to ensure that the younger generation acquire the decades of knowledge and skills that they have mastered over time?
20) What is the household doing to ensure that both the healthy and the sick receive the basic nutritional requirements?
21) How is the decision making process in the household taking place? Does this process involve women, and is their opinion considered given the circumstances?
22) How is religion and culture influencing the decision making process of women, and the girl child attending school or training?
23) How has the religion of the household head, helped in coping to the impacts of AIDS?

Asset Mapping Checklist

People in the neighbourhoods and communities

1. What are the demographics of people that live in the community?
2. What occupations do they hold? What are some of the skills associated with the main occupations?
3. What are the most travelled routes?
4. What are the migration patterns?

Housing

1. What is the type of housing?
2. What is the age of housing?
3. What is the condition of housing? Are there patterns evident in the type, age, condition by income, race, ethnicity, etc.?

Institutional Assets

Education and schools

1. How many schools are there including preschool, elementary, high school, college, and vocational education?
2. Are there any unique or special attributes of the schools in the area (privately or government funded, etc.)?
3. Are there known associations supporting or working on education, such as PTAs, parental associations, teacher associations, non-profits?

Health and Human Services

1. Are there clinics and hospitals in the area?
2. What about physicians?
3. Are there organizations that provide health education, AIDS/HIV education, or other similar services?
4. What governmental agencies actively provide health and human services and where are they located?

Transportation

1. What are the condition or road and bridges?
2. What is the condition of public transportation?
3. What are the patterns and types of traffic?

Government

1. What local government offices are located in the community?
2. What country government offices are located in the community?

3. What law enforcement offices are located in the community? What are the relationships between law enforcement and citizen groups? Are there community policing efforts or neighbourhood watch associations?
4. What coordinating governmental bodies or groups are there (e.g., to make accessing government services easier?)

Physical and Land Assets

1. What type of terrain is there?

2. Are there pieces of land owned by government agencies? Are there large pieces of land owned by private companies? Who owns the land?
3. Is there land that appears not to be in use?
4. Is there evidence of taking natural resources from the land, now or in the past?
5. How would you describe the physical space (e.g., densely populated, open, sparsely populated, highly developed, undeveloped, etc.)?
6. Are there key physical landmarks, resources or attributes that could be assets in your program?

Organizational Assets

Business, Economy and Employment

1. What kinds of businesses are there? Consider for for-profit and non-profit businesses that provide jobs and employment opportunities.
2. What kinds of partnerships exist, if any, between small and large businesses and non-profits, social service agencies, and other voluntary groups?
3. What types of training and education agencies or vocational programs related to business and employment exist?
4. What are the major non-profit organizations in the area? Are they locally focused or otherwise? What are their funding focus areas?

Media

1. What newspapers and publications, including small, independently operated ones, are in the community? Or, where are these newspapers located?
2. What are the media sources mostly accessed by community members?
3. Where do communication, radio and TV. Stations/service originates?
4. Are there public access points or channels? What kind of coverage do they do?

Technology

1. Where are the points of public (free) access to computers, the Internet, etc. (if any)?
2. Are there facilities where the public or community members can get training in technology?
3. How is the Internet or mobile phone technology being used for small or large business?
4. How comfortable/knowledgeable do you find community residents to be in using computers, the Internet or mobile phones? How does this vary by age or other factors?

Annex 3 Informed Consent Form

In English

You are invited to participate in a research entitled coping mechanisms of households to mitigate the impacts of AIDS on human capital in coffee production systems in Masaka District**.**

This research will provide information that will be beneficial for other AIDS affected household. The researcher, the University (Van Hall Larenstein) and NUCAFE hope to learn how coffee farming households are coping to the impacts of AIDS on human capital**.** You were selected as a possible participant in this research because your household has been affected by AIDS.

