ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP PRODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA

Ph.D. Agricultural Extension and Rural Sociology

BY

Hannatu Yohanna MICHAEL
P13AGAE9002

Department of Agricultural Economics and Rural Sociology
Faculty of Agriculture
Ahmadu Bello University, Zaria

JUNE, 2015

ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP PRODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA

BY

Hannatu Yohanna MICHAEL
P13AGAE9002

A DISSERTATION SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY (PH.D) DEGREE IN AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY

DEPARMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY
FACULTY OF AGRICULTURE, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

JUNE, 2015

DECLARATION

I hereby declare that this dissertation titled "ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP PRODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA" was entirely the result of my research and no part of it has been submitted elsewhere before this work. All original ideas used have been fully acknowledged.

_____ _____

Hannatu Yohanna MICHAEL Date
Student

CERTIFICATION

We certify that this dissertation titled "ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP PRODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA" was carried out by Hannatu Yohanna MICHAEL and has met the requirements for the award of Doctor of Philosophy (Ph.D.) degree in Agricultural Extension and Rural Sociology, Faculty of Agriculture, Ahmadu Bello University, Zaria, Nigeria. This work has been approved for its contribution to knowledge and literary presentation.

_____	_____
Prof. J.G. Akpoko (Chairman, Supervisory Committee)	Date
_____	_____
Prof. D.F. Omokore (Member, Supervisory Committee)	Date
_____	_____
Prof. Z. Abdulsalam (Member, Supervisory Committee)	Date
_____	_____
Prof. Z. Abdulsalam (Head of Department)	Date
_____	_____
Prof. K. Bala (Dean, SPGS, ABU)	Date

DEDICATION

This work is dedicated to my unforgettable beloved late father, Digai Abui Jury, my beloved entire family members and my younger ones.

ACKNOWLEDGEMENTS

First, I acknowledge the Lordship of the Almighty God, my Father, Advocate and Ebenezer who kept me and provided all avenues to accomplish this study despite the long period. Father, I am most grateful and I return all the glory, honor and adoration unto you, amen.

I am indebted to Professor J.G.APOKO, the chairman of my supervisory committee (major supervisor) who despite his tight schedule would always go through my work, sentence by sentence, paragraph by paragraph and word by word. Not only that, he finds times to sit me down as his daughter to encourage me and tells me how to write best. As his slogan to me "MRS Michael, I want the best from you". Sir, may God bless you.

To the other members of my supervisory committee: Prof D.F Omokore and Prof. Z. Abdulsalam (H.O.D.). Honestly, you have stood by me with all zeal and desire to see that I make it. I remember the words of Prof. Omokore "whatever they or the masters say you should do, do it" while Prof. Abdulsalam chose and decided to address me "Doctor" even while on the journey. Sirs, God will locate and reward you.

I thank every member of staff of the Department of Agricultural Economics and Rural Sociology, especially Prof. T.K Atala, Prof. Ben Ahmed, Prof. Akinola who have much concern to see that I make it and always asking me "madam how far"?, Mr. Gideon, Mr. Dodo, Dr. Mamman, Mr. Onyibo, thank you very much.

I would also like to thank my friends and colleagues, Prof .J.G. La'ah who supported me with more than two-third materials that I used as well as guided me on how to approach the work. God would mark a difference in your life. Dr. Mrs. kwasau, Mrs.

Palu, Dr. Mrs. Yakubu, Mrs. Kambai, Mr. Isah, Barrister Afuwai, Mr. Bannah, Mr. Galadima who everyday tells me that "you will make it". Words cannot express my sincere gratitude to you, God will keep empowering you.

I thank the Management of Nigerian Institute of Leather and Chemical Technology, Zaria for the opportunity given to me to acquire this feat.

I must appreciate my spiritual fathers (pastors) Pst. Tula, Pst. Marison, Pst. Abubakar, Dr. Pst. Akuso, Pst. Bakwak and members of C.G.C who have been having sleepless night interceding for my success, victory, and breakthrough in life. God has answered you, may God release more grace, anointing and blessings upon you. Thank you very much.

I am highly indebted to my late father Mr. Digai Abui Jury of blessed memory; may his soul rest in real peace. He was the foundation of what I am today, whose dreams and desire is to see and hear his daughter address as "Doctor". He was a father to the co/indeed and graciously worked hard to see that his children are educated and glory be to God, today all his children are degree holders. Baba, thank you.

This work cannot be complete without me thanking my beloved children and Husband; Kubai, Swanta, Byeniyet, Atisan, Abrak, Peace and Favor who everyday prays and continue asking me, mummy when will you finish this your school? They were quite eager to see that their mummy is addressed as Doctor, and because of their enthusiasm, the two younger ones sometimes escorted me to the campus to see my supervisors, so that the supervisors will show their mummy mercy and favour. Surely, Jehovah, our creator will preserve you and make you to be great and excel in life more than mummy, Amen. I

sincerely love and cherish you my children. You will live long and be useful to the society.

Finally, I thank my mother and my younger sisters and brothers with their families; Mr. and Mrs. Duniya Lallai, Lydia, Mr. and Mrs. Ayuba, Mr. and Mrs. Peter, Deborah, Kulak, Mr. and Mrs. Gabriel, Mr. and Mrs. Yashim and my little sacrificial Kubai Digai, and also the Kozahs' family. You have been a source of encouragement and sacrifices just to see that I never faint on the way or give up which made this work a huge success. I am grateful to you all and your children too will make it in life.

TABLE OF CONTENTS

DECLARATION iii
CERTIFICATION iv
DEDICATION v
ACKNOWLEDGEMENTS vi
TABLE OF CONTENTS ix
LIST OF TABLES xiii
LIST OF FIGURES xv
LIST OF MAPS xvi
ACRONYMS xvii
ABSTRACT xix
CHAPTER ONE 1
1.0 INTRODUCTION 1
1.1 Background to the Study 1
1.2 Role of Crop production in the Nigeria Economy 2
1.3 The Role of Men, Women and Youth in Crop Production 3
1.4 HIV/AIDS and Its Devastating Effects 6
1.5 Problem Statement 8
1.6 Objectives of the Study 13
1.7 Hypotheses 14
1.8 Justification of the Study 14
1.9 Definition of Concepts 16
1.9.1 The Concept of Effect 16
1.9.2 The Concept of Youth 18
CHAPTER TWO 21
2.0 LITERATURE REVIEW 21
2.1 Socio-economic Characteristics of HIV/AIDS Infected Farmers 21
2.2 Reasons Influencing the Spread of HIV/AIDS among Men, Women and Youth Farmers 28
2.3 Prevalence Level of HIV/AIDS Among Men, Women and Youth Farmers 33
2.4 Effects of HIV/AIDS on (Crops Output, Income and Level of Living) of Men, Women and Youth Farmers 36
2.4.1 Effects of HIV/AIDS on Crop Output of Men, Women and Youth Farmers 36

2.4.1.1 Loss of agricultural output 36
2.4.1.2 Loss of labour force and education 40
2.4.1.3 Increased workload on women 43
2.4.1.4 Loss of extension staff and training 45
2.4.2 Effects of HIV/AIDS on Income among Men, Women and Youth Farmers 46
2.4.2.1 Loss of non-Farm income and assets 46
2.4.2.2 Elderly women who become caregivers 49
2.4.3 Effects of HIV/AIDS on Level of Living among Men, Women and Youth 50
2.4.3.1 Increased burdens of fostering orphans 50
2.4.3.2 Withdrawal of children especially girls from school 52
2.4.3.3 Loss of property and inheritance rights of women 53
2.4.3.4 Loss of quality in health services 55
2.5 Coping Strategies of HIV/AIDS Infected Households 57
2.6 Challenges/Constraints Among Men, Women and Youth Farmers Infected with HIV/AIDS. 63
CHAPTER THREE 67
3.0 THEORETICAL FRAMEWORK 67
3.1 The Structural Functionalist Theory 67
3.1.1 Application of the theory 72
CHAPTER FOUR 73
4.0 METHODOLOGY 73
4.1 Study Area 73
4.2 Sampling Procedure and Sample Size 80
4.3 Method of Data Collection 81
4.4 Method of Data Analysis 81
4.4.1 Descriptive analysis 81
4.4.2 Analysis of variance (ANOVA) 81
4.4.3 Analysis of variance (F) formula 82
4.5 Definition and Measurement of Variables 83
4.5.1 Socio-economic variables 83
4.5.2 Effects variables 84
CHAPTER FIVE 86
5.0 RESULTS AND DISCUSSION 86
5.1 Socio-economic Characteristics of the Respondents 86
5.1.1 Age 86

5.1.2 House-hold Size 87
5.1.3 Farm size 87
5.1.4 Farming experience 88
5.1.5 Income/economic status 88
5.1.6 Farmland ownership 89
5.1.7 Gender 90
5.1.8 Marital status 90
5.1.9 Marital union 91
5.1.10 Formal education attainment 91
5.1.11 Source of labour 92
5.1.12 Credit availability 92
5.2 Reasons Influencing the Spread of HIV/AIDS 93
5.2.1 Ways of transmitting HIV/AIDS 94
5.2.2 Sexual relationship 96
5.2.3 Sexual partners 96
5.2.4 Responses on the use of condoms during sex 98
5.2.5 Effectiveness of the use of condom during sexual intercourse 98
5.2.6 Responsibility of protection against HIV/AID infection during sex 99
5.3 Respondents' Responses on Prevalence Level of HIV/AIDS among Men, Women and Youth Farmers 100
5.3.1 Age- group prone to HIV/AIDS infection 102
5.4 Effects of HIV/AIDS on Crops Output, Income and Level of Living of Men, Women and Youth Farmers 103
5.5 Coping Strategies among People Living with HIV/AIDS 105
5.5.1 Access to health centres 107
5.5.2 Ways HIV/AIDS can be prevented/controlled 108
5.5.3 Other stakeholders' suggestions of strategies for combating HIV/AIDS 109
5.5.4 Suggested ways of preventing/controlling HIV/AIDS 110
5.6 Challenges/Constraints among Men, Women and Youth HIV/AIDS Infected Farmers 111
5.7 Test of Hypotheses 112
5.7.1 ANOVA test of the effects of HIV/AIDS on crops output. 112
5.7.1.1 Test of the effect of HIV/AIDS on crops output in Giwa LGA 112
5.7.1.2 Test of the effect of HIV/AIDS on crops output in Jema'a LGA 112
5.7.1.3 Pooled test of the effect of HIV/AIDS on crops output 113
5.7.2 ANOVA test of the effect of HIV/AIDS on income among men, women and youth farmers 114

5.7.2.1 Test of the effect of HIV/AIDS on income of respondents in Giwa LGA 114
5.7.2.2 Test of the effect of HIV/AIDS on income in Jema'a LGA 115
5.7.2.3 Pooled ANOVA test of the eEffect of HIV/AIDS on income among men, women and youth farmers in the study area 116
5.7.3 ANOVA test of level of living among men, woman and youth farmers 116
5.7.3.1 Test of the effect of HIV/AIDS on level of living in Giwa LGA 116
5.7.3.2 Test of the effect of HIV/AIDS on level of living in Jema'a LGA 117
5.7.3.3 Pooled ANOVA test of level of living among men, women and youth in the study area 118
CHAPTER SIX 119
6.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS 119
6.1 Summary of Findings 119
6.2 Conclusion 122
6.3 Recommendations 123
6.3.1 Recommendation based on the Findings of this Study 123
6.4 Contributions to knowledge 124
6.5 Suggestions for Further Research 125
REFERENCES 127
Appendix I: Research Questionnaire 141
Appendix II: Charts 152

LIST OF TABLES

Table 4.1: Sampling Size 80

Table 5.1a: Distribution of Respondents According to Socio-economic Variables 89

Table 5.1b: Distribution of Respondents According to Socio-economic Variables 92

Table 5.2: Distribution of responses according to factors influencing the spread of HIV/AIDS 94

Table 5.3: Distribution of Respondents According to Perceived Ways of HIV/AIDS Transmission 95

Table 5.4: Distribution of Respondents According to Extra-marital Sexual Activities 96

Table 5.5: Distribution of Respondents According to the Number of Sexual Partners 97

Table 5.6: Distribution of Respondents According to the Use of Condom During Sexual Intercourse 98

Table 5.7: Distribution of Respondents According to the Effectiveness of Use of Condom during Sexual Intercourse 99

Table 5.8: Distribution of Respondents According to who should be Responsible for Protection against HIV/AIDS Infection During Sexual Intercourse 100

Table 5.9: Distribution of Respondents According to the Prevalence Level of HIV/AIDS 101

Table 5.10: Distribution of Respondents According to Age group Prone to HIV/AIDS 103

Table 5.11: Distribution of Respondents According to Effects of HIV/AIDS on Crops output, Income and Level of Living 105

Table 5.12: Distribution of Respondents According to Coping Strategies 106

Table 5.13: Distribution of Respondents According to Access to Health Centres 107

Table 5.14: Distribution of Respondents According to Ways HIV/AIDS can be Prevented/Controlled 109

Table 5.15: Distribution of Respondents According to other Stakeholders' Suggestions in Combating HIV/AIDS 110

Table 5.16: Distribution of Respondents' in Controlling and Preventing HIV/AIDS 111

Table 5.17: Distribution of Respondents According to Challenges/Constraints 111

Table 5.18: Test of Crops Output among Men, Women and Youth in Giwa LGA 112

Table 5.19: ANOVA Test of Crops Output among Men, Women and Youth in Jema'a LGA 113

Table 5.20: Pooled ANOVA Test of Crops Output among Men, Women and Youth in the Study Area 114

Table 5.21: ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in Giwa LGA 114

Table 5.22: ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in Jema'a LGA 115

Table 5.23: Pooled ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in the study Area 116

Table 5.24: ANOVA Test of Level of Living among Men, Woman and Youth in Giwa LGA..... 117

Table 5.25: ANOVA Test of Level of Living among Men, Women and Youth in Jema'a LGA 117

Table 5.26: Pooled ANOVA Test of Level of Living among Men, Women and Youth in the Study Area 118

LIST OF FIGURES

Figure 1: Distribution of Respondents According to those who should be Responsible for Protection against HIV/AIDS Infection during Sex 152

Figure 2: Distribution of Respondents According to Prevalence Level of HIV/AIDS 152

Figure 3: Distribution of Respondents According to Age group Prone to HIV/AIDS 153

LIST OF MAPS

Map 1: Map of Nigeria Showing Kaduna State and the study area 78
Map 2: Map of Kaduna State Highlighting the Study Areas 79

ACRONYMS

AIDS	Acquired Immune deficiency syndrome.
ANOVA	Analysis of Variance.
ART	Anti-Retroviral Therapy
CARE	Care International.
CBN	Central Bank of Nigeria
CBO	Community Based Organization.
CDC	Centre for Disease Control and Prevention.
CTA	Country for Tropical Agriculture.
EA	Ethiopia Aid.
ECWA	Evangelical Churches of West Africa.
ENSG	Enugu State Government.
FAO	Food and Agricultural Organization.
FBO	Faith Based Organization.
FMARD	Federal Ministry of Agriculture and Rural Development.
GDP	Gross Domestic Product.
HIV	Human Immunodeficiency Virus.
IAEG	Institute for Agricultural Organization.
ICF	International Commission Fund.
ILO	International Labour Organization.
KSACA	Kaduna State Action Committee on Aids.
LATH	Liverpool Association in Tropical Health.
MDGS	Millennium Development Goals.
NACA	National Action Committee on HIV/AIDS.
NASCP	National AIDS/STDs Control Program.
NASFAM	National Smallholder Farmers' Association of Malawi.
NGOS	Non Governmental Organizations.
NPC	National Population Commission.
NYSC	National Youth Service Corps.
PABA	People Affected By AIDS.
PGHE's	Peer Group Health Educators

PLWHA	People Living with HIV/AIDS.
STDS	Sexually Transmitted Diseases.
SWAAN	Society for Women and AIDS in Nigeria.
UNR	United Nations Report.
UN/ECA	United Nation/Economics Council For Africa.
UNAIDS	United Programme On Aids.
UNDP	United Nation Development Programme.
UNIAIDS	United State Agency For International Development.
UNICEF	United Nations International Children's Emergency Fund.
USA	United States of America.
WHO	World Health Organization.
WOTCLEF	Women Trafficking and Child Labour Eradication Foundation, now known as NAPTIP (National Agency for the Prohibition for Trafficking in Persons).

ABSTRACT

The main objective of this study was to analyse effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa local government areas of Kaduna state, Nigeria. Jema'a and Giwa were purposively selected due to the prevalence of HIV/AIDS and the people are predominantly crop farmers. The specific objectives were to(i) identify the socio-economic characteristics of HIV/AIDS infected men, women and youth farmers,(ii) describe the reasons influencing the spread of HIV/AIDS among the farmers,(iii) identify the prevalence level of HIV/AIDS among the farmers,(iv) analyse the effects of HIV/AIDS (on crops output, income and level of living) among the farmers, (v) describe the coping strategies among HIV/AIDS infected farmers and (vi) identify the challenges/constraints faced among HIV/AIDS infected farmers in the study area. A sample size of 192 respondents was randomly and proportionately selected for the study. Structured questionnaire was used to elicit relevant data from the respondents. Percentages and analysis of variance (ANOVA) were used to analyse the data. The results showed that men and women were 41.8% and youth58.2%, and 73.0% had secondary education status, about 70% of the respondents earned between ₦1,000.00 - ₦15,000.00 monthly with the mean earning of ₦12,595.1. About 51 of respondents used family labour while 46% had family size of 6-10 members, about 69% were married and 40% had farm sizes of less than one hectare with about 28% having 6-10 years farming experience. Also, about 71% respondents do not have access to credit facilities. It was also found that 92% of the respondents had sex for satisfaction, 88% had sex for love and 86% had sex for money. The study also revealed that about 38% of women, and 35% of youth had higher prevalence of HIV/AIDS and because women constitutes the highest percentage among the youth group then that of men. In addition, the study found that the age group prone to HIV/AIDS is 21-39 years which corresponds to most sexually active age group. The study established that about 84% of respondents agree that HIV/AIDS significantly affects their crops output and income at5% level of significance. Generally, the common strategies adopted by the respondents in coping with HIV/AIDS includes sales of family assets, crops, labour; substitute expensive meals; live on less intake of preferred food and withdrawal of children from school. It was established that the general constraints affecting the HIV/AIDS infected farmers study area were stigmatization, insufficient income, lack of means of income (farm land), distance to medical care facilities and gender bias in terms of job opportunities affects the respondents in managing their HIV/AIDS status and crop production. It was concluded that HIV/AIDS has significant economic effects on crops output and income of the respondents implying that there might be a diverted attention, time and money in nursing the HIV/AIDS patients and burial or funeral services instead of on crop production. Consequently, it was recommended that poverty reduction strategies or measures need to be taken seriously and given priority for e.g., micro credit facilities for borrowing and the creation of sustainable income for the people affected by HIV/AIDS, direct support and supply of inputs need promptly at highly subsidized rate, intensification on enlightenment campaign on abstinence and use of condom among this active group, special package and programs towards alleviating or improving women income conditions since they are the most affected or vulnerable group by HIV/AIDS. Also, based on land ownership, income levels and gender which the female fold suffers most, there is need to draw up

legislation that can protect the land rights of women and children who contributes in a great measure to crop production development in Nigeria.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Human Immunodeficiency virus (HIV) and acquired Immune Deficiency Syndrome (AIDS) is a threatening pandemic that has eroded many lives especially in Sub-Saharan Africa. AIDS has killed about 2.8million people in the world-wide, 38.6million people living with HIV, while 4.1million people became newly infected with HIV/AIDS by 2005 (UNAIDS, 2006). AIDS kills mostly young people in the age group 15-49, thus depriving many nations of the young and most productive people.

Crop production is the actual cultivation of both food and cash crops for a livelihood. Crop production is a major economic activity in the rural areas undertaking by men, women and youth simultaneously (UNAIDS, 2002).

HIV/AIDS spread has brought a significant stress on the crop production affecting the crop output ,income and level of living of farmers negatively which posed a major challenge to the economic development of the nation and livelihood generally (La'ah, 2003). Hence, the study is limited in the scope of the effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa local government areas of Kaduna State .These two areas have HIV/AIDS epidemics and also involves in crop production for a livelihood. The study examined reasons for the spread of HIV/AIDS, prevalent level of HIV/AIDS among the respondents ,established the effects of HIV/AIDS on crops output , income and level of living , coping strategies adopted and constraints faced among the HIV/AIDS affected farmers.

1.2 Role of Crop production in the Nigeria Economy

Crop production is often central to the rural economy on national development. It is one of the most important sectors in many developing countries. In Nigeria, it provides a living or survival mechanisms for up to 2/3 of the 80% of the population, particularly among rural women, men and youth (UNIAIDS, 2002).

The Nigerian economy is predominately agricultural and the agricultural production sector is a major contributor to the country's Gross Domestic Product (GDP). For example in 2005, it contributed about 40% to Gross Domestic Product (CBN, 2005) and it employed over 60% of the total labour force in the country. Crop production supplies the bulk of labour force in Nigerian economy. It also supplies the raw materials to local industries as well as international industries. Particularly women were seen to be providing 60-80% of the labour in food production and a substantial contribution in cash crops as well as in animal production in many African's countries (UN/ECA, 1974). Apart from been mothers and wives and taking charge of domestic sectors, women contributed substantially to the production and distribution of goods and services (UN/ECA, 1974).

Although men and women participate in most crop production tasks, men predominate in land preparation and ploughing, women are entirely responsible for planting, harvesting, processing and marketing of food crops. While the youth participate in crop production base on gender, the male children goes with men while the female with the mothers in their performances (World Bank, 1996).

Ironically, despite these roles, women and children have remain seriously disadvantaged with respect to access to health, medication, finance and credit, agricultural

extension services, other productive resources, training opportunities and developmental benefits (World Bank, 1996).

1.3 The Role of Men, Women and Youth in Crop Production

The agricultural industry has been hit the hardest by the HIV/AIDS epidemic. With 28.5 million people mostly farmers living with HIV/AIDS in sub-Saharan region, the annual import of grains increased from 8.5 to 18.2 million metric tons between 1980 and 1999. Malnutrition has increased from a low level of 13% to a high level of 75% in many sub-Saharan Africa countries (UNIAIDS, 2002). Food and Agriculture Organization (FAO, 2000) has estimated that in the 27 most affected African countries, 7 million crop production workers have died from AIDS since 1985, and 16 million death are likely to occur in the next two decades if nothing is done to fight the disease in the sub-Saharan region (UNIAIDS, 2002; FAO, 2004). The impact of HIV/AIDS pandemic is unique because AIDS kills adults in the prime of their lives, thus depriving the society of its most productive people. Added to an already heavy disease burden, the HIV/AIDS epidemic is deepening and spreading poverty, reversing human development, worsening gender inequalities and eroding the capacity of governments to provide essential social services (Michiels, 2001; FAO, 2004; UNDP, 2002).

Crop production is often central to the rural economy. It is one of the most important sectors in many developing countries, a means of providing a living or survival mechanisms for up to 80% of Nigeria's population particularly among rural men, women and youth. Women, men and youth play essential and dynamic roles in societal economic development particularly in crop production. Although men and women participate in most agricultural tasks, men predominate in land preparation and ploughing, women are entirely responsible

for planting, harvesting, processing and marketing of food crops (Achike, 1999). While the youth participate in crop production based on gender, the male children go with the men while the females with the mothers in their performances. Women also involve themselves in raring of animals, and some other economic activities such as hand weaving industries. They work themselves out in order to feed, support and supplement the household income. This is confirmed by Dixon-Mueller (1985) who asserted that women contribute at least half of household income and are key actors in production and reproductive activities that provide people with the basic needs for food, shelter and clothing. As a consequence, they work more hours and sleep less than men. Women normally work for 17 – 18 hours daily with some flexibility for rural women due to seasonality (World bank, 1996). But despite these roles, they have remained seriously disadvantaged with respect to access to health, education, finance and credit facilities, agricultural extension services, other productive resources, training opportunities and developmental benefits. Women are the backbone of the agricultural sector, accounting for 70% of farm labour and being responsible for 60% – 80% of food production (CTA, 1999; Adisa and Okunade, 2005). Women in the rural areas produce food for survival and also contribute for small scale enterprise development. The practice is aimed at enabling women to successfully enter into employment in the area of production, services and trade in the informal sector as it provides between 50% and 70% of all economic activity in the Third world. Women do the domestic work, giving birth and raising of young ones; planting, harvesting, processing and marketing of farm produce. They also take care of the sick in their homes. Women's work in economic development has become a topic of concern among scholars and national development planners (World Bank, 1996).

Human Immunodeficiency Virus and Acquired Immune Deficiency Syndromes epidemic is a major threat to crop production and food security and diminishes availability of socio-economic and rural livelihood via direct loss of family labour, reduce time for farming, assets-striping, knowledge lose and void in farmers' generation (Mutangadura *et al*., 1999). Adoption of non-suitable farming practices due to reduction in labour force, cultivation of marginal and less productive lands, reduction of agricultural manpower, and loss of skilled labourers (Topouzis and Du-Guerny, 1999). Although HIV/AIDS statistics are not broken down into urban and rural areas, it is reasonable to infer from population data that the majority of the world's HIV/AIDS affected people live in rural areas. In sub-Saharan Africa, home of 70% of cases, more than two-third of the population of the 25 most affected countries lives in rural areas (Topouzis and DuGuerny, 1999). Research reports (World Bank, 1996; CTA, 1999; Adisa and Akunde, 2005) have shown that about 80% of the Nigerian population live in the rural area and are engaged mainly in agricultural production. These research findings also show that about 50% to 70% of agricultural related activities in Nigeria are performed by women and youth.

It is now widely demonstrated that rural women, youth, as well as men, throughout the world are engaged in a range of productive activities essential to household welfare, crop production and economic growth. Women substantial contribution continues to be systematically marginalized and undervalued in conventional crop production and economic analyses and policies, while men's contribution remains the central, often the sole focus of attention (Janelid, 1975). However, in many instances, the roles women play in farming and production are not formally recognized by Developmental Agencies (Dixon, 2005).

Acquired Immune Deficiency Syndrome is a chronic life threatening disease caused by the Immunodeficiency virus (HIV). The virus damages or destroys the cells of a person's immune system. People die directly of HIV/AIDS, the disease weaken the body's ability to fight other diseases. When these diseases attack, they weaken the defence systems of an infected body and the body has no resources with which to fight off that attack. Haan (2004) states that this is what makes HIV/AIDS dangerous, making the infected person more vulnerable to almost any disease attack that might come along.

1.4 HIV/AIDS and Its Devastating Effects

One of the objectives of Millennium Development Goals (MDGs) is the eradication of or reduction in the rate of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) and other diseases so as to ensure environmental sustainability (Human Development Report, HIV and AIDS, 2004). The virus damages or destroys the cells of a person's immune system. When these diseases attack, they weaken the defence systems of an infected body and the body has no resources with which to fight off that attack. This is what makes HIV/AIDS dangerous, making the infected person more vulnerable to almost any disease attack that might come along (Haan, 2004).

Worldwide, especially in Sub-Saharan Africa, HIV/AIDS threatens to reverse development gains. The disease has reduced life expectancy, food security and income in many countries. It is estimated that 40 million people are living with HIV/AIDS and 95% are in developing countries (WHO, 1993).

Globally, 24.8 million people (men, women and youth) have died of AIDS since the disease was first identified (UNIADS, 2002). In 2001, five million people became newly infected with HIV, about 14 million people become infected every day, and three million

people died of AIDS in 2001 (UNIADS,2002). The world spends about $2 billion annually on HIV/AIDS prevention and cure in developing countries since its inception (UNIAIDS, 2002; and UNDP, 2002).

Acquired Immune Deficiency Syndrome (AIDS) has already taken a terrible human toll, not only among those who have died but among their families and communities. Short of an affordable cure, this toll is certain to rise. Ninety percent (90%) of HIV/AIDS infections are in developing countries, where resources to confront the epidemic are most scarce (World Bank Group, 2003). Human Immunodeficiency virus and Acquired Immune Deficiency Syndromes began in the early 1980's claiming the life of 20 million children and adults and orphaned about 42 million children (World Bank Group, 2003). Subsequently, the number of HIV/AIDS cases has kept on increasing affecting men, women and youth all over the world (World Bank Group, 2003).

The first AIDS case in Nigeria was reported in 1987. However, based on the report published by the National AIDS/STDs Control Programme (NASCP) in 2001, Nigeria has been identified among African countries with prevalence rate of 1.8% in 1993, 3.8% in 1994, 4.5% in 1995 and 5.4% in 1999, representing a 20% rate of HIV/AIDS prevalence in Nigeria (NPC, 2000; UNAIDS, 2000 and 2001). The present prediction has confirmed that HIV/AIDS already killed 7 million Nigerians and by the year 2020 16 million Nigerians could die with women and youth being the majority which could in turn affect the crop production sector in their communities (FAO, 2004). Hence according to UNAIDS executive Director, Dr. Peter Poit (FAO, 2004):

> *Aids is no longer simply a public health issue: it cuts across agencies, disciplines, and national boundaries…That there is no part of society in the hardest hit areas that is not in some way touched by the epidemic*.

We are talking not only about health, but about education, agriculture, and the economy. Acquired Immunodeficiency Syndrome threatens to roll back decades of hard-won development. Indeed, it has become a full-fledge development crisis (David, 2006).

Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) infected people has increased up to about 40.3 million people and the sub-Saharan Africa has about 25.8 million adults and children living with HIV, while those newly infected stood at 3.2 million, with a total death of 2.4 million people due to AIDS. It is stated that, Nigeria, with a population of over 144 million people has the highest number of people living with HIV in West Africa (Division of HIV/AIDS Prevention, 2006).

Hence, HIV/AIDS has become a threat to humanity nationally and internationally. It is affecting more and more people (men, women and youth) every day, every hour, minutes and even in seconds. It is a threat in that it is invisible until the infected victim is faced with its devastating results. Following this development, many families, Non-Governmental Organizations, church denominations and organizations alike as well government all over the world have continued to express concern over the deadly disease, but it does not seem to have absolute medical solution since people continue to die on daily basis.

1.5 Problem Statement

Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) have become a universal phenomenon affecting the human race (World Bank Group, 2003). AIDS has killed about seven million agricultural workers since 1985 in the 25 hardest-hit countries in Africa. It could kill 16 million more of which men, women and youth are majority before 2020 (FAO 2004). The most affected African countries could lose up to 26% of their agricultural labour force within two decades (FAO, 2004). Recent estimates

have shown that food consumption has dropped by 40% in homes afflicted by Human Immunodeficiency Virus and Acquired Immune Deficiency Syndromes. Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome infection rates are three to five times higher in young women than in young men (FAO, 2009).

Historically, the response of HIV/AIDS has run a parallel course from one country to another. At the global level so much money is voted and so many workshops have been organized to develop effective strategies towards curbing the HIV/AIDS spread. For instance, the World Health Organisation Global Programme on AID Report (1993) indicates that $2.5 billion was dispensed for AIDS prevention, and $90 billion was also dispensed in year 2000 (Global AIDS News, 1993, No. 3). The Government of France in 1995 dispensed $20 billion to the global effort for the control and prevention of AIDS. In addition, the Government of Japan also committed over $9 billion for AIDS control in 1995 (Galia, 1995). According to UNAIDS (2002) and UNDP (2002) the world spends about $2 billion annually on HIV/AIDS prevention and care in developing countries. Also, at the national and states level, campaigns against HIV/AIDS are being carried out to reduce the spread of the epidemic. According to Cross Roads (2001) in 1999 when President Olusegun Obasanjo came into power, the United State Agency for International Development (USAID) team immediately came to Nigeria as one of the donor agencies on AIDS. The President Life Initiative Program (PLIP) was launched to create awareness nationwide on HIV/AIDS. For example, Nigeria spends $1,607,897,254 for 2006-2010 for the control of AIDS among orphans and vulnerable children (FMOH, 2005). The National Action Committee on AIDS (NACA), Non-Government Organizations (NGOs) like ECWA AIDS Ministry, Jos, and the Anglican Communion of Nigeria have been involved in the campaign against HIV/AIDS.

Society for Women and AIDS in Nigeria (SWAAN) in which youth are the major target group has established friendly health counselling and other services centres at the Local, State and National levels. All these organizations perform the role of preventing the spread of HIV/AIDS in the society. The following steps have been adopted:

i. Organizing training workshop for voluntary counselling and testing where men and women were trained to go and enlighten their members at the grass root as well as the general public on the risk of the disease, preventive, care and support services, as well as counselling techniques.

ii. Setting aside a week within the year as a HIV/AIDS awareness week.

iii. Carrying out AIDS awareness and sensitization especially targeting the adolescents.

iv. Establishment of home based care services to cater for people living with HIV/AIDS (PLWHA) and people affected by AIDS (PABA) (www.anglicancommunion.org2000).

v. Encouraging sexual abstinence for the unmarried and mutual fidelity among the married couples.

The then President of the Federal Republic of Nigeria assigned the Federal Ministry of Health in May, 1999 to carry out home and community based health care service programmes in collaboration with the primary Health Care projects in the states and local government areas in the campaign against HIV/AIDS (Cross Roads, 2001). The efforts include the promulgation of laws and social conventions against homosexual and commercial sex workers', making available, affordable and suitable condoms against unprotected sex among the youth, empowering women to be able to defend themselves against unprotected

sex and educating both adults and children in primary, secondary and colleges about sexual and other forms of HIV/AIDS transmissions by establishing anti HIV/STD's clubs in the institutions (NPC, 2000). These groups have been trained as Peer Group Health Educators (PGHE's) in the Local Government Areas.

Furthermore, religious organizations or leaders in the Local Government Areas have pledged their support in the campaigns against the spread of the disease or epidemic by educating the public to abstain from secular sex and remain faithful to their partners. Many denominations such as Evangelical Churches of West Africa (ECWA), Catholic, Jehovah-Witness, Deeper Life Bible Church and many others have printed and distributed several leaflets on the effects and control measures of HIV/AIDS epidemic (Cross Roads, 2001).

In addition, the National Youth Service Corps (NYSC) members have been assigned into rural areas to educate both adults and children on the effects and prevention of HIV/AIDS. Traditional leaders and elders at the community levels are also supporting the campaigns against the epidemic by infusing cultural norms against wife inheritance, early marriage, divorce, high bride price and discouraging children or wards against commercial sex and prostitution (Mamman, 2001). In spite of all the efforts being put in by government at all levels as well as non government organizations and religious bodies, there is still increased reported cases of HIV/AIDs related diseases in Kaduna State (Cross Roads, 2001) with a number of people dying daily.

Consequently, the problems of HIV/AIDS on crop production in relation to the study areas; men, women and youth have been infected or seem to be equally vulnerable to HIV/AIDS infected and deserve equal attention to policy makers towards poverty and hunger reduction.

Secondly, crop productivity and other related activities have been affected which reduces their crop productive efficiency leading to hunger and poverty.

Thirdly, crop production in the country via the state of study has dropped drastically likely due to the fact that the most active group of the population in the rural areas are the worst hit of HIV/AIDS epidemic.

Fourthly, people become poorer as a result of reduction or loss of labour force among HIV/AIDS infected farmers in the rural areas.

Little work has been done on effects of HIV/AIDS on crop production, for example, La'ah (2003) in a study titled "The Demographic and Socio-Economic Effects of HIV/AIDS in Kaduna State" and Bako (2011) in a study titled "A Comparative Analysis of the Coping Strategies of People Living with HIV/AIDS in Kachia and Giwa Local Government Areas of Kaduna State." Therefore, this study aims at analysing the effects of HIV/AIDS on crop production among men, women and youth in Jema'a and Giwa Local Government Areas of Kaduna State. Given this background, this study hinges on finding solutions to the following research questions:

i. what are the socio-economic characteristics of HIV/AIDS infected men, women and youth farmers in Jema'a and Giwa Local Government Area?
ii. what are the reasons influencing the spread of HIV/AIDS among Men, Women and youth farmers in the study area?
iii. what are the prevalence levels of HIV/AIDS among men, women and youth farmers in the study area?
iv. what are the effects of HIV/AIDS on (crops output, income and level of living) of men, women and youth farmers in the study area?

v. what are the coping strategies among HIV/AIDS infected men, women and youth farmers in the study area?

vi. what are the challenges/constraints faced by HIV/AIDS infected men, women and youth farmers in the study area?