If you decide to participate, the researcher will engage you and members of your household in conversations, discussions, interviews and a two page questionnaire. All these activities shall be interactive in-order for the researcher to get a deeper understanding of the issues at hand. The researcher may sit with you during the any of the activities to facilitate an in-depth interaction to observe your responses and also explain in detail where necessary. In order to collect comprehensive raw data to be used in this research, the researcher shall use devices like; an audio recorder, a digital camera, a short-hand note book and a GPS device where necessary. You are free to inform the researcher in-case you are not comfortable with any of the raw data collection devices. The data collection process is in form of a case study, therefore the researcher will engage you and members of your household for a minimum of 3 days and not more than 5 days. The results of the finds will help the University and NUCAFE by throwing more light on coffee farmer households' coping mechanism to the impacts of AIDS on human capital. The identity of you the respondent shall remain anonymous and if you feel free to participate in this case-study however, we request that you make an effort to participate or have a member of the household available in the best way you feel that pertains to you as a member of an AIDS affected household.

Any information that is obtained in connection with this research and that, that can be identified with you will remain confidential and will be disclosed only with your permission. The results of the findings shall be compiled with those of other respondents and analysed to build a strong justification and throw more light on the research and training curricula/material development.

Your decision whether or not to participate will not prejudice your future relation with **the Coffee Farmers Organisation or the Community**. If you decide to participate, you are free to discontinue participation at any time without prejudice. If you have any questions, please do not hesitate to contact me. If you have any additional questions later, please contact **Robert MUSENZE** on ***Telephone Mobile No: +256-752-612516 or +256782-309066 or email address: robert.musenze@wur.nl*** that will be happy to answer them.
You will be offered a copy of this form to keep.

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time without penalty or loss of benefits to which you may be entitled after signing this form should you choose to discontinue participation in this study.

In Luganda (Mu Luganda)
Okulaga onyonyodwa era nga Okirizza

Olondedwa okwetaba mu kunonyereza okugenda mu maasso mu disitulikiti y'eMasaka okutunuridde engeri y'amaka ag'enyigidde mu kulima emwanyi gye gatebaganyamu (tetenkanyamu) ennima y'emwanyi n'okutangira obuvune (ebizibu) ebikulusanya ku ndwadde ya mukunenya.

Okununonyereza kuno kugya kufulumya okumanyisa (enkola ennungi) okunayamba ku maka agakosedwa endwadde ya mukenenya. Omunonyereza (Researcher), Essomero lya Van Hall Larenstein elyokuntiko (university), n'ekitongole kya NUCAFE basuubira okuyiga nga amaka gye ga gumiramu obuvune bwa mukenenya ku bulamu, enkola, n'endiisa y'omuntu. Olondedwa nga omu kwabo abanetaba mu kunonyereza kuno, lwakuba nti amaka go gakosedwa mukenenya.

Bwokiriza okwetaba mu kunonyereza kuno, omunonyereza agya kwetaba n'abomuka go mu mboozi, okunyumyamu, okubuzagana n'ebibuuzo ebitasussa empapula mukaaga. Bino byona ebimenyedwa bigya kuba bya kubaganya ebirowoozo (interactive), omunonyereza asobole okunyonyoka ensonga enonyerezebwa ko. Omunonyereza agya kutula nawe oba n'abenjuyo mukukubaganya ebirowoozo afune okunyonyoka era agya kulambula nga kwogasse n'okwetegereza amaka; ogya kunyonyola mubulambulukufu bwonaaba osabidwa. Mukukunganya ebidwamu omunonyereza agya kwewambisa akuuma akakwata amaloboozi (audio recorder), ekyuuma ekikwata ebifananyi (kamela), obutabo era n'ekyuuma ekitebereza ekiffo (GPS device) bwekinaaba nga wekiri. Oliwa ddembe okutegeeza omunonyereza nti towulira mirembe n'ekimu kubyuuma ebikozesebwa. Okunonyereza kuno kwa kwetegereza nyo amaka agetabye mu (case study) era nga kwa kutwala obutono enaku ssatu (3) era n'obutassukka enaku (5). Ebinaaba bizuridwa bigya kozesebwa nga webyamunyedwa mu muko ogw'okubiri wagulu. Okumanyikibwa kw'omuntu ayetabye mu kunonyereza kugya kusigala kukusike mukunonyereza kuno. Nga enju yo bwekosebwa mukenenya tusaba wetabe mukunonyereza kuno oba omuntu yenna gw'onaaba osiimye oba olagidde okubeerawo mukiseera ekyokunonyereza.