1.6 Objectives of the Study

The aim of this study was to analyse the effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa Local Government Areas of Kaduna State, Nigeria.

The specific objectives were to:

i. identify the socio-economic characteristics of HIV/AIDS infected men, women and youth farmers in the study area;

ii. describe reasons influencing the spread of HIV/AIDS among men, women and youth farmers in the study areas;

iii. identify the prevalence level of HIV/AIDS among men, women and youth farmers in the study area;

iv. analyse the effects of HIV/AIDS on (crops output, income and level of living) of men, women and youth in the study area;

v. describe the coping strategies among HIV/AIDS infected men, women and youth farmers in the study area, and

vi. identify the challenges/constraints faced by HIV/AIDS infected men, women and youth farmers in the study area.

1.7 Hypotheses

The hypotheses tested in this study are:

i. There is no significant difference between the effect of HIV/AIDS among men, women and youth in their crops output in the study area.

ii. There is no significant difference between the effect of HIV/AIDS among men, women and youth in their income in the study area.

iii. There is no significant difference between the effect of HIV/AIDS among men, women and youth in their level of living.

1.8 Justification of the Study

The prevalence rate of HIV/AIDS in Kaduna State as revealed by the various sentinel surveillance surveys is a cause for concern especially to policy makers towards national food security. The general consensus now is that AIDS is a profound human tragedy, which has gone beyond a mere problem, but a real threat to the economic growth and development of any nation (WHO, 1999). HIV/AIDS has caused shortage of man power in all aspects of human endeavours, increased poverty, hunger, withdrawal of children especially girls from schools, increased workload on women, loss of farm income and assets, increased burdens of fostering orphans, emergence of elderly women as care givers among others. Hence, the socio-economic consequences of HIV/AIDS are a developmental issue and require all necessary attention.

About 80% of Nigerians lived in the rural areas and a great number of this population comprises the youth and women. The youth form a strong labour force in crop production; women also contribute 70% of the labour in food production (ILO, 1999). The sex division of labour in crop production is both task and crop specific. Men, women and the youth are

fully involved in crop and livestock production, processing and marketing. Therefore, in order to enhance crop production towards eradication of hunger and poverty in Nigeria particularly in the study areas, the effects of HIV/AIDS on men, women and the youth must be properly addressed.

Studies of HIV/AIDS epidemic in Africa revealed that the prevalence rate of the disease is higher in women than men. In Nigeria, it is recorded that where the rates are higher in men than women; the HIV impact is particularly more on women. This study, therefore, envisaged identifying which group of the people suffer most of HIV/AIDS infection and possibly the reasons behind it, so provide policy makers and understanding of the gravity of the disease. This study has helped to identify the various strategies adopted by the various groups affected by HIV/AIDS in the study area and also introduced new coping strategies available for the control of the deadly disease.

Studies have revealed that there are various reasons that are associated with the spread of HIV/AIDS globally and these factors therefore have effect on the livelihood of the patients. This study has also provided an appropriate feedback on factors that are associated with the spread of HIV/AIDS in the study area and also analyzed in addition the level of effects of the disease on farmers' output, income and level of living. The study also helped to find out which group of farmers is affected more by HIV/AIDS and reasons behind it and offered possible solutions to appropriate agencies for necessary actions.

Over the years, social science researches have held that HIV/AIDS is a causal factor for food insecurity. This study went further to identify poverty among women; exclusion of women , widows, girls from land ownership, and lack or absence of credit/loans from government and non- governmental organizations particularly to the female fold as

explanatory factors against food security. It was therefore, concluded based on this study that, if the HIV/AIDS infected farmers particularly, the women are empowered financially and reviews of the existing land tenure system; they can be in a better position to control and improve their HIV/AIDS status and also boost crop production towards food security and sustainable development.

The study also suggested policy makers at the local government area, the state and outside the state, health organization, NGOs, agricultural research institutions to embark on similar and related studies with the view of educating their target audience in respect to the control and prevention of the deadly disease.

In addition, the findings of the study has helped both the stake holders and the society in general to know that HIV/AIDS is not a respecter of gender, age, wealth, educational level, it attacks and affects human beings. Hence, most people who are hitherto showing a lukewarm attitude towards HIV/AIDS will be convinced of the magnitude of the deadly disease and subsequent percussion would be adopted for control and prevention of HIV/AIDS.

Finally, the findings of this study has added to the existing body of knowledge on HIV/AIDS epidemic, a reference material which could be used to elaborate, compare and contrast results from one group to another, and consequently suggest additional area of research.

1.9 Definition of Concepts

1.9.1 The Concept of Effect

The Advanced Learners Dictionary of Current English (2000) defined effect to mean a powerful result of something on a people or environment. Or the act of one object hitting

another; the force with which it happens. Effect also is any activity or phenomenon, which causes the diversion of resources to uses that would not have been necessary in the absence of HIV/AIDS and consequently leading to decreased production due to the disease (La'ah, 2003).

According to Patton (1978) effect is the result that has come into being through successful influence of a factor contributory to the result. He maintained that impact is a correlative word and generally implied something necessarily and directly following upon or occurring by reason of the cause. Effect is change or changed state occurring as a direct result of action by somebody or something else.

Roger (1983) conceptualized effect as the change(s) that occur within a social system as a result of change or influenced factor(s). Kanter (1981) also observed that effect can be defined more broadly as a factorial goals attainment, be it positive or negative influence on the state of the individual and the environment. Hence, Odji (2003) revealed that unavailability of farm inputs and the negative impacts of pests, diseases and environmental factors bring about negative impacts on the farmers productivity and livelihood.

Effect refers to the broad long-turn economic, social and environmental consequences resulting from project or event, while evaluation or assessment is judging appraising or determining the worth value or quality of project or event, in terms of its relevance, effectiveness, efficiency and impact (IAEG, 1999). Effect assessment needs to include a time perspective. One needs to compare clients and non-clients so as to be able to tell not only how the clients are doing, but how the doing is relative to people who have not being infected with a particular problem (Cohen, 2001). Effect assessment is an established practice in public good investment project and programmes such as infrastructure, health, education,

transportation and urban development. Effect assessment is seen as a critical component of agricultural project: it helps to define priorities of project and facilitate resource allocation among programmes, guide researchers and those involved in technology transfer to have a better understanding of the way new technologies are assimilated and diffused into farming communities. Also, it helps to show evidence that clients benefit from the project products (Manyong *et al.,* 2001). Impact studies is of great importance in agricultural research because it is used to identify alternative technologies that would address the major production constraints while at the same time taking into consideration farmers preferences and farming condition (Alene *et al*., 2006).

Since effect refers to a consequences result from an event, so HIV/AIDS has effects on the crop production of the society. HIV/AIDS tempers with the force labour who are the major producers of agricultural products particularly in rural areas and in turn to affect their productivity rate. Therefore, the concept of effect is relevance to this study because it helps agricultural researchers to either identify or developed measures to assists the HIV/AIDS infected farmers to cope with the diseases towards maintaining food security and sustainable development. If their health status is enhanced, there is likelihood that there will be positive effects on crop production.

1.9.2 The Concept of Youth

The definition of a youth is problematic because it differs from one continent to another, from one country to another, even between urban and rural areas. According to Oxford Advanced Learner's Dictionary, 6th edition (2000) youth is defined as "the time of life when a person is young, especially the time before a child becomes an adult, i.e., the state

of being young." The United Nations' definition of youth includes people between the ages of 15-24 years, this necessarily excludes many rural youth.

La'ah (2003) in his study maintained that youth are people who are at the stage of their productive or active ages which falls between ages 15 and 34 years in Nigeria. The youth are the strong human resource in agriculture; they are energetic, innovative, eager to change and eager to learn and participate in agricultural activities, (Auta and Omotayo, 1995). However, this study adopts La'ah's definition of youth, that is, young people between the age of 15 and 34 years who are productive and active, and can engage in any aspect of agricultural production as a career opportunity. The people are important resource and national assets, force for change and centre for national development.

Youth are one of the greatest assets that any nation can have. Not only are they legitimately regarded as the future leaders, they are potentially and actually the greatest investment for a country's development. Young people in particular are recognized as a vital resource whose future prospects are inextricably tied to that of their country. They are the valued possession of any nation or region. Without them there can be no future. They are the centre of reconstruction and development. They serve as a good measure of the extent to which a country can reproduce as well as sustain itself. According to the World Development Report (2007) the number of people in the world aged 12-24 years is the largest ever, and there are 1.3 billion people in this age group. Close to 85% of this over 1.3 billion young people live in developing countries, this figure is projected to increase to 87% by 2025.

Nigeria's population is predominantly young. Nigeria has a population of about one hundred and forty million people which makes her the most populous nation in Africa (NPC,

2006 provisional results). One third of her population is young people between the ages of 10 and 24 years.

In 2004, an estimated 2.7 million to 3.8 million people in Nigeria were infected while 2.1 million to 2.6 million died of AIDS (UNAIDS, 2004). Among young people aged 15-25 years, an estimated 6.3-8.3% of women and 2.0-2.7% of men were living with HIV at the end of 2004 (UNAIDS, 2004). Young people of ages 15-24 years account for almost half of the number of HIV infections worldwide, with more than 6,000 contracting the virus every day (UNAIDS 2004).

The concept youth is relevant to this study because the youth are the strong human resources in agriculture; they are active energetic, innovative, eager to change and eager to learn and participate in agricultural activities. And because they are active even in sexual activity, they are the highest groups that are easily affected by HIV/AIDS. Since they form the labour force of any nation and once their health or ability is tempered with, it in turn affects their productivity in any capacity. Hence, youth are the major producers, all innovations and technologies should be developed toward maintaining and supporting their existence, and reducing major production constraints for national development or survival of the society.

CHAPTER TWO

2.0 LITERATURE REVIEW

In this section relevant literature have been reviewed on the basis of specific objectives as follows: (i) socio-economic characteristics,(ii) reasons for the spread of HIV/AIDS, (iii) prevalence level of HIV/AIDS, (iv) effects of HIV/AIDS on crops output, income and level of living, (v) coping strategies adopted, among HIV and (vi) challenges/constraints faced among HIV/AIDS infected farmers.

2.1 Socio-economic Characteristics of HIV/AIDS Infected Farmers

Very few direct empirical studies have been conducted on the effects of HIV/AIDS on men, women and youth in crop production (UNAIDS, 2001). The following are the few empirical socio-economic characteristics identified among HIV/AIDS infected men, women and youth.

Economic Status: It has been shown that Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome are higher in economically disadvantaged communities (UNAIDS, 2001). This has also been found to happen most often amongst girls or ladies who come from poor economic background. These girls engage in prostitution as a means of livelihood, thereby exposing their lives to the risk of HIV/AIDS; while on the other hand men that are economically buoyant use their wealth to entice school girls and poor women into prostitution and adultery thereby exposing themselves to the risk of contracting HIV/AIDS through multiple sexual partners (UNAIDS, 2001). In another study conducted in Ibadan, it was confirmed that 54% of women with very low economic status were infected

with HIV/AIDS, while 23% of the girls were engaging in sex as a means of meeting financial needs (Crowder, 2004).

Age: Human Immunodeficiency Virus and Acquired Immune deficiency syndrome is most prevalent among the youth. However, it has been shown that there are more females between the ages of 13-35 years who become victims of HIV/AIDS which is an indication of early exposure to sex among females (Adesote, 2001). In another related study (Onuh, 2005) it was revealed that the prevalence of HIV/AIDS in Makurdi was more among the under 20-30 years old.

Age characteristic is an important factor that tends to influence the course of HIV/AIDS. Agadzi (1989) noted that the age distribution of AIDS in Europe was similar to the pattern in America, where 96% of cases belong to the age groups of 15-29 years and 30-39 years.

Akatu (2000) study of HIV/AIDS prevalence in Zaria using hospital records for the period 1995-2000, found that HIV prevalence was highest among age group 20-29 years. This agrees with Agbogun (2000) study of HIV/AIDS prevalence in Kaduna metropolis utilizing a simple statistical analysis of records from three hospitals in Kaduna.

An International Labour Organization (ILO) organized study shows that 80% of persons infected with AIDS in Rwanda, Tanzania, Zambia and Uganda are between the ages of 20-49 years. In Zambia, 96.8% of all AIDS related deaths in 18 firms covered by the study occurred among workers aged 15-40 years (ILO, 1999).

In a study conducted by La'ah in Kaduna State, it is confirmed that nearly 60% of all respondents are within the age bracket of between 15-34 years (La'ah, 2003).

The 2006 sentinel survey showed that a greater percentage of Nigerians infected with HIV were between the ages of 20-34 years, while nearly half of all reported new cases of HIV/AIDS infection were in the age group of between 15-29 years (FMOH, 2006; NYSC/UNICEF, 2007). Women in Nigeria accounted for 58% of adults (UNAIDS, 2008).

Similarly, in a study (La'ah and Ayiwulu, 2010). conducted in Nasarawa Eggon in Nasarawa State, revealed that 83.5% of people living with HIV/AIDS were within the age group of 20-44 years. A further breakdown revealed that 59.4% was in the age group of 20-34 while 24.1% were in the age group of 35-44 years.

Educational Attainment: It is generally documented that rural women educational and literacy level is very low (UN/ECA, 1974). HIV/AIDS transmission depends largely on the level of education of the society, consequently it has been found that high number of cases of HIV/AIDS is seen in societies with low literacy level especially among the illiterate (WHO, 1999).

With respect to gender, women are particularly affected by the epidemic in Nigeria. In 2006, UNAIDS estimated that women accounted for 61.5% of all adults aged 15 years and above living with HIV. Also a 2007 study showed that the younger married girls lacked knowledge of reproductive health, which included HIV/AIDS. They also tend to lack the power and education needed to insist upon the use of a condom during sex. Coupled with the high probability that the husband will be significantly older than the girls and therefore is more likely to have more sexual partners in the past, young married women are more vulnerable to HIV infection (The Population Council, 2007).

Marital Status: Both the married and unmarried who provide the work force for crop production in the rural areas are rural men, women and youth infected with HIV/AIDS

disease. Research (Drimie and Gandure, 2005) has shown that both status groups are involved in indiscriminate sex without actually protecting themselves. This hastens the spread of the disease. The disease has affected both males and females category with the spread more prominent among the females members of the farming communities. It also affects farmers of various religious groups particularly the traditionalist and as well as the various tribes in Nigeria (Garland, 2003).

The average marriageable of females married in Nigeria varies from one geopolitical zone to another, more than two third of the girls in northern part of Nigeria marry before the age of 18 years (NPC and ICF Macro, 2009). Not only do some of these married 'girls' lack the complete physiological ability to reproduce, they also lack adequate knowledge and skills required to insist on negotiating the use of condom during sex.

In a study of HIV positive mother-child pairs in Ile-Ife, Adejuyigbe *et al*. (2004), observed that the HIV-positive mothers were younger, unemployed, married to polygamous spouses and had lower education. Also, it revealed that 60.3% of those diagnosed with HIV/AIDS were married. This is worrisome because the high prevalence among the married has significant implication in the transmission of HIV/AIDS. The general attitude of the people is that HIV/AIDS is the product of extra-marital and pre-marital sex life (La'ah and Ayiwulu, 2010). This could also be the reason why despite the various governmental programmes of government the prevalence rate seems to be rising as evident by the significant increase from 4.4% in 2005 to 4.6% in 2006 (FMOH, 2006).

Gender: In Central African Republic and Swaziland, school enrolment is reported to have fallen by 20-36% due to AIDS and orphan hood, with girls most affected (UNAIDS 2002). Most teachers seem not to be performing their basic social mandates as they succumb

to the HIV/AIDS epidemic. A study in Zimbabwe's Manicaland revealed that 19% of male teachers and 29% of female teachers were infected with HIV/AIDS (UNAIDS, 2002). Also, the South African Democratic Teachers Union stated that the AIDS-related death among teachers in South Africa rose by over 40% between 2000 and 2001 based on claims to the union's funeral plan.

In another development, the Federal Ministry of Health (2005) sero-prevalence sentinel survey reported that the number of new HIV infection among Nigerian adults were 296,320 (2005), 305,080 (2006) and 346,150 (2010), while youth above 15 years were 73,550 (2005), 74,520 (2006) and 75,780 (2010). There is no human group or no aspect of the country that has not felt the devastating effect of HIV/AIDS pandemic. According to the Federal Ministry of Health, the epidemic has extended beyond the commonly classified high-risk groups to the uncommon groups including house wives. A critical consequence of this trend is manifested in the huge and increasing number of orphans and vulnerable children of HIV/AIDS. About one quarter (1.8 million) of the 7 million orphans estimated in 2003 were orphaned due to HIV and AIDS (Federal Ministry of Health, 2005).

Studies of the HIV/AIDS epidemic in Africa revealed that the prevalence rate is higher among women than among men. In some scenarios where prevalence rates are higher in men than women as may be found in some countries, the HIV impact is particularly more on women as the burden of care falls on them. In many countries like Nigeria, young women are between two to five times more likely to be infected than young men (La'ah, 2003; Mamman, 2003; National Population Commission and International Commission Fund Macro, 2009). Although, a few studies have however documented higher prevalence of HIV/AIDS among males than among females (Avert, 2010). Women in Nigeria accounted

for 58% of adults, 15 years and above, living with HIV in 2007 (UNAIDS, 2008). In most cases young girls are withdrawn from schools to carter for siblings and when the bread winner dies women take up the responsibility of providing for the needs of children orphaned by AIDS.

House-hold Size: This refers to the total number of people in the household that eat from the "same pot" (Hill, 1975). A house hold as defined here has the same meaning as a family unit; family size has been found to be an important source of labour particularly in traditional agriculture. The size of a house hold may affect the amount of family labour available to the household and the quantity of resources (e.g. land, crop output, income and assets) available for livelihood. Sexual abuse of an increasing number of very young girls now working on streets and occurring within households has been documented demonstrating clear linkages to exposure to HIV and AIDS (Federal Ministry of Health, 2005). With HIV/AIDS ravaging a good number of household members, it further affects crop production because of the timing healthy production left behind to cultivate the land and involve in other agricultural activities. Studies indicate that positive influence exists between household size and crop production (FMOH, 2005). Rosenberg (2007) reported that in most societies the size of the family is usually related to the socio-economic status of the family head.

Farm Size: Farm size refers to the total land area available to the household for cultivation of crops. The size of farm operated by the households appears to be an important variable affecting their agricultural production. Clark and Akinbode (1968) found the size of poultry enterprise positively related to production. Voh (1979) reported a negative relationship between the size of farm and production. Atala (1986) also found no association

between farm size and production studies that farm size has no direct significant relationship with production.

Credit Availability: This refers to the various services of credit facilities at the HIV/AIDS infected farmers disposal this includes formal financial organizations (banks), non-governmental organizations (NGOS) and indigenous credit institutions (local bank) for the purpose of investing of living. A number of studies have confirmed the role of credit in crop production. Access to credit is a very important factor in financing crop production and coping with HIV/AIDS. The sub-Sahara African update (Daudu, 2005) asserted that affected households with AIDS to suffer severe poverty than non-affected households and older parents who lose adult children to AIDS are exceptionally prone to destitution. A study undertaken in Mozambique by Mather *et al*. (2004) clearly show that cash, livestock, assets, to all and per adult equivalent income were lower for households experiencing death. Also, Hilhorst *et al*. (2004) reported that affected households due to adult morbidity and mortality, 66% lost income and 87% lost other type of contributions due to nursing the sick; 32% of households with chronically ill persons and 50% of households that experienced the death of a young adult went into debt.

Source of Labour: Generally, use of farm labour tends to have significant influence on crop production. It is therefore likely that farmers who employ farm labourers would tend to have high or good agricultural output. studies indicate that households with sick individuals spend far less time on agricultural activities than other, leading to neglect of fields, decrease in cultivation, switching over to less labour demanding crops, and the like (Laketch, 2002).According estimates in Arican,7million agricultural workers died of AIDS between 1985 and 2000 and 16 million more deaths and likely to occur in the following two

decades (FAO, 2004). Haan (2004) reported that some countries may lose up to a quarter of their work force by the year 2020 as more employees become infected.

The HIV/AIDS menace affects the society or a community in diverse ways, the first being reduced crop productivity (UNAIDS, 2001). In this aspect it robs most communities of able bodied adults that can contribute meaningfully to its development. Affected households had lower total and cultivated area, particularly with the deaths of a male household head.

Farming Experience: Farming experience is the number of years a farmer has been engaged in crop farming. This is very vital in the profile of farmers. Work experience helps in interpersonal relationship (Igbago, 2008).

2.2 Reasons Influencing the Spread of HIV/AIDS among Men, Women and Youth Farmers

The major factors causing the spread of HIV/AIDS epidemic in the rural and urban households of Nigeria is sexual abuse, poverty and ignorance (UNAIDS, 2002), as well as violence towards women and children and cultural norms and cultural practices (FMOH, 2005; Bekele, 2007). Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome infection were mainly concentrated in homosexual communities in the United States because of the unprotected heterosexual and homosexual intercourse (UNAIDS, 2002).

Poverty and ignorance have been identified as the major causes of HIV/AIDS spreads in the United Kingdom, Africa, India and other Asian countries. Most countries in the sub-Saharan Africa have been identified among the poorest nations of the world. The need to meet their daily demands have compelled young women into prostitution (UNAIDS, 2002). "Help me to cure poverty and I will cure problems of HIV/AIDS says Uganda President"

(World AIDS Day, 2005). According to a recent United Nation's Report, more than 70% of the nearly 1.3 billion people of the world who live in dire poverty are women and the situation is getting worse by the day (UNSN, 2001). It is largely for economic reasons that most women engage in prostitution and majority of these women are unable to negotiate safe sex. There are also situations where women are obliged to sell sex for food or money in order to keep themselves and their families alive. There are times when casual labour contracts have become abusive and women have been forced to have sex in order to have work (Bryceson, 2006). In this condition, it is difficult for the women to insist on safe sex. Research in Botswana and Swaziland has found that women who had recently been hungry were more likely to have sold sex and to have agreed not to use condoms than those who had had enough to eat (Weiser *et al*., 2007). Female heads have emerged in most of the impoverished households in sub-Saharan Africa (Cohen, 2001). In the face of increasing needs, these women would likely engage in transactional sexual activities either occasionally or as professional commercial sex workers, thereby promoting a vicious cycle in the spread of HIV/AIDS.

World Health Organization (1999) observed that 50% of the sexually active women in Africa engaged in commercial sex which is the commonest means of transmitting HIV/AIDS. This is observed in some parts of Nigeria where women move out of their communities and stay apart permanently as "commercial sex workers". Those involved in prostitution help in transmitting the virus from infected to uninfected partners. Women trafficked to all parts of the world are deceived with false promises of becoming engaged in white collar jobs abroad (especially in America, Italy and Belgium). These are compelled to

have sex at the end with all kinds of creatures for money. Poverty and ignorance are therefore the most common factors for HIV/AIDS transmission.

Non-Governmental Organization (WOTCLEF) in May, 2000 in Nigeria launched by Titi Abubakar (the then wife of the Vice President of Nigeria) revealed that majority of the women that are engaged in commercial casual sex attributed poverty as their only push factor (WOTCLEF, 2000). It has also been found that HIV/AIDS can also be transmitted through sharing of needles and syringes that result in direct exposure to the blood of an infected person and though blood transfusion, child birth by an infected mother during breast feeding (UNAIDS, 2002). Mutangadura (2005) has also reported that poverty and cross border migration due to absence of sustainable household living standard in the rural communities fall among the factors contributing to the spread of HIV/AIDS epidemic in Nigeria and Africa at large.

The rate of violence towards women and children in Nigeria is quite alarming and it remains relatively unchallenged by government, civil society and families. Sexual abuse of an increasing number of very young girls now working on streets, has been well documented demonstrating clear linkages to exposure to HIV and AIDS. On the other hand, the incidence of sexual abuse occurring within households remains a taboo subject with only anecdotal evidence and frequency of reporting in daily newspapers (Federal Ministry of Health, 2005). The percentage of sex crime victims 15 years old or below is 58% in Malaysia, 62% in United States, 58% in Chile (Santiago), and 40% in Papua New Guinea (WHO, 1997). In Botswana, over two-fifth of all the rape cases that get to the courts, involve girls who are under 16 years old (UNDP, 1997). The incidence of rape is now being linked to high prevalence of HIV/AID in South Africa.

Cultural norms and cultural practices within rural communities also contribute to the spread of HIV/AIDS among members of communities. The nature of African society dictates that women are not equal to men, and so men have every and all rights over women. Various forms of marriage exist, for instance early marriage (young girls between 10 and 12 years) and remarriages by divorcees and widows. In a study conducted in Ethiopia by Yeshiwas (2007) it is confirmed that 75% of the respondents in the study area reported have had two or more marriages. Among the Kalangas of Zimbabwe, sex between a father in-law and daughter in-law is not only permissible, but compulsory. It is an initiation act never to be ignored and is meant to welcome the new bride into the household (Egbemode, 1999). These practices and those that make the African widow a veritable specimen of suffering have aided the spread of AIDS. In some areas in Igbo land, a widow is supposed to mourn her late husband for one year after which she is taken to the river for the "Aja-ani" ritual during which "Aja-ani" priest 'rapes' her. In other societies, the widow is raped by as many as ten men, to cleanse and make her available for other men (Egbemode, 1998).

There exists also the phenomenon of multiple sex partners in Africa. The practice of multiple sex partners commonly prevails in urban as well as in rural areas. In the same study, Yeshiwas (2007) survey result showed that about 70% have unprotected sex in extra-marital sex affairs. In a study in Zimbabwe, it was noted that majority of the HIV-positive women were actually infected by their spouses (UNAIDS, 2002).

The African society is a polygamous one. Fasugba (1999) argued that if a prostitute spreads AIDS fast in a society because she shares her sex partners with other women at the same time, then a polygamous wife too, who is compelled to share her sex partner with other wives at the same time is equally exposed to the spread of HIV/AIDS. Both the polygamist

and a patron of prostitutes have one thing in common, both men and women have more than one sex partner at the same time. The spread of AIDS is further heightened by the practice in which a man has several wives and keeps them in different homes.

Buckley (1997) observed that the practice of wife or widow inheritance is one reason Kenya's Busia district is reeling or hit from AIDS. The infection rate in its towns runs to about 30%, while the rate in the villages is between 14 to 16%. Most widows possess little education, have no property and in fact, do not hold jobs and therefore lack the requisite skills to find life easily. "They must therefore choose to be inherited and be infected and have food or starve".

In addition, marketing related risks (alcohol consumption) is another factor that fuels the spread of HIV/AIDS. Marketing involves much movement of sellers and buyers both into and out of rural areas, on journeys that may be completed within a day or two. Weekly rural markets in Africa are major social gatherings drawing people together, to buy and sell consumable commodities. Market days are often occasions for recreation, even if there was no business to conduct, they are acknowledged as an opportunity to meet secret lovers. Drinking on market days is common and a long established tradition and often leads to casual unprotected sex (Yeshiwas, 2007).

In summary, in Nigeria, cultural norms and cultural practices, violence towards women and children, sexual abuse, poverty, ignorance and marketing related risks activities play major roles in the frequent spread of HIV/AIDS.

2.3 Prevalence Level of HIV/AIDS Among Men, Women and Youth Farmers

Almost on a daily basis there is news of tragic HIV/AIDS crisis being reported with new statistics revealing that women are more vulnerable to HIV infection than men. Some researches in the United States on the pattern of HIV infection in women have been reported. Scarf and Toole (1992) noted that 48% of women die of HIV/AIDS infection before they can officially be given AIDS diagnosis.

The United Nations AIDS coordinating body, UNAIDS, estimated that as at mid 1996, more than ten million women worldwide had been infected with HIV since the start of the epidemic out of a total of over 21 million adults thought to be living with HIV (Soyinka, 1998). While women comprised about 12% of the AIDS cases reported in France in 1985, 10 years later, this figure rose to around 20%. Today in Brazil, women account for a quarter of all those with HIV/AIDS.

Reid (1998) observed that men and women alike are at risk of infection from the HIV virus, yet in many ways women are particularly vulnerable. The chronology of the epidemic in the developed world has lured many women into a false sense of security since it emerged historically as a disease of men. It is never mentioned that men play a major role in prostitution. Friedili (1992) estimated that the proportion of prostitutes in South Africa claimed that their male clients were always willing to pay more for sex without a condom, thus greatly increasing the risks of infection (UN/ECA, 2000).

Earlier studies of HIV/AIDS did not reveal significant differences in gender specific progression to AIDS. Kenneth (1992) reports that in a study of 139 women and 111 men in the United States and 253 infected women and 422 HIV infected men in Italy, there were no significant gender differences in the progression to AIDS.

There are a number of factors that make African women more vulnerable to the deadly virus. The women's biological make up is no doubt a factor in the increased transmission rate among them. The migrant labour system that forces thousands of workers to spend long period away from home has created markets for prostitution all over Africa. According to UNICEF findings in a study carried out in a number of African countries, HIV infection rates are far higher among African teenage girls than among boys and also girls. The study concludes that about half of all 15-year-olds in the worst hit countries of sub-Saharan Africa will die of the disease. About two hundred teenage school girls in Luanshya, Zambia, were tested for HIV, all but four (4) were HIV positive (Masland, 2000). Also, in Zambia, 15% of sixteen year old girls have had one pregnancy and unprotected sex and this is responsible for a 20% HIV infection rate among teenage girls in Lusaka (Masland, 2000).

Although HIV/AIDS is prevalent in all population groups, data from most countries suggest that it is quite pronounced among those who are within the reproductive and productive age group. Data from the United States of America (USA) showed that among youth age 20-24 years, 64% of reported HIV infections occurred among young men and 26% among young women. While among youth of age 10-13 years, 57% of reported HIV infections occurred among women and 43% among men (CDC, 2002). In Nigeria, like in many sub-Saharan African countries, prevalence of HIV/AIDS is predominant in the age group 15-24 years (NYSC and UNICEF, 2007).

With respect to gender, women are particularly affected by the epidemic in Nigeria. In 2006, UNAIDS estimated that women accounted for 61.5% of all adults age 15 and above living with HIV (UNAIDS, 2008). A 2007 study showed that the younger married girls lacked knowledge on reproductive health, which included HIV/AIDS. They also tend to lack

the power and education needed to insist upon the use of a condom during sex coupled with the high probability that the husband will be significantly older than the girl and therefore is more likely to have more sexual partners in the past, young women are more vulnerable to HIV infection within marriage (The Population Council, Inc., 2007).

According to the UNAIDS and WHO (2000).Fact sheet on HIV/AIDS and sexually Transmitted Infection of the estimated adults (15-49 years) living with HIV/AIDS in Nigeria in 1999, 54% were women. Women are increasingly confronted with the consequences of HIV infection as individuals, mothers, partners of persons with AIDS, and care providers. Unfortunately, intervention programmes responding to women's needs so far, are patchy, uncoordinated and offer minimal potential for the impact of HIV/AIDS and women. Most AIDS programme managers in Africa are men who are insensitive as the case may be, to women and AIDS issues (Williams, 1993).

According to La'ah (2003) the prevalence of HIV/AIDS in 2001 was said to be 5.7%, even at current levels, Kaduna state has the highest prevalence rate of HIV/AIDS than any other state in the Northwest zone. In this direction, the levels of HIV/AIDS in Kaduna State have reached the generalized stage of the epidemic (La'ah, 2003). Onuh (2005) reported the prevalence of HIV infection in Makurdi, Benue State, placed women aged 20-34 years at 69% and young men of the same age a 60%. This explains and shows the high incidence of HIV/AIDS among women.

2.4 Effects of HIV/AIDS on (Crops Output, Income and Level of Living) of Men, Women and Youth Farmers

2.4.1 Effects of HIV/AIDS on Crop Output of Men, Women and Youth Farmers

HIV/AIDS is no longer a health issue only but a developmental crisis, in which people are affected or infected directly or indirectly. Survey conducted to determine the socio-economic characteristics of HIV/AIDS infected people in the United Nations reveals that the large population of infected people were pre-occupied either by agricultural activities or by crop production or may be working in agricultural commercial banking sectors meant to disburse agricultural loans to farmers (WHO, 1999).

The effect of HIV/AIDS on crop production and livelihood considered to be very severe in Kaduna State especially in the rural areas. Because of the reported prevalence rate of HIV/AIDS in the State, which 'mysteriously' declined from 15.5% in 1999 to 5.6% in 2001 by Kaduna State Action Committee on Aids (SACA, 2001), it affects mostly the productive age groups, output at both household and the State in general. The immediate impact on the household would include a drop in household income, presence of older household members in the labour market, early entry of children into labour market and increase withdrawal of children from school among others (UNAIDS, 2002).

2.4.1.1 Loss of agricultural output

There is no doubt that AIDS increases the expenditure of household members. About 45% of the households have their expenditure increased because of AIDS-related sickness (UNAIDS, 2002). The consequence of this is that, significant percentage of the expenditure involves diversion of funds meant for providing health care to other members of the household, investing crop production and livelihood activities to the care of a sick member

(WHO, 1999). Besides the diversion of funds, an average of 255 days are spend in caring for a sick relative before his/her death, usually within a year. On the basis of the farm calendar, 155 days are usually spent in the farms during the farming season. In families with related morbidity, this could mean cessation from farming activities. In other words, those to go to farm may be too busy caring for a sick relation.

The sickness of a member could also affect schooling as children may be forced to withdraw from school. The responses indicated that a significant proportion of households affected by HIV/AIDS have reduced hours of school for family members especially children. According to La'ah (2003) the responses from the affected household indicate that hours for schooling could be reduced by over 45%. This is usually as a result of skipping of days or going to school late or both. In addition, that nearly 90% have had to borrow or sell personal possessions in order to cater for relations, while 55% have to stop working because of HIV/AIDS sickness. Although, care related expenses push many families deeper into poverty, the effect of HIV/AIDS may be enormous after dead than during sickness. Some households may spend more than 50% of total expenditure on funerals (La'ah, 2003).

Since outbreak of HIV/AIDS, it has affected 25 million people in the rural communities whose major activity is agriculture (Laketch, 2002). The sick condition of productive members of the household especially women leads to a double loss. The productive individual works less and there is a major demand for caring for him/her. Studies indicate that households with sick individuals spend far less time on crop production activities than others, leading to neglect of fields, decrease in cultivation, switching over to less labour demanding crops, and the like (Laketch, 2002).

Women are generally responsible for crop production and other tasks such as clearing of farm lands and doing household chores. The death of a wife or a family member due to AIDS can make it difficult for other members of the household to carry out these tasks in addition to caring for the children and also leads to reduction in savings and investment. The stock of food grain can be depleted, livestock sold to provide food for mourners as well as to cover other expenses. Such loss of production assets makes future survival very difficult.

A study conducted in Ethiopia showed that agricultural labour force time fell from 33.6 hours per week in non-afflicted households to between 11 and 16 hours per week in afflicted households, and is expected to have an every greater impact in the future (FAO, 2004). According to estimates by FAO in 27 most affected countries in Africa, 7 million agricultural workers died from AIDS between 1985 and 2000, and 16 million more deaths are likely to occur in the following two decades (FAO, 2004). Also in twelve countries, including ten most affected African countries, reduction in labour force ranging from 10% to 26% are anticipated. Namibia is expected to suffer the most in terms of loss of labour force by 2020 when its labour force is expected to fall by 26% followed by Botswana.

A study carried out by Ethiopia Aid (EA) in June 2005 indicates that the average size of farmland owned by a farm household, which was 1.5 hectares, is very small. The upcoming younger generation will need to be accommodated on the available farmland and this further reduces land availability for cultivation (UNAIDS, 2006).

In Enugu State, a study revealed that 78% of the working population is self employed (80% in the rural areas and 55% in urban areas). Crop production accounts for 55% of the total labour force and 70% in rural areas (Daniel, 2009). In addition, the proportion of women in crop production at 61% is higher than that of men 47% (ENSG, 2004). Thus the

bulk of the small scale farmers are women. The loss of these farm women to AIDS related death exacerbates food insecurity and has adverse effects on rural livelihood. Survey results showed that 60% of the farm women who contribute to farm labour died due to HIV/AIDS epidemic (Daniel, 2009).