Ebinaba bizuuridwa byona, oba abamawulire aganafunika mukunonyereza kuno nga g'esobola okulonderebwa okutuuka ku gwe eyetabye mukunonyereza kuno gagya kusigala nga makusike era nga gakozesebwa nga omaze kuwa lukusa. Ebinaaba bizuridwa bigya kugatwa kubyabalala abanaaba betabye mukunonyereza kuno okuwa obumativu obugumivu mu kunonyereza era nemukukola emisomo oba ebikozebwa mu kusomesa abalala.

Bwoba osazewo okwetaba mukunonyereza kuno oba nga oganyi, tekukosa nkolagana yo nekibiina ky'abalimi b'emwanyi oba abekyaalo kyo. Bwoba nga osazeewo okwetaba mukunonyereza kuno olina ebeetu okukomya okwetaba mukunonyereza mukiseera kyona kyoba oyagadde.

Osobola okubuuza, bwoba nga olina woyagala okunyonyolwa. Singa olina ekibuuzo kyona, kwatagana ***Mwm. MUSENZE Robert*** *ku simu* ***+256-752-612516*** *oba* ***+256-782-309066****, era ne mu baluwa ya yintenenti (email) robert.musenze@wur.nl agya kubamusanyufu okudamu. Ogya kuweebwa olupapula okwezebwamu olwendagaano eno.*

Okusaalawo kwo okwetaba oba okugaana okwetaba mu kononyereza kuno kukwo. Omukono wanno wamanga gutegeeza nti osomye ebiwandikidwa mu ndagaana eno (ekiwandiiko) era nga osazewo okwetaba mu kunonyereza kuno. Oyinza okusala okuva oba okukomya okwetaba mukunonyereza kuno obudde bwona era nga tewagya kubeera wo kubereza kwona oba okufiirwa bwewandifunye oluvanyuma lw'okusaako omukono gwo wamanga.

_____ _____

Signature *(Omukono)* **Date *(Enaku z'omwezi)***

_____ _____

Signature of Parent/Legal Guardian (If necessary) **Date *(Enaku z'omwezi)***
(Omukono gw'omulabirizi omutongole) (Ogwetagisa)

_____ _____

Signature of Witness (If appropriate) **Signature of Investigator *(Omunonyereza)***
(Omukono gw'omujulizi) (Ogwetagisa)

Annex 4 Community Assets

Table 6: A Representation of Kyanamukaaka Community Assets

Item	Name	Location
Production and Credit Assets		
Coffee Traders	Mr Buruhani Ssendege	Nfuula LC1
	Mr Muyunga Kizito	Nfuula LC1
	Mr Kayondo	Kasolo LC1
	Mr Kagodo James	Kasolo LC1
	Mr Maalo Vincent	Kagologolo LC1
	Mrs Bukenya Edward	Kagologolo LC1
Pineapple Traders	Ssalongo Waswa James	Kagologolo LC1
	Mr Peter Luswabi	Nfuula LC1
	Mr Kato	Kasolo LC1
	Mr Mawanda Moses (Jjaja)	Nfuula LC1
Input Suppliers	Ssalongo Mugerwa	Kyanamukaaka TC
	Mr Kavuma	Kyanamukaaka TC
	Mr Dalaus	Baala Serinya LC1
Skills and Experiences		
	Skill or Experience	**Name of Person**
	Basket (Obusero) Weaving	Mrs Luswata Mrs Nalukwata
	Basket (Obubo) Weaving	Mrs Nalukwago
	Mat Weaving	Mrs Lutaaya
	Pineapple Farming	Mr Mujuzi H
	Basket Weaving Mix Colour from dyes and designs	Mrs Mujuzi
	Basket (Obusero) Weaving	Mrs Ndagaano
	Pineapple Juice (with Ginger) Pineapple Wine (With Millet) Snack making from wheat flour	Mrs Nantongo
	Nursery Bed Making and Management	Mrs Nakaaki R
	Piggery and Poultry Management	Mrs Namujuzi I
	Pineapple and Piggery	Mrs Namyalo M
	Banana Farming	Mr Mitala Matia
	Passion Fruit Farming	Mrs Nansamba
	Tomatoes, Beans and Maize Farming	Mrs Nante Federes
	Ground-nuts and Maize	Mrs Nanyonga
	Cattle Zero grazing, Basket weaving and pineapple farming	Mrs Ndagire
	Mat weaving and Passion fruit grafting	Mrs Nakanjako

	Piggery	Mrs Nante Josephine Kavuma
	Cattle husbandry and treatment	Mr Lubyogo Seleve
Professionals		
	Mr Mugejera (Kalisizo)	Medicine supplies
	Mrs Nansamba (Kitofaali)	-do-
	Mrs Kibuga (Kyantale)	-do-
	Mrs Nakanwagi (sister to Berna)	-do-
	Mrs Kyaga (Kyantale)	-do-
Organisations		
Organisation	**Location**	**Type**
St. Gyaviira Clinic	(Kitofali)	Private
Maddo (CFCA)	Masaka	Faith Based CBO
Kitovu Mobile Services	Masaka	CBO
World Vision Uganda	Kampala – Masaka	International NGO
Goal	Kampala – Masaka	International NGO
Gota (Part of Kitovu Mobile Services)	Masaka	CBO
NAADS	Kampala – Masaka	National Policy
Ani Eyali Amanyi F.G	Kyantale – Kyanamukaaka	Farmer Group
Kyanamukaaka Prison Facility	Kyanamukaaka TC	Government (Source of Labour)
Businesses		
Name	**Location**	**Service Rendered**
Mr Peter	Kyanamukaaka TC	Phone Charging (Electricity)
Mr Kayima Daudi	Kyanamukaaka TC	Phone Charging (Electricity) and Airtime
Mr Mugerwa	Kyanamukaaka TC	Loud-Speaker for News and Announcements
Mr Siraje	Lukindu TC	-do-
Mr Burahimu	Kitofaali	-do-
Mr Ganaku	Kyesiiga	-do-
Mr Sam Katalaga	Kibutamu	-do-
Natural		
Forest	Kajjuda (near Kyesiiga)	Firewood
Grass lands	Kyesiiga near play ground	Grass / Sisal for mats (obuso)
Swamp lands	Lake side	Basket making materials (obuyanja)
Transportation		
Mr Mujuzi Herman	Motorcycle	Pick-up medication or emergency use
Mr Kato and Waswa	Pick-up truck	Transportation in group
Mr Kaloori (Kasolo) Mr Lubambula (Kagologolo)	Self-tipping truck	Transportation in group

Employment opportunities:		
Enterprise	**Employer**	**Population employed**
Pineapple farms	Big farms	Employment for male youths (Trading centres)
Fishing	Fishing boat owners	Employment for male youths (Trading centres)
Bodaboda s	Bodaboda owners	Employment for male youths (Trading centres)
Culture, Cultural Organisations and Leaders		
Organisation / Representative	**Services Rendered**	**Location**
Abakyala Twesitule	Offered Heifers	Kyanamukaaka TC
Nkobazambogo (CEDO)	Financial Support Encouraged Savings	Kyanamukaaka TC
Mr Hamis Kalibala	Advocacy	Kagologolo Council representative
Mrs Nakuya Susan	Advocacy	Kagologolo Council representative
Mr Senkungu Edward	Bursary (For children in school)	Kyanamukaaka TC
Mr Kimbowa John	½ Bursary for school children	Kyanamukaaka TC

Annex 5 Research Schedule for the Months of July and August