The death of an adult often has disastrous consequences of sharp decline in crop production and income. This is because HIV/AIDS infection in the rural communities causes the reallocation of farms and public resources from saving to prevent HIV/AIDS, and also selling of farm lands and other assets to treat themselves and or other members of the family (Laketch, 2002). The consequences include reduction of future productivity and the human capital of the farmers' household. According to Spore No. 69, "There is no great surprise that studies of the effects of HIV/AIDS reported a decline in crop yield on small farms especially in the last ten years." Illness and death directly affect the availability of labour and those who remained healthy are pre-occupied with nursing those affected or undertaking additional task that were previously done by those affected. As a result, time consuming work like weeding, mulching, pruning and harvesting is either not carried out properly or left undone (Spore No. 69). As a result, families affected by HIV/AIDS have to survive with less labour, reduce output and consequently earn lower income from the sales of farm produce.

Poor households often rely on free labour from relatives and the community. In a Swaziland study (Muwanga, 2002) over 40% of the households hired labour on their farms. In Malawi, a study conducted by CARE found that 70% delaying agricultural operations and 25% leaving land fallow or changing the crop mix (Shah *et al.*, 2002). One of the effects of the decline in crop production and household asset bases is an increased reliance by poor rural households on *Ganyu* labour. *Ganyu* labour refers to free labour assistance offered by

youth on the farms of poor rural households. Of the poor households interviewed in the CARE-Malawi study, 55% depended on *ganyu* labour for more than four months of the year: 'Once the household starts depending on *ganyu*, it becomes very difficult for it to come out of it (Shah *et al*., 2002). Those looking for *ganyu* labour use the opportunities they can, and since this is most common at the peak points of the agricultural cycle, their own crops are neglected and the yields shrink further. This 'downward spiral' continues until many poor households consume their whole crop whilst it is still in the field and have no food at all for storage (Shah *et al*., 2002).

2.4.1.2 Loss of labour force and education

The HIV/AIDS menace affects the society or a community in diverse ways, the first being reduced productivity (UNAIDS, 2001). In this aspect it robs most communities of able bodied adults that can contribute meaningfully to its development. This results in slowing down all developmental sectors of the community. Haan (2004) reported that some countries may lose up to a quarter of their work force by the year 2020 as more employees become infected. Already mining companies and industries are feeling the effects of loss in productivity. With such a diminished workforce, it will become very difficult for affected nations to attract industrial and economic investments from other countries, and without such investments there will be fewer resources with which to fight the disease. It therefore, becomes a self-defeating vicious cycle of despair. The work force and work place of Africa is now badly affected by the HIV/AIDS scourge. A study carried out by the International Labour Organisation (ILO) on the labour force in Rwanda, Tanzania, Uganda and Zambia shows that between 1984 and 1992, mortality has risen fivefold with AIDS – related illness accounting for 50% of the death among lower level workers, and 61% among top level

managerial workers (ILO, 1999). The report also confirms that HIV/AIDS has wrecked havoc on both the formal and informal sectors among women at work and at home. In the formal sector, it has led to death among employees at all levels and absenteeism due to illness. A study of a bus company in Zimbabwe showed that HIV/AIDS related absenteeism accounted for 54% of all AIDS related costs, followed by HIV/AIDS related symptomatic illness with 35% (UNAIDS, 2002). The need to care for sick family members or attend funerals of dead colleagues, have increased the costs of production in companies.

In an already depressed economic situation like that which is being experienced in Nigeria, HIV/AIDS could be expected to reduce significantly the workforce and productivity of all businesses. The well being of individual households is being affected in that per capita income is already in the decline by as much as 15%. The Gross Domestic product (GDP) is already projected to be 15% less by the year 2005 (Reid, 1998). Cost of absenteeism reduced productivity and eventual deaths will significantly lower growth of labour force. The United Nations report states that:

> *The vast maturity of people living with HIV/AIDS worldwide are in the prime of their working lives, ages as a result, it is believed that several countries of southern Africa will lose between 10 percent and 20 percent of their workforce by the years 2005-2010* (UNAIDS,2008).

`

In a Sub-Saharan update, according to UNAIDS, (2006) it is stated that southern African countries are already facing a growing capacity crisis, losing skilled staff relevant in governments for delivering vital public services, and HIV/AIDS is said to be exacerbating this situation. Daudu (2005) reports that agriculturally, the workforce that is engaged in crop production is adversely affected leading to loss of labour supply and remittance income.

According to a new global report by the International Labour Organisation (ILO) 1999, it is estimated that 36.5 million people of working age have HIV and by 2005, the global force had lost as many as 28 million workers due to HIV/AIDS since the start of the epidemic. The organization also estimated that in the absence of increased access to treatment, the number of workers that died due to HIV/AIDS will have increased to 48 million in 2010 and 74 million by 2015, thus making HIV one of the biggest causes of mortality in the world of work (ILO, 1999).

Loss of quality education and training is another effect of HIV/AIDS in the society. It robs beginners of good teachers who are expected to teach in schools. All over sub-Saharan Africa, teachers and students are dying or leaving school, thus reducing the quality of education. In 1999 alone an estimated 860,000 children lost their teachers to HIV/AIDS death related diseases in central Africa Republic, AIDS was the cause of 85% of the 300 teachers deaths that occurred in 2000 (UNAIDS, 2000 and World Bank, 2003).

If the above report was as at the year 2000, the situation might be more serious today. Of course with the increasing rate of the spread, it is undoubtedly true that it has increased if not doubled the above statistics. Nwagbara (2003) cited in Daudu (2005) argued that the supply of teachers would decrease because some of those infected are leaving work due to severe ailing conditions that accompany HIV/AIDS. It is very costly if not difficult to train others who will replace them, because all funds are diverted for health and social welfare. Pupils' enrolment may as well drop because children find it difficult financially to pay for their school fees; instead they may pick up petty jobs to meet up daily needs. A study in Manicaland, Zimbabwe found that 19% of male teachers and almost 29% of female teachers were infected with HIV/AIDS, almost exactly the same proportion as among working men

and women in the general population. According to the South Africa Democratic Leader Union, nationwide AIDS related deaths among teachers rose by over 40% in 2000-2001 periods (UNAIDS, 2002).

HIV/AIDS has indirect impact on the educational sector. The death of the breadwinner as a result of HIV/AIDS leads to the withdrawal of children from school because of lack of financial support to buy materials necessary for their school. In addition, children are forced to drop out from school and engaged in income generating activities to take care of affected members of the family. The death of qualified and competent staff due to AIDS negatively affects the quality of education. As regard the survey result in Ethiopia (Yeshiwas, 2007), 40% of the patients lost their spouses as a result of HIV/AIDS and the burden of looking after the patients fall on children. For this reason about 60% of the AIDS patients' children do not attend school are forced to withdraw from school. The findings confirm that the number of teachers that died and the number of school drop outs increased substantially as a result of HIV/AIDS.

2.4.1.3 Increased workload on women

Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome add to rural women's workload, as women are the traditional caregivers, when people are sick. In rural areas, times spent on patient-care often directly have impact on time available for crop production and for pursuing other non-farming income generating activities (UNAIDS, 2002). The outcome might be less time for farming practice resulting in reduced yields or reduced land under cultivation, threatening household and eventual national food insecurity. In northern Zambia affected households and in particular female-headed households reduced the total area under cultivation due to labour shortages (FAO, 2004). In Tanzania, women

spent less 60% time on agricultural activities because their husbands were ill (Rugalema, 1999).

Similarly, Daniel (2009) reported the impact of HIV/AIDS on women in agriculture in Nigeria with particular reference to Enugu State has significant implications for the sustainability of rural livelihood by increasing family burden on women. In his study, it is confirmed that 68% farm women are constrained to abandon farm work and spend time to care for the sick and to mourn their dead relations. Expenses for drugs especially anti-retroviral therapy (ART) drugs and funerals add to family debt as well as psychological, emotional and social burden on household. Alternatively, women resort to the nurturing of orphans, many of whom are survivors of AIDS-affected households instead of engaging in productive farm work (Daniel, 2009).

Also, there is crop diversification involving a shift from cultivation of labour intensive crops to crops requiring less labour. According to FAO studies in East Africa, affected households substitute cash crops for food crops, which require less labour and expensive inputs such as fertilizer and pesticides (FAO, 1995). In Muleba District, Tanzania, Muchunguzi observes a shift from banana and coffee to root and tuber crops (FAO, 2004), which was similarly observed in Rwanda (Donovan and Bailey, 2005) and in Mozambique (Mather *et al*., 2004). Some researchers have identified a shift on households' preference for early maturing crops to late maturing ones, with fewer types of crops increasingly being preferred (Neema, 1999). This shift raises concerns around the increased workload of women for more labour-intensive root and tuber crops, as women provide more than 80% of the labour required in the cultivation of such crops (Neema, 1999). The burden of increased workload has been shifted to women and children. Moreover, most of the additional burdens

of responding to the household level impacts of HIV/AIDS fall upon women. They are the main producers of food, the main care-takers of the sick and children. They bear the greater burden of economic production and social reproduction in rural societies. Widows with dependent children became entrenched in poverty as a result of the socio-economic pressures related to HIV/AIDS (FAO, 2004).

2.4.1.4 Loss of extension staff and training

Extension staff and camp leaders in Zambia and Kenya have reported that HIV/AIDS is leading to the loss of experience and knowledge transfer, coupled with loss of farmers and experienced farming managers, household productivity is negatively affected since the people dying are the young adults leaving a vacuum for projects activities (FAO, 1994). They often have to come to a standstill until replacement is made which is usually not easy. For example, in Kenya's Ministry of agriculture approximately 58-60% of all research and extension staff death is attributed to HIV/AIDS epidemic (FAO, 2004).

Most extension staff and teachers seem not to be performing their basic social mandates as they succumb to the HIV/AIDS epidemic. A study in Zimbabwe's Manicaland revealed that 19% of male teachers and extension staff and 29% of female teachers were infected with HIV/AIDS (UNAIDS, 2002). Also the South African Democratic Teachers Union stated that the AIDS-related death among teachers and extension staff in South Africa rose by over 40% between 2000 and 2001 based on claims to union's funeral plan. Also in one district office of Zambia, four of the 22 extension staff members had died in one year, and three of these incidents according to the reporting officer were AIDS cases. Similar high staff mortality was reported in Uganda (UNAIDS, 2002).

In Kenya's Ministry of Agriculture, AIDS causes an estimated 58% of all staff deaths, while some 16% of staff members in Malawi's Ministry of Agriculture and Irrigation are living with the disease. Researchers have calculated that HIV/AIDS is causing the loss of up to 50% of agricultural extension staff time in sub-Saharan Africa (FAO, 2001). The pandemic has also been found to affect particularly agricultural extension workers. Generally, the situation in the sub-continent is such that there is already a staff shortage for agricultural extension. One Ugandan extension officer discovered that about 20-50% of all person-hours per annum among extension staff were lost as a result of the disease (FAO, 2001).

Compounded with the HIV/AIDS pandemic that is affecting extension staff and the extension delivering system and, consequently, food production is the worsening situation of the extension training institutions. The effects of the HIV/AIDS pandemic have been fuelled by failure of the extension institutions to adapt to and respond to the realities of human life and food security situation in the sub-region (FAO, 1997). Curricula, teaching methods and tools used to train extension staff are not relevant to the development objectives of individual countries, the needs of the farmers and the labour market in general. As a result, the region now has graduates of agriculture programs who are unemployable because their training in agriculture is unrelated to the needs of the agriculture labour market (FAO, 1997).

2.4.2 Effects of HIV/AIDS on Income among Men, Women and Youth Farmers

2.4.2.1 Loss of non-Farm income and assets

The fact that women are overburden, they no longer have time for non-farm activities such as crafts, market gardening, food processing and other activities that previously

contributed to the family budget. This has negative impact on their livelihood. Literature confirms that during times of drought or pest attacks, women who have multiple sources of income are better off in meeting the food security and other livelihood needs of their households (FAO, 2004).

In cases were affected men and women have sold off their assets, they cannot access rural micro-credit institutions for lack of collateral. Gender difference becomes more acute when productive resources are eroded, reinforcing the poverty and vulnerability spiral for female and children-headed households. The HIV/AIDS epidemic has serious effects on households. In the sub-Saharan African update (Daudu, 2005) it is asserted that AIDS-affected households appear more likely to suffer severe poverty than non-affected households and older parents who lose adult children to AIDS are exceptionally prone to destitution. Acquired Immune Deficiency Syndromes (AIDS) is also intensifying chronic food shortages in the families affected by causing farm labour losses and depleting family income that would normally be used to purchase food, resulting to shortage of family food supply. As long as sources of income are permanently lost, there is bound to be increase in financial demand to meet up the health needs of the patients. This situation increases the number of children that drop out of school (Onuh, 2005).

A study undertaken in Mozambique by Mather *et al*. (2004) clearly show that cash, livestock, assets, total and per adult equivalent income, were lower for households experiencing death. Affected households had lower total and cultivated area, particularly with the death of a male household head. There is also the sale of livestock such as cattle, goats and donkeys to cover medical and funeral expenses (Rugalema, 1999 and De Waal *et*

al., 2005). In the Bukoba district of Tanzania, poor households were observed to be selling chickens or exchanging them for food (Rugalema, 1999).

In a study, "The Impact of AIDS on Rural Livelihoods in Benue, Nigeria", by Hilhorst *et al*. (2004) it is revealed that affected households reported that due to adult morbidity and mortality, 66% lost income and 87% lost other type of contributions; 50% of households lost income and contributions due to nursing the sick; 32% of households with a chronically ill persons and 50% of households that experienced the death of a young adult went into debt. The study also confirmed that a 37 year old carpenter/farmer had been entrusted with the responsibility of caring for his extended family by his late wealthy father. Over a period of five years, eight of his brothers passed away. He believed that some of them died of HIV/AIDS since their girlfriends also died. Two of his brothers had children who are now being cared for by relatives. These unfortunate events led the carpenter into debt, the size of the farm had to be reduced, since there was no money to employ farm labourers or buy seeds. His business suffered because he was not able to complete people's orders on time. In order to restore his livelihood, he had to rely on his wife for a loan to start trading. His aim is to win his lost customers back and start farming again (Hilhorst *et al*., 2004).

A similar study conducted in Enugu State by Daniel (2009) titled "Socio-economic Impact of HIV/AIDS on Farm Women in Nigeria: Evidence from Enugu State", the results show that 56% of the women lost one or more important family assets as a result of HIV/AIDS epidemic in their communities. Alemtsebai and Tsegazeab (2008) studied the impact of HIV/AIDS on livelihoods and food security in rural Ethiopia and found that households who have chronically ill or deceased members in the 12 months prior to the survey admitted that they sold assets in order to pay for drugs or to meet funeral costs. Out of

441 affected households, 179 households (40%) said they have sold assets to meet costs. Out of these households who sold assets, 82% households sold productive assets and another 5% reported selling both productive and non productive assets in order to meet health and funeral costs for chronically ill/deceased members.

The important contribution of livestock through draught power, manure, food security, and meat and milk products is compromised when large numbers are diverted to support medical bills (Engh *et al*., 2005). As regard the sale of assets, is a general trend that they are sold generally to take care of men than women because of traditional power relations (Rugalema, 1999).

2.4.2.2 Elderly women who become caregivers

HIV/AIDS has adverse impact on the livelihoods of elderly women. In areas with high death rates of women and men in productive years, older women face enormous financial responsibilities to ensure the survival of their grand children. A survey in South Africa revealed that 70% of caregivers were female with almost a quarter of them over the age of 60 years (UNAIDS, 2004). In a research conducted in a district of western Tanzanian by Rugalema (1999) it was found that the elderly who had lost adult children to HIV/AIDS were invariably destitute. During the course of their children's illness, most of the elderly disposed their assets for the purpose of paying medical bills and purchasing food stuff for the children. The death of the adult children (who in most cases were the caregivers of the elderly parents) shifted the care-giving responsibilities to the elderly women who were in turn loaded with the pressure of acute shortages of cash, food and lack of other household necessities (Rugalema, 1999). Most of the elderly were much poorer and hence more insecure than in the pre- HIV/AIDS period of their adult children, and about 25% had

psychological problems, such as cry spells. Because HIV/AIDS intensified the vulnerability of the elderly who are left without social and economic support, there is need to create new strategies for elderly care in areas of Africa severely affected by HIV/AIDS (UNAIDS 2004).

Studies from Southern Africa reported that grandparents play increasingly important roles in the upbringing of their orphaned grandchildren (Drimie, 2002; Knodel and Im-em, 2004). In Benue State, this is not yet happening on a wide scale. Only 10% of the orphans lived with their grandparents. An interview with several elderly people looking after their grandchildren reveals that they find it hard to cope with the extra responsibilities. Instead of being looked after by their own children they had to start working again.

Another study carried out by the community development advisor of the National Smallholder Farmers' Association of Malawi (NASFAM) in Thyolo District revealed that there are between 30% and 45% of female-headed households, many of who are elderly women (Action Aid International, 2005).

2.4.3 Effects of HIV/AIDS on Level of Living among Men, Women and Youth

2.4.3.1 Increased burdens of fostering orphans

The number of children that have become orphans as a result of HIV/AIDS is staggering. At the end of 2003, UNAIDS estimated that there were 12 million orphans in sub-Saharan Africa. The care of orphans is a burden that falls disproportionately on women. In a study conducted in northern Zambia, female-headed households were found to have about three times as many orphans as male-headed households (FAO, 2004). These female-headed households with orphans were found to have the lowest average land available per person (less than half a hectare), have a significantly higher dependency ratio and experience a greater shortage of labour. This is because they tend to take care of younger orphans and

this has four times less family members in the economically active age category compared to male-headed households. Those fostering orphans constitute one of the most vulnerable groups to poverty (FAO, 2004).

The increase in HIV/AIDS cases has overstretched Africa's traditional extended family system, and resulted in an army of orphans in desperate need of shelter, food, clothes and money for school. The United Nations Programme on Aids (UNAIDS, 2002) have estimated that in Botswana 69,000 children has lost their parents to AIDS by the end of 2001. It also estimated that within the same period, 470,000, 570,000 and 780,000 children have been orphaned by HIV/AIDS in Malawi, Zambia and Zimbabwe respectively. A study in urban areas of Zambia found that 32% of orphans are not receiving education, compared with 25% of non-orphans. These figures are higher in rural areas: 68% of orphans as against 48% for non-orphans (UNAIDS, 2002).

Studies conducted in East Africa (Rugalema, 1999) reported a more intensive use of child labour in fields or for care giving and more children were taken out of school by foster families. The present study has found some evidence of such practices: 29 (8%) of orphans were engaged in economic activities; five of the orphans carrying out economic activities were of primary school age (12 years) whereas 24 were older than 12 years (LATH, 2003). As parents and family members became ill, children take on more responsibility to earn an income, produce food, and care for family members. Consequently, more children have been orphaned by AIDS in Africa than anywhere else, many of whom are now raised by their grandparents or left on their own in child-headed households.

2.4.3.2 Withdrawal of children especially girls from school

The loss of adult labour has forced families to withdraw children especially young girls from school to be caretakers for younger siblings, HIV infected persons and or to help in food production (Rugalema, 1999). The lower level of education thus attained, of course, perpetuates the cycle of poverty across generations and reduced prospects for decent work opportunities. For example, in Swaziland, school enrolment is reported to have fallen by 36% due to HIV/AIDS, with girls most affected (UNAIDS, 2004). In other high prevalence countries, girls' enrolment in school has decreased in the past decade. Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome is threatening recent positive gains in basic education and disproportionately affecting girls' primary school enrolment.

Studies have shown that in the worst affected areas of Thailand around 15% had to withdraw their children from school and over half the elderly and in firm were left to fend for themselves (Clive, 2002). Another study in rural Ethiopia confirms that some 30% and 8% of the children from affected HIV/AIDS households suffered absenteeism of 20% or more of the classes and dropped out in the previous years, respectively (Alemtsebai and Tsegazeab, 2008).

Yamano and Jayne (2004) confirmed in Kenya that children in relatively poor households were more likely to drop out of school after the death of an adult member than children in less poor households. The lagged in HIV/AIDS prevalent rate was negatively correlated with schooling among the poor, even after controlling for child fixed effects (Yamano and Jayne, 2004).

However, another recent study presented at Durban conference in 2005 raised a challenge with respect to the withdrawal of children from school in Zimbabwe (Senfeld and

Polsky, 2005). It is assumed that boys and girls would be removed from school for lack of school fees, to work in the fields and to care for the sick. Consistent with this hypothesis, Senfeld and Polsky, (2005) found that 12% of boys and 15% of girls had recently left school. However the inability of 44% of the drop-outs to pay school fees was not related to household HIV/AIDS or orphan status but rather to broader socio-economic impacts snacking across Zimbabwe. La'ah (2003) in his research obtained a data from eight households with either or both parents' dead, reveals that a third or 1/3 of the households have withdrawn their wards from school. He observes that this number is very significant and attests to the social problems of HIV/AIDS in Nigeria. By increasing the number of school withdrawals, HIV/AIDS is likely to hamper the efforts of government in providing basic education for all in Nigeria.

2.4.3.3 Loss of property and inheritance rights of women

Access to, ownership of, and control over property are fundamental determinants of secure livelihoods: they provide a secured place to live, a site for economic and social activity, and collateral for credit and other resources and services essential to prevent and mitigate HIV/AIDS (Aliber *et al*., 2004). Widespread exclusion of women in developing countries from owning or controlling property, as well as limits often dictated by custom concerning their access to and use of property such as land, means that they are often banned from many of the resources improve their chances of preventing infection or enhance their capacity to mitigate the consequences of HIV/AIDS (UNAID, 2004). In countries where the impacts of HIV/AIDS on land tenure systems have been studied (these include Lesotho, South Africa, Kenya, Tanzania and Malawi), one major impact of the epidemic was identified to be the increase in the vulnerability of women, children and poor households to

dispossession by patrilined kin on the death of male household heads (Aliber *et al*., 2004; Topouzis, 1999; FAO, 2004).

Losing land impacts directly on the women's ability to meet household food needs through own production. In South Africa and Lesotho the studies showed traditional authorities playing a role in helping to protect the land rights of widows and orphans but not always being effective in enforcing those decisions when relatives usurped land (Drimie, 2002). The main recommendation emerging from these studies is the need to draw up legislation that can protect the land rights of women and children.

The violation of women's rights to property is one of the most hideous and serious effects of HIV/AIDS on women's productivity and livelihood. A widow may be expected to leave her late husband's village after his death, and may consequently lose control over land and other joint assets. In Zambia for instance, the first three years after the death of husbands, widow-headed households averagely had control of 35% less land comparable to those prior to their husband's death (Chapoto *et al*., 2007).

Increased reports of land and other property stripping from widows and orphans have been reported in other regions (Aliber *et al*., 2004; Drimie, 2003; Marongwe, 2005). Whereas property stripping is not a new phenomenon, increasing number of death due to HIV/AIDS and the additional stigma attached to HIV/AIDS has caused greater hardships for women and girls in particular.

In some cases, widows are blamed for killing the husband by infecting him with HIV/AIDS and in-laws use HIV/AIDS as a justification for dispossession (Marongwe, 2005). In other cases, in-laws refuse to recognize HIV/AIDS as a cause of death even when it is medically documented as such. Often in such cases, widows are accused of witch craft.

Marongwe (2005) in a study conducted in Zimbabwe confirms that about 15% of widows were stripped of their late husband's lands and properties. Many of these widows were infected with HIV/AIDS, and dispossession, harassment and eviction are the aftermath when their economic and health conditions rapidly deteriorate. Consequently, such widows and their children are left without personal homes, means of livelihood and support network in the community (Marongwe, 2005).

According to the Secretary General's Task Force report on women, girls and HIV/AIDS in Southern Africa, as the death toll from HIV/AIDS is mounting, many widows are experiencing dispossession in rural areas. Women often do not have marriage certificates or other documentation to protect their rights (and wills are rarely drawn up). Unfortunately many who experience dispossession lack recourse. The major obstacles that stand in the way of any woman attempting to assert her rights to property or inheritance include fear of violent reprisal, sluggish bureaucracies and official indifference (UNAIDS, 2004).

2.4.3.4 Loss of quality in health services

Onuh (2005) stressed that HIV/AIDS will dominate our hospitals to the detriment of other areas of concern. Daudu (2005) agreed with Onuh, stating that accessibility of health care may likely become less because HIV/AIDS related illnesses will dominate the hospitals and home care system. The government may divert most of its budgeting allocations to the fight against HIV/AIDS leaving other areas of concern within the health sector or other sectors.

Most developing countries are faced with serious shortage of health care centres and facilities (Yeshiwas, 2007). The HIV/AIDS pandemic aggravates this situation by increasing the number of health services seekers and the demand for hospitals by AIDS patients. Since

the majority of the population in developing countries come from lower class bracket who cannot afford to pay for medical services in private hospitals, government health care centre will be crowded by service seekers. This in turn adversely affects the government expenditure on health sector leading to shortage of hospitals beds, medicines, medical equipment and other important supplies. A survey conducted by Yeshiwas (2007) in Ethiopia confirms that in some hospitals and health care centres, 20% of the beds are occupied by AIDS patients. The survey result also shows that the growing number of AIDS patients in the sampled areas leads to the occupation of significant number of hospital beds by AIDS patients and shortage of medical facilities.

In addition, a generalized HIV/AIDS epidemic outstretches the used of hospital facilities in farming communities. This is because about 80% of the hospital beds in the rural communities of Nigeria are already occupied with people suffering from HIV/AIDS (WHO, 1993). Consequently, there is the increase in demand for medical care/facilities by the farmers in the area. This makes it difficult for women and youth suffering from other diseases to get good medical attention. The 2001 Swaziland Human Development Report estimated that people living with HIV/AIDS occupied half the beds in some health centres in the country. In Zimbabwe, 50% of all in-patients in wards studied were infected with HIV/AIDS and without major intervention the problem will worsen (UNAIDS, 2002).

Also, health workers suffer or are being affected by the epidemic through the various means of HIV/AIDS transmission. The assistance or medical care provided by such health workers to farmers affected with HIV/AIDS may no longer be available; thus, mortality rate of farmers resulting from HIV/AIDS infection will be high (WHO, 1993).

While HIV/AIDS is causing an increased demand for health services, large numbers of healthcare professionals are being directly affected by the epidemic. Botswana (http://www.avert.org/aids-botswana.htm), for example, lost 17% of its healthcare workforce due to HIV/AIDS between 1999 and 2005. A study in one region of Zambia (http://www.avert.org/aids-zambia.htm) found that 40% midwives were HIV/AIDS positive (UNAIDS, 2006). Healthcare workers are already scarce in most African countries. Excessive workload, poor pay and migration to richer countries are among the factors contributing to this shortage.

Although the recent increase in the provision of antiretroviral drugs (which significantly delay the progression of HIV/AIDS) has brought hope to many in Africa, it has also put increased strain on healthcare workers. Hence, as thousands of health workers, civil servants, agricultural extension workers, university professors, farmers and many others who could make productive contributions to the communal, national and regional development succumb to the disease, the HIV/AIDS epidemic will continue to present a major public health, economic, social and political challenge and a major threat to national peace and stability (World Bank Group, 2003; UNAIDS, 2001).

2.5 Coping Strategies of HIV/AIDS Infected Households

Human Immunodeficiency virus and Acquired Immune Deficiency Syndrome are fatal sexually transmitted disease that affected people have been struggling to cope with. Coping is the way in which people living with HIV/AIDS are managed and taken care of in homes, communities and the world at large. Household coping strategies respond to increasing uncertainty and risk and the aim is to make the lives of the vulnerable more bearable and more productive. Generally, rural populations have become more

occupationally flexible, spatially mobile and increasingly dependent on non-agricultural income (Rosen, 2004).

UNAIDS (2002) identified sustaining families productivity and income to include selling labour for food, shifting from labour intensive production to less labour intensive practices, commercializing the traditional subsistence economy (for example selling of households food or domestic animals), rearing domestic animals such as poultry, pigs and goats for sale. Similarly, sharing of orphans and responsibilities among surviving adults, setting up communal burial groups and community based welfare organizations are also coping strategies. Food and Agricultural Organization (1994) observed that at the level of the community as a whole the most important response has been the formation of self help groups under non-governmental organizations.

While some countries still have the opportunity to avert a full scale AIDS epidemic, others already find themselves facing the consequences of widespread HIV infection. The first and most basic impact of HIV/AIDS is on those who contract the disease. Medication to relieve symptoms and treatment of opportunistic infections are used to ease suffering and prolong the productive lives of people with HIV/AIDS, sometimes at low cost (UNAIDS, 2002). As the immune system collapse, available treatments become increasingly expensive and their efficacy less certain. Antiretroviral therapy, which has achieved dramatic improvement in the health of some individuals in high-income countries, is currently unaffordable and too demanding of clinical services to offer realistic hope in the near term for the millions of poor people infected in developing countries (UNAIDS, 2002).

Most households and extended families cope as best they can with the loss of prime-age adults to AIDS. They reallocate their resources for example by withdrawing children

from school to help at home, working longer hours, adjusting household assets, dependence on their friends and relatives for assistance, in cash and in-kind. Poorer households, having fewer assets to depend on have more coping difficulty. Their children may be permanently disadvantaged by worsening malnutrition or withdrawal from school (Muwanga, 2002).

Research in the United Republic of Tanzania has shown that individuals food consumption dropped by 15% in the poorest households after the death of an adult. The prospect of wide spread food shortages and hunger is real (UNAIDS, 2002).

Another important type of strategy for raising income is the sale of livestock, agricultural produce and agricultural implements such as ploughs to cover medical and funeral expenses (Rugalema, 1999). In the Bukoba district, Tanzania, a study revealed that about 25% of poor households were observed to be selling chickens or exchanging them for food (Rugalema, 1999).

In some cases land has been abandoned (Drimie, 2002) or sold to cover medical expenses. Muchunguzi (1999) reported that in Namibia, 15% of households with chronically ill heads sold family banana and coffee fields to cover medical costs. In China, the following coping strategies are adopted among the HIV/AIDS infected people, confrontation, avoidance, and acceptance – resignation. The most frequently used coping style is confrontation (Shen and Jiang, 2000). In addition, people who are HIV/AIDS positive obtain social support from family, friends, and other significant individuals. While in Soweto, the most important survival strategies are: the sick member continuing at work for as long as possible, borrowing from friends and relatives, receiving transfers from relatives and taking up social grants (Veni and Geoff, 2006).

In southern Thailand, the increasing number of HIV/AIDS patients was seen both in and out of hospital. However, the level of understanding of HIV/AIDS care at home and community generally was still low. Stigma and rejection remained high in community level. Various patients at home and community were then supported by several organizations both government and private sectors (World Bank Group, 2003).

HIV/AIDS care management in southern Thailand were mainly at individual and family levels, partly because of fear and social rejection, patients and families with AIDS generally conceal their status. They would require some assistance and support when necessary without disclosing to the public, although the community was taking the significant role by expressing the value and cultural care, the positive response has currently been low compared to overall projects (World Bank Group, 2003).

Reduction in cultivated area is the most frequently used strategy in the region among affected households in response to prime age-illness and prime age-deaths (FAO, 1995; Mutangadura 1999; Rugalema, 1999; Topouzis and du Guerney, 1999 and Muwanga, 2002). Decreasing the area cultivated is a response to labour shortage, shortages of agricultural inputs due to the death of an income earner and as a response to lack of draught power and farm implements.

In a study carried out in Swaziland, it was discovered that there was a significant reduction in area under cultivation in households that experienced AIDS related death (Muwanga, 2002). The average reduction in land under cultivation was 51% compared to 15.8% in households that experienced a non-HIV/AIDS related death. Reduction to area cultivated may result to reduced crop output, which may have a negative impact on food security.

Another intervention strategy is the substitution of crops and changes in crop production, that is, crop diversification involving a shift from cultivation of labour intensive crops to crops requiring less labour. According to FAO studies in East Africa, affected households substituted cash crops for crops which required less labour and expensive inputs such as fertilizer and pesticides (FAO, 1995). In Muleba District, Tanzania, Muchunguzi observed a shift from banana and coffee to root and tuber crops, which was similarly observed in Rwanda (Donovan and Bailey, 2005) and in Mozambique (Mather *et al.*, 2004). Some researchers have identified a shift in households' preference for early maturing crops to late maturing ones, with fewer types of crops such as sweet potatoes and yam increasingly being preferred (Neema, 1999).

In Swaziland, 43% of the households that experienced HIV/AIDS death substitutes labour intensive crops like cotton with less labour intensive crop like maize and moved from cash crops to subsistence crops (Muwanga, 2002). Other households with an illness experienced higher growth in sweet potato production (500 kg more than unaffected households) and much lower growth in production of beer bananas (a cash crop) (Donovan and Bailey, 2005).

Another intervention strategy is the development of labour saving technologies. These are efforts to make labour-saving, land preparation and weeding technologies more available to infected HIV/AIDS rural households and communities. Animal draught power, such as ox-driven ploughs and harrows, is a commonly utilized land preparation technology in most of eastern and southern Africa, particularly Ethiopia, Kenya, Zambia and Zimbabwe (Jayne *et al.*, 2004).

In Nyanga and Zimbabwe FACT an HIV/AIDS service organization partnered by Action Aid has been working with twelve communities and provides seed and agricultural tools, such as hoes and ox-drawn ploughs, and also fertilizer to HIV/AIDS infected and affected families and individuals. The organization realized that these communities were unable to utilize their land resources due to the impoverishing impact of HIV/AIDS. The provision of ploughs and other agricultural implements has allowed communities to utilize their land in order to better cope with food insecurity, particularly orphans and child-headed households through the support structures within the communities (Action Aid International, 2005).

According to Adeoti (2004) in Nigeria particularly in Kaduna State in particular, the coping strategies adopted by households living with HIV/AIDS include the use of herbal drugs (100 %), reduction in variety of crop cultivated (96.34%), sale of household assets (63.64 %), child labour (57.27 %), remittances from extended family members (32.73 %) and loans (3.64 %). In another study on Impact of AIDS on rural livelihoods, Hilhorst *et al*. (2004) reported that 45% of all affected households hire others to help with work in the fields, 62% received support in the form of field labour from their families; 29% reported that they had reduced the area under cultivation, and 4% reported changes in crop mix (from yam to cassava) to reduce labour requirements. The most frequently reported strategies in Benue State were receiving contributions from other people (reported by 87% of the households), taking loans (75%), and selling farm produce (72%). Loans were obtained from informal credit organizations or through relatives and friends, which eventually could become gifts.

Coping methods reported by Hilhorst *et al*. (2004) include taking advance on future earnings by reducing investment in farming (19%), reduced expenses on hired labour, non-payment of school fees (12%) taking up casual labourer jobs at the expense of their own farms (8%) or selling of land. More Tivs were reported taking children out of school than Idoma in Benue state. Also, several households (13%) reported that they had to reduce their food consumption from three to two meals a day. In this study, 17% of households, half of them female- headed, reported using these potentially erosive coping strategies.

Henry (2002) reported that the coping strategies needed to help rural people to cope with HIV/AIDS related labour stress and increase food security should include the following:

i. Promote non-labour intensive crops to address overall nutritional needs.
ii. Adopting community harvesting and management systems to improve the production/labour ratio.
iii. Encouraging community farming oriented to support food security and nutrition among communities most vulnerable to HIV/AIDS epidemic.
iv. Promoting crops and farming systems that reduce vulnerability to ecological factors.
v. Enhancing food utilization, such as ensuring that vegetable production does not only serve market place trading but also families nutritional needs.

2.6 Challenges/Constraints Among Men, Women and Youth Farmers Infected with HIV/AIDS.

Poverty and ignorance have been identified as the major causes of HIV/AIDS spread in the United Kingdom, Africa, India and other Asian countries. Most countries in the sub-Saharan Africa have been identified among the poorest nations of the world. The need to

meet their daily demands have compelled young women into prostitution (UNAIDS, 2002). According to a United Nations Report, more than 70% of the nearly 1.3billion people of the world who live in dire poverty are women and the situation is getting worse by the daily (UN, 2000). There are also situations where women are obliged to sell sex for food or money in order to keep themselves and their families alive.

The infected HIV/AIDS farmers faces a lot of challenges which includes, a loss in household income, drop or loss in agricultural crops output, loss of income, loss of labour force , loss of land and other assets(selling of household food and domestic animals), increased number of orphans, withdrawal of children from schools, among others. In the sub-Saharan African update (Daudu, 2005), it is asserted that AIDS-affected households appear more likely to suffer severe poverty than non-affected households and older parents who lose adult children to AIDS are exceptionally prone to destitution. It also intensifying chronic food shortage in the families affected by causing farm labour losses and depleting family income that would normally be used to purchase food, resulting to shortage of family food supply. As long sources of income are permanently lost, there is bound to be increase in financial demand to meet up the healthy needs of the patients (Onuh, 2005).

There is also the challenge of constant sells of land, domestic animals and crops output. A study undertaken in Mozambique by Mather et al. (2003) clearly show that land, livestock, were lower for households experiencing death as a result of HIV/AIDS. There is also the sale of livestock such as cattle, goats and donkeys to cover medical and funeral expenses (Rugalema, 1999).

In Bukoba district of Tanzania, poor households were observed to be selling chickens or exchanging them for food. (Rugalema, 1999). The loss of labour force is another serious

challenge face by the victims of HIV/AIDS robs most communities of able bodied adults that contribute meaningfully to its development (UNAIDS, 2001). A study conducted in Ethiopia showed that agricultural labour force time fell from 33.6 hours per week in non-afflicted households between 11 and 16 hours per week in afflicted households (UNAIDS, 2001). According to estimates by FAO in 27 most affected countries in Africa, 16 million agricultural workers died from AIDS in 2004 and Namibia is expected to suffer the most in terms of loss of labour force by 2020 (FAO, 2009). Haan (2004) reported that some countries may lose up to a quarter of their work force by the year 2020 as more employees becomes infected.

One other challenge face by HIV/AIDS persons is increased numbers of orphans in the society. The number of children that have become as a result of HIVAIDS is staggering. At the end of 2003, UNAIDS estimated that there were 12million orphans in sub-Saharan Africa. The care of the orphans falls on women. In a society conducted in northern Zambia, female headed households were found to have about three times as many orphans as male-headed households (FAO, 2004) and those fostering orphans constitute one of the most vulnerable groups to poverty (FAO, 2004).

In addition, withdrawal of children especially young girls from schools is another challenge encounter by HIV/AIDS victims. Children are being withdrawn from schools to be caretakers for young siblings, HIV infected persons or to help in food production (Rugalema, 1999). For example, in Swaziland, school enrolment is reported to have fallen by 36% due to HIV/AIDS, will girls most affected (UNAIDS, 2002),Yamano and Jayne (2004) confirmed in Kenya that children in relatively poor households were more likely to drop out of school after the death of an adult member than children in less poor households. It is assumed that boys

and girls would be removed from school for lack of school fees, to work in the fields and to care for the sick (Senfeld and Polsky, 2005). La'ah (2003) in his research obtained a data from eight households with either or both parents dead, reveals that a third (1/3) of the households have withdrawn their wards from school, he observes that this number is very significant and attest to the social problems of HIV/AIDS in Nigeria and thereby likely to hamper the efforts of government in providing basic education for all in Nigeria.

CHAPTER THREE

3.0 THEORETICAL FRAMEWORK

Theory construction in social sciences has several objectives, namely: (i) it provides conceptual framework to facilitate the accurate observation and reliable description of social event;(ii) it formulates laws and theories by which social phenomena can be explained; and (iii) it establishes a foundation of knowledge and methodology that under certain conditions makes possible the control of social affairs (shrag, 1967). This study therefore adopted the structural functionalist theory based on August Conte, Herbert Spencer, Emile Durkham and Talcott Parsons perception of the society as a system.

3.1 The Structural Functionalist Theory

This study was guided by the structural functionalist theory propounded by August Comte, Herbert Spencer, Emile Durkheim and Talcott Parsons. The general assumption of all structural-functionalists theory is that society is viewed as a system: that is, as a set of interconnected parts which together form a whole. These various parts make their contributions to the maintenance of the society (Michael and Martin, 2000). The functionalists relate society to an organism such as the human body that has organs which are interrelated and work simultaneously towards the maintenance of the organism. The functionalists also maintained that, just as an organism has certain basic needs that must be satisfied if it is to survive, so society also has basic needs that must be met for its continued existence.

Functionalism emphasises that society is an organism, a system of parts, all of which function together for the overall effectiveness and efficiency of society. Functionalism is

also known as “functional analysis” or “consensus theory” because it does not address the issue of conflict in society, rather, it projects an ideal picture of harmonious social relationships. The consensus theory sees society as built upon order, interrelation, and balance among parts as means of maintaining the smooth functioning of the whole. Structural functionalism is the theory which focuses on society as an entity in which all of the components work together cooperatively and cohesively for the betterment of the overall society. This theory emphasizes the functions within the structure of the main parts of society and the contributions of each for the overall society’s survival and growth (Gidens, 1994).

The starting point of all functionalisms is that all societies have certain basic needs – ‘functional requirements’ which must be met if society is to survive. Functionalists are therefore concerned with the contribution the various parts of a society make towards the needs and maintenance of the entire society.

According to Ogunbameru, (2008) that Wikipedia submitted that functionalism is based around a number of key concepts. Firstly, society is viewed as a system – a collection of interdependent parts, with a tendency toward equilibrium. Secondly, there are functional requirements that must be met in a society for its survival such as reproduction of the population. Thirdly, phenomena are seen to exist because they serve a function (Ogunbameru, 2008).

Functionalist analysis looks at social systems as having certain needs and society as a system of social structures (economic, legal, educational, agricultural, gender structures) must operate so as to maintain social life on a daily basis. If the needs are being met, then it is the social structures that meet these needs. The structures are thus functional in the sense

that they help society to operate. Since society is composed of different parts, and the proper operation of these parts is necessary to the smooth operation of the society as a whole, the interdependence of the parts is an important feature of functional analysis. The role and organizations of society are all interdependent. A change in any one part affects others, requiring other parts to take account of the changes, modify its actions and adapt to any changes necessary. Hence, the society is made up of different sectors that all contributes positively to the maintenance and sustenance of the society. These sectors include the political sector, economic, agricultural (crop production), health, legal sectors among others which plays vital roles to the smooth operation of the society.

Crop production is very central to the rural economy, especially in Nigeria. Crop production is the backbone of household food and livelihood security for millions of rural men, women, boys and girls. People whose agricultural livelihood is secured are able to engage further in crop production as well as diversify into other activities. Women are the backbone of the agricultural sector, accounting for 70% of farm labour and being responsible for up to 60%-80% of food production (CTA, 1999; Adisa ad Okunade, 2005). Agriculture contributes over 40% of the Gross Domestic Product (GDP) (FMARD, 2008). It provides food for the teeming population and raw materials for industries.

Consequently, rural women and youth in developing countries have been found to play a prominent role in crop production. They do the domestic work, giving birth and raring of young ones; planting, harvesting, processing and marketing of farm produce. Women also take care of the sick people in the homes (World Bank, 1996). Likewise, the structural-functional school of thought sees the role of women and youth in the family and society at large as expressive: providing warmth, security, emotional support and stabilization of male

adult personalities as well as in crop production. To Talcott Parsons, the need to take care of children and generally care for members of the family, they hold, locate the place of the women in the home. To him, gender differences help to integrate the society. This is accomplished through the complementary roles in family units (Ekong, 2003).

Despite these roles played by women and youth, they have remain seriously disadvantaged with respect to access to health, education, finance and credit, agricultural extension services, other productive resources and training opportunities. In fact, the agricultural sector is faced with mirage of problems or various shocks particularly HIV/AIDS epidemic which militate against optimizing its potentials. The Food and Agricultural Organization (2001) has estimated that AIDS has killed seven million agricultural workers in Africa since 1985. It also suggests that another 16 million more may disappear from rural communities within the next 20 years. With respect to gender, women are particularly affected by the epidemic in Nigeria. In 2006, UNAIDS estimated that women accounted for 61.5% of all adults aged 15 and above living with HIV/AIDS. In many areas, infection rates in young women are higher than in young men.

HIV/AIDS affects rural household food security by impacting people's ability to produce adequate and nutritious food and or engage in waged labour to purchase food. Food insecurity increases people's vulnerability. These factors among others, put people, particularly women and girls to migrate for waged labour or to engage in transactional sex work for income. As women withdraw their labour away from production because of their own or others' ill health, there can be a profound impact on a household's agricultural production, food and livelihood security, and overall well-being of the society. Therefore, with the effects of HIV/IDS on household food security and livelihood in many ways, the

agricultural sector can also help mitigate against these and other impacts particularly among the infected HIV/AIDS rural women.

The agricultural sector in collaboration with the agricultural extension unit has to develop policies and programmes for crop production. They should include policies supporting poverty alleviation, food and livelihood security, and the empowerment of women and youth who are affected mostly by HIV/AIDS (Koyenikan, 2008). On the other hand agricultural extension brings about changes through education and communication in farmers attitude, knowledge and skills. The role of agricultural extension involves the following: disseminating information, building capacity of farmers through the use of a variety of communication methods and helping farmers make informed decisions (Sinkaye, 2005). Sinkaye (2005) equates help in extension to empowering all members of the farm households to ensure holistic development.

Functionalists argue that societies are generally in a normal state of affairs, with the different parts functioning smoothly to contribute to the operation of the society. There may be disturbances from this normal state of affairs – from outside the society because the different parts are not operating properly, or because of features such as population or technical change – but these disturbances trigger adjustments in the various parts of society that return the society to a state of equilibrium. An example from Economics is that when there are shortages of a product, the price of the product rises, and this induces producers to produce more of the product, thus eliminating the shortages. When there is a disturbance in the social world, the various roles and organizations have means to return the society to a more normal state of affairs (Ogunbameru, 2008).

In addition, functionalists believe that illness entails at least a temporary disruption in a person's social interactions both at work and at home. Consequently, from a functionalist perspective, "being sick" must be controlled so as to ensure that not too many people are released from their societal responsibilities at any one time (Richard and Robert, 1997)

3.1.1 Application of the theory

The functionalists sees society as a functional whole which comprises of human groups comprising the men, women, youth and the children without gender differences who help to integrate the society by playing their different complementary roles in the family units (Ekong, 2003)

Functionalist also believed that despite effort made by each parts of the society to see to it well being, there may be disturbances from this normal state of affairs such as illness (HIV/AIDS). Hence, they are of the opinion that effort has to be made by the entire society to return the society to a more normal state of affairs.

Therefore, the relevance of this theory to this study is that, on no account should any part/group of the society be allowed to suffer most or for too long so that the failures of their roles will not affect the normal functioning of the larger society. Measures has to be taken with all seriousness to bring the society back to order

CHAPTER FOUR

4.0 METHODOLOGY

4.1 Study Area

The study was conducted in Jema'a and Giwa Local Government Areas of Kaduna State. Jema'a Local Government Area is located in the Southern part of Kaduna State and at a height of about 732m above sea level with a land mass of 3,923 sq kilometres. Its headquarters is at Kafanchan which is about 250 kilometres away from the State capital. The area is found in the Middle belt of Nigeria, and according to La'ah (2003), the Middle belt is a geographical region that has about seven months of rain and the climatic conditions allow the growth of both root and grain crops.(La'ah, 2003)

The area lies between Longitude $9^{o}0'$ and $9^{o}30'$ north, and longitude $8^{o}00'$ and $8^{o}30'$ east (Jema'a Information Office, 1992). It is bounded in the east by Kaura Local Government Area in the north, by Zango-Kataf Local Government Area in the west by Jaba Local Government Area and in the South by Nasarawa State (Dyaji, 2002). Going by the Nigerian 2006 census, there is no provision for population distribution based on age. Hence the population and percentages of men, women (between the ages 35-59 years) and youth (grouped between ages 15-34 years) was projected (NPC, 2006).

The local government area had a total population of 278,202 out of which men were 23,369 constituting (8.4 %), women (19,474) constituting (7%) between the ages of 35-59 years, and youth 95,145 (34.2%) in 2006 (NPC, 2006). The projected population of Jema'a local government area for men, women and youth for 2012 is therefore as follows:-

Men = 27,978

Women = 23,315

Youth = 113,909

Total projected population of men, women and youth in Jema'a for 2012 = 165,202.

Jema'a Local Government Area is situated in the low savannah planes of Plateau and blessed with many fadamas (marshy farm lands). It has monthly temperature averages ranging between 20^{o}C and 32^{o}C. The rains starts around April and end in October with an annual total range of 1,399 mm to 1,655 mm falling over a period of 130-150 days (Akpoko, 1988).

Three main types of soils are found in Jema'a Local Government Area. They are the sandy-gravels-loam of the hills slope type, the sandy-loam of the upland area of the plains and the alluvial blackish deposits of the riverine (fadama) type. The fadama soil which is fairly rich in crop nutrients and have good and excessive water supply that persists in the dry season, is of special importance to the people for crops and vegetables gardening. Sandy-loam soil is more widespread and forms the main soil type of the upland though also found on the plains, hillsides and valleys where slope conditions are more favourable (Information office, Jema'a LGA 1992).

The people of Jema'a are predominantly subsistence farmers. They cultivate food and cash crops as well as rearing of domestic animals. Important crops grown include cereals such as maize, guinea corn, millet, rice and hungry rice ('acha'). Legumes grown includes bambara nuts, beniseed, groundnuts, *Cajanus cajan* ('Waken Mada'), soybeans, melon, etc; and root and tubers such as yam, ginger, cocoyam, potatoes and cassava. The people are also good producers of sugar cane along the water log areas (*Fadama*) soil. Tree crops such as bananas, oranges, mango, guava, pawpaw, are equally grown in orchards. Cattle are reared by nomadic Fulani, while goats, pigs and poultry are kept on free range bases (Akpoko,

1988). Although there are some other income earning activities including basket and mat weaving, wood carving, black smiting and palm wine taping. The major ethnic groups or tribes found in Jema'a Local Government area are Fantswam (Kafanchan), Gwong (Kagoma), Kaninkon, Kaje (Bajju) and Mada. Other migrants are Hausa, Fulani, Ninzam, Igbo, Yoruba (information Office, Jema'a LGA, 1992).

Giwa Local Government Area is located in the northern part of Kaduna State, and lies between latitudes $10^{o}50'$ north and longitude 7^{o} 15' and 7^{o} 28' east. It is bounded in the north by Funtua Local Government Area (in Katsina State), in the west by Birnin Gwari, in the east by Igabi Local Government Areas respectively and Faskari in Katsina State. In the south, it is bounded by Sabon Gari and Zaria Local Government Areas. The local government area had a total population of 292,384.

The local government area had a total population of 292,384 made up of men 24,560 (8.4%) women 20,467 (7%) (Under the ages of 35-59 years respectively) and youth 99,995 (34.2%) in 2006 (NPC, 2006).

The projected population of Giwa Local Government Area of men, women and youth for 2012 is therefore as follows:-

Men = 29,404

Women = 24,503

Youth = 119,716

The total projected population of men, women and youth in Giwa for 2012 = 173,623.

The mean annual rainfall in Giwa Local Government Area is about 43 mm. The dry season is particularly rainless; this low and seasonal character of rainfall makes vegetation of the area to assume various shades of green in the wet season and turns brown, pale or yellow

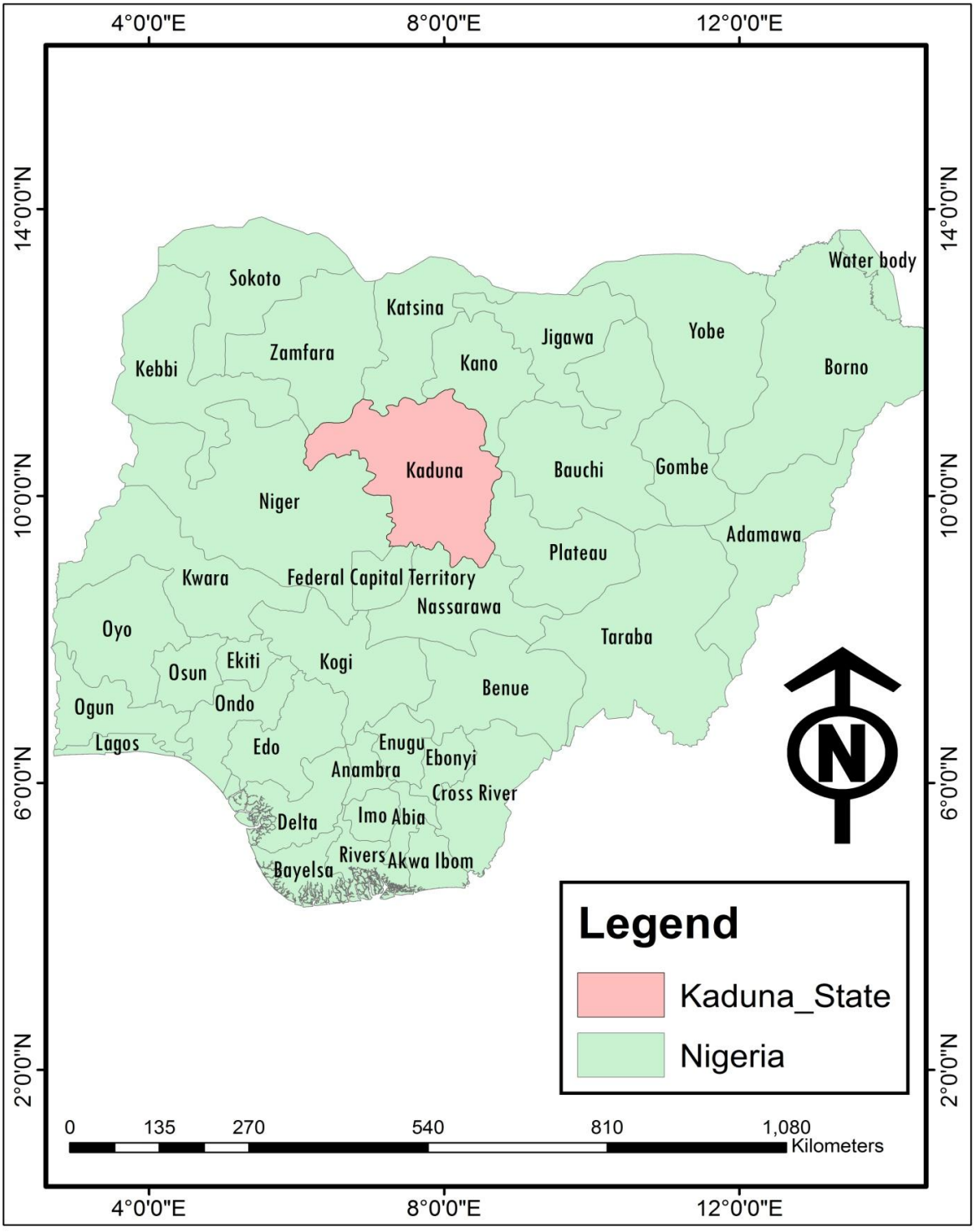
in the dry season (Nchoyi, 2002). The vegetation characteristic is savannah type with short grasses and trees. The vegetation of the area has been modified by action of man and his animals through cultivation bush burning and grazing.

Giwa Local Government Area's soil reflects the geology, climate and vegetation of the area. The soils to the area are the leached femigenous tropical soils, which have well developed texture B-horizon consisting 30 – 40 per cent clay (Norman, 1972). It is part of Zaria soil group with covering material consisting of several meters of decomposed rocks. The soil of this area is normally heavily worked, drainage being very low on account of the high percentage of fine materials in the upper layers. It becomes water logged with rains and also cracks during the dry season.

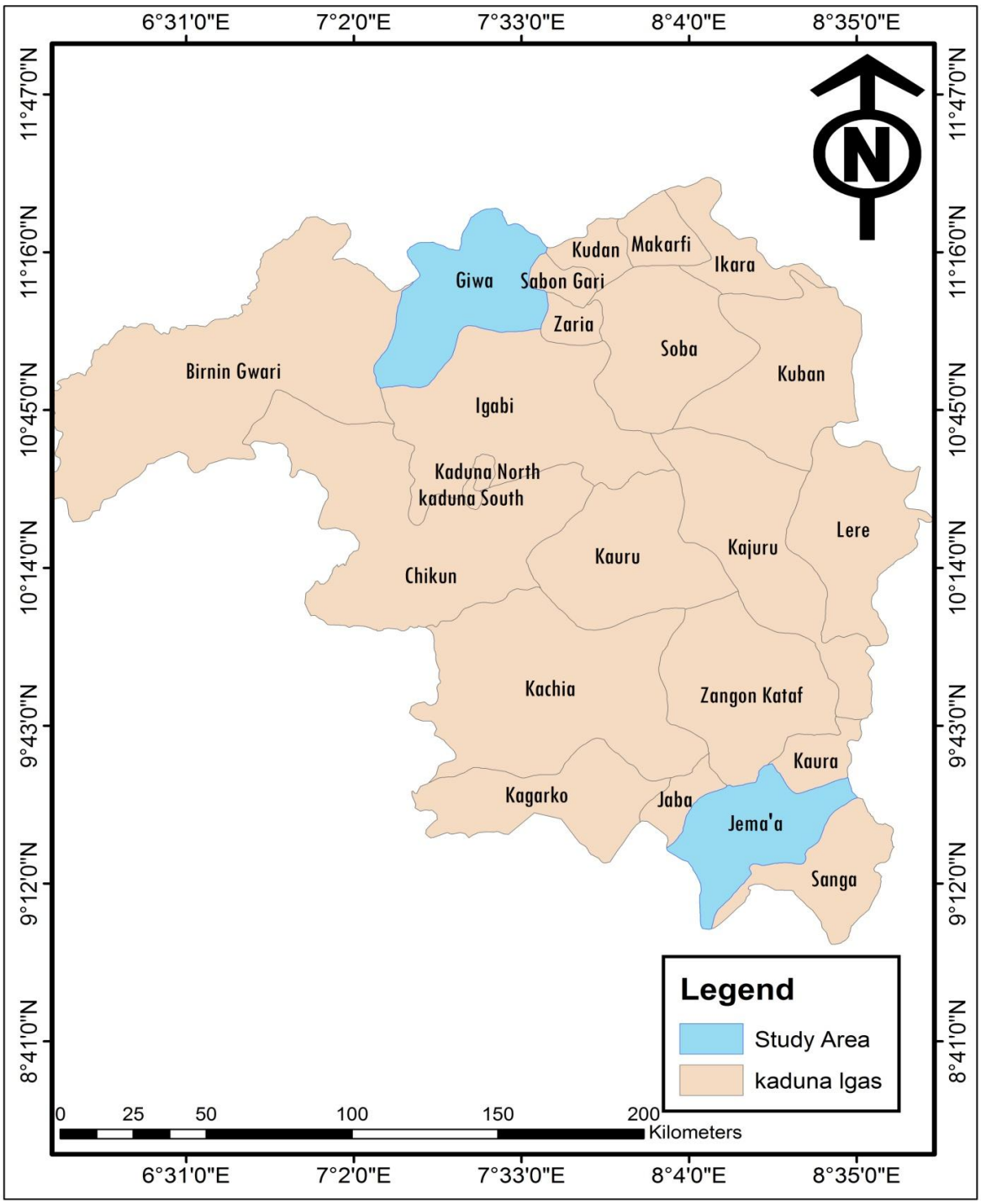
The area lies on a plain land ranging in height from 550-750m. This plain is being drained by River Kubanni with its numerous tributaries. The river becomes heavily flooded during the rains and dries up during the dry season. Alluvial soil which occurs along this river is used for dry season farming. River Kubanni which formed the main focus of the drainage system is a tributary of Galma River which has water throughout the year while River Kubanni dries up in the period between January and June. The main economic activity of Giwa area is agriculture; consequently, about 90% of the people are peasant farmers operating at a small scale both for subsistence and commercial purposes (NPC, 2006).

The males take up commercial aspect of growing cash crops mainly cotton, tobacco, sugar cane in the fadama, groundnut, and food crops such as yam, cassava, maize, soya beans, millet, sorghum, cocoyam and vegetables are also cultivated. The sales of both surplus food and cash crops form the main source of income of the farmers and as means of improving their standard of livelihood (Diane, 1993). The Fulanis take to cattle rearing as

well as fishing activities in the Galma plain. In addition, there is also petty trading on various items, which are constantly taken to periodic markets. This aspect of trade is a very lucrative activity during the rainy season when there is surplus farm produce (Olagunju, 1999).



Map 1: Map of Nigeria Showing Kaduna State and the study area



Map 2: Map of Kaduna State Highlighting the Study Areas

4.2 Sampling Procedure and Sample Size

Purposive sampling procedure was adopted because of the presence of HIV/AIDS in the study areas, and crop production is the predominant economic activity. The population of the HIV/AIDS infected rural men, women and youth were sought from the two General Hospitals of the two Local Government Areas alongside with Non-governmental organizations that relate and keep records of such people, e.g. Integrated Centre for HIV/AIDS Programme (ICAP) and Centre for Integrated Health Programme (CIHP).

Ten percent (10%) of the total population of HIV/AIDS infected men, women and youth in the study areas was randomly selected from the records of the general hospitals as, respondents. The population of HIV/AIDS infected men, women and youth for Jema'a = 1,295, for Giwa = 626, i.e. a total of 1,921 victims and 192 were taken as the sample size. The summary of the sampling procedure and the sample size is presented in Table 4.1 below:

Table 4.1: Sampling Size

Location	Population	Sample (10%)
Men	220	22
Women	595	60
Youth	480	48
Jema'a Total	**1,295**	**130**
Men	180	18
Women	236	24
Youth	210	21
Giwa Total	**626**	**62**
GRAND TOTAL	**1,921**	**192**

Source: Jema'a and Giwa General Hospitals.

In this regard, questionnaire was administered to a total number of one and ninety-two (192) respondents who formed the sample size of the study. The population size covers the years 2007 to 2012.

4.3 Method of Data Collection

Primary data were collected through the use of structured questionnaire. Data were collected from the HIV/AIDS infected persons, relatives and friends of AIDS victims. Relevant additional information was also collected from hospitals, health centres and non-governmental organizations such as Integrated Centre for HIV/AIDS Programme (ICAP) and Centre for Integrated Health Programme (CIHP) that relate directly with the AIDS victims. Information on the demography of respondents, socio-economic characteristics such as age, economic status, labour, marital status, credit availability, farm size, educational attainment, health status, farming experience; effects of HIV/AIDS on crop production, coping strategies and challenges/constraints of the infected rural men, women and youth farmers were also collected.

4.4 Method of Data Analysis

Data collected for the study were analyzed using descriptive statistics to achieve objectives i, ii, iii, v and vi; and analysis of variance (ANOVA) was used to test hypotheses i, ii and iii and objective iv.

4.4.1 Descriptive analysis

Descriptive statistics such as frequency distribution, percentage distributions, mean values was used to analyze objectives i, ii, iii and v, while ANOVA was used to achieve objective iv and test the hypotheses.

4.4.2 Analysis of variance (ANOVA)

The analysis of variance (ANOVA) was used to achieve objective five and the three hypotheses of the study. It is one of the most powerful and widely used procedures as well

as a more desirable and efficient technique for it is a robust technique. It is for large sample size (Wiersma, 1969). Analysis of variance is appropriate for testing the significance of the difference among K population means simultaneously (where K > 2) and without altering the already set alpha level (i.e. probability of making type 1 error). An ANOVA test is used to determine the existence, or absence of statistically significant difference between the mean values of three or more groups of data. The use of variance will help in determining if the various means are equal or not.

In its simplest form, the analysis of variance provides a statistical test of whether or not the means of several groups are all equal. It is also used for comparison of the components of the total deviation. For example, in one way or single-factor F-test, statistical significance is tested by comparing the F-test statistic. For the purpose of this study, two way classifications or two factor experiment of variance was used because of the number of factors (HIV/AIDS and Crop Production) and it is used for large sample size. Hence, ANOVA is used for testing the significance of means between three or more groups.

4.4.3 Analysis of variance (F) formula

$$F = \frac{S^2{}_B}{S^2{}_W}$$

Where:

$S^2{}_B$ = Variance between treatments

$S^2{}_W$ = Variance within treatments

4.5 Definition and Measurement of Variables

4.5.1 Socio-economic variables

i. **Age:** This was the actual number of years an individual has spent from birth to the study period. This was measured in years.

ii. **Gender:** This referred to the biological characteristics for identifying an individual either a male or female. It was measured by scoring male =1, female=0

iii. **Marital status:** This referred to the individual marital ascribed position. It was measured thus: married=1, never married=2, divorced=3, widowed=4 and separated=5

iv. **Household size:** This was the total number of people under one household during the period of research.

v. **Economic status:** This referred to the total income accruing from the farmer's activities on a monthly basis. It was measured in Naira.

vi. **Labour:** In this study, labour was used to refer to the amount of hours the infected HIV/AIDS farmers put into farming activities. It was expected that the amount of hours an individual farmer puts into farming will have a direct relationship with the output of production per unit area. Labour was measured in man hours/days.

vii. **Credit availability:** This refers to the various services of credit facilities at the HIV/AIDS infected farmer's disposal; this include formal financial organizations (banks), non-governmental organization (NGOs) and indigenous credit institutions (local banks) for the purpose of investing in agricultural productivity and level of living. Credit was measured in terms of availability, and non-availability.

viii. **Farm size:** This refers to the total land area under cultivation by the HIV/AIDS infected farmers at the time the research was conducted in hectares (ha), and anything less than a hectare was regarded as a small farm land.

ix. **Educational attainment:** This refers to the extent by which the respondent has acquired western education. It was measured by determining the actual number of years spent in school.

x. **Health status:** In this study, health status is the fitness or health condition an individual HIV/AIDS infected farmers found themselves at a particular period or time. It is expected that the health condition/status of an individual farmer will contribute positively to the output, income and level of living. Health status was measured on the receipt or accessibility of medical services either from private or public services by the victim.

xi. **Farming experience:** This is the number of years a farmer has been engaged in farming. Farming experience was measured in number of years the respondent has put in farming activity.

4.5.2 Effects variables

Effect simply means a powerful result of something on a people or environment (Advanced Learners Dictionary of Current English, 2000). For the purpose of this study, effect is any activity or phenomenon, which causes the diversion of resources to uses that, would not have been necessary in the absence of HIV/AIDS and consequently decreased crop production due to the disease. Effect was measured in terms of crops output, income and level of living of the respondents.

i. **Crops output:** This refers to the total output realized from the farm. Crop output was determined by the total crops output in kilogram (kg) a respondent cultivated in the last farming season. Crops such as maize, sorghum, rice and soya beans.

ii. **Income:** This is defined as the amount of money the respondent earned from crops output for living by the HIV/AIDS Infected farmers. It is expected that the higher the respondents income, the higher the crop production. It was measured in naira gotten within the past year by the respondent.

iii. **Level of living:** According to Ekong (2003), level of living is generally used to describe the quantity and quality of goods and services actually consumed and owned by an individual and his family members and also the possessions of material things. For this study, level of living was measured by ownership and usage of material goods/things such as radio, television, motorcycle, jewellery, bed, number of clothes, and number of livestock, lamp and sewing machine. These items were measured in monetary value. The amount invested by the respondents to purchase their material items and also the amount gotten when you dispose these items to cure or treat yourself or the HIV/AIDS victim.

CHAPTER FIVE

5.0 RESULTS AND DISCUSSION

To analyse the effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa Local Government Areas of Kaduna State, this chapter presents the results of its specific objectives viz:

i. identification of the socio-economic characteristics of the HIV/AIDS infected farmers;
ii. description of reasons influencing the spread of HIV/AIDS among farmers;
iii. identification of the prevalence level of HIV/AIDS among farmers;
iv. analyse the effects of HIV/AIDS on (crops output, income and level of living)among farmers;
v. description of the coping strategies among HIV/AIDS infected farmers and
vi. identification of the challenges/constraints faced by the HIV/AIDS infected farmers.

5.1 Socio-economic Characteristics of the Respondents

Table 5.1a and 1b presents the distribution of respondents according to their socio-economic characters.

5.1.1 Age

Table 5.1a shows that out of the total respondents of 186, age 35 and above were 41.8% (men and women), while youth who fall between the age of 16 – 34 were about 58.2%. The age range reveals that the youth were the dominant group among the respondents. The classification also reveals that, age 34 and below was also considered as

youth, some of whom are married and could therefore be in position to understand and provide valid information on the subject matter of the study. This agreed with the study of La'ah (2003) who opined that youth were people who are at the stage of their productive or active age (15-34 years) and can engage in any aspect of agricultural production and also active in sex relation. In addition, according to World Development Report (2007), the number of people in the world aged 12-24 is the largest ever, and there are 1.3 billion in this age group. Close to 85% of this over 1.3 billion are young men and women living in developing countries, this figure is projected to increase to 87% by 2025. This suggests why HIV/AIDS is common among youth. Hence the mean of this study is 33.1

5.1.2 House-hold Size

The results in Table 5.1a revealed that most of the respondents (46.3%) had household size of between 6-10 persons, 32.5% had 1-5 persons and 21.0% had 11-20 persons, therefore the mean of house hold size in this study is 7.7. This implies that the large household size has the capacity to supply some of the labour requirement on farm and the other household activities as affirmed by Solomon (2008) and Banmeke (2003).

5.1.3 Farm size

The analysis of farm size is shown in Table 5.1a. The result revealed that 40,6% of the respondents had farm size of less than one hectare, 11.9% had 1-2 hectare, 14.9% had 2-3 hectare, 12.9% had 3-4 hectare, 9.9% had 4-5 hectare and another 9.9% had 5 and above hectare. The result shows that on the average 2.8 are small scale farmers who are majority in the study.

5.1.4 Farming experience

The analysis of farming experience as indicated in Table 5.1a revealed that majority of the respondents (28.9%) had between 6-10 years farming experience, 22.8% had between 1-5 years experience, 14.6% had 21-30 years experience, 13.3% had 11-15 years experience, 11.3% had 16-20 years and 4.0% had 31 and above years of farming experience. The mean in this study is 13.1. The farming experience of majority of the respondents is about 10 years and may be due to the relatively youthful status of the respondents. This equally shows that respondents may have acquired the desired level of experience relative to their ages. This finding is consistent with Igbago (2008) that work experience is not only defined by the length of time work done within the given period.

5.1.5 Income/economic status

Income refers to the total revenue that accrues to individuals within a given period. The higher the income levels the higher the capacity for high crop production.

The various groups of respondents had some monthly income to cater for their house hold size before the infection of HIV/AIDS. The results in Table 5.1a indicates that 70.5% earned between ₦1000-₦ 15,000 per month; 15.3% earned between ₦ 16,000-₦ 30,000; and 7% earned ₦ 31,000-₦ 45,000; 4.7% earned between ₦ 46,000-₦ 60,000; while 3.2% earned ₦ 61,000 and above per month respectively. The mean in this study is N12, 595.1.This means that the generality of the respondents were low income earners. This can also mean that due to their low income level, some have move into prostitution especially among the females in order to earn a living. This finding is consistent with UNAIDS (2001) that HIV/AIDS is amongst girls or ladies who come from poor economic background, engage

in prostitution as a means of livelihood thereby exposing their lives to the risk of HIV/AIDS. The men have access to the assets of production, like land, capital and so on.

Table 5.1a: Distribution of Respondents According to Socio-economic Variables

Socio-economic Variable	Giwa		Jema'a		Overall		Mean	Std. Dev.
	Freq	%	Freq	%	Freq	%		
Age group (yrs)								
16 – 22	15	23.1	14	11.6	29	15.6	33.1	9.6
23 – 26	06	9.1	12	10	18	9.7		
27 – 30	22	32.3	18	14.9	40	21.5		
31 – 34	07	10.8	14	11.6	21	11.4		
35 – 40	13	20	32	26.4	45	24.2		
41 – 45	1	1.5	9	7.5	10	5.3		
46 – 50	1	1.5	15	12.5	16	8.7		
51 – above	-	-	7	49	7	3.6		
Total	**65**	**100**	**121**	**100**	**186**	**100**		
Household size								
1 – 5	16	26.2	38	36.2	54	32.5	7.7	4.1
6 – 10	31	50.8	46	43.7	77	46.3		
11 – 20	14	22.9	21	20.2	35	21		
Total	**61**	**100**	**105**	**100**	**166**	**100**		
Farm size (ha)								
0.1-1.0	8	80	33	36.3	41	40.6	2.8	1.8
1.1-2.0	2	20	10	11	12	11.9		
2.1-3.0	-	0	10	11	10	9.9		
3.1-4.0	-	0	15	16.5	15	14.9		
4.1-5.0	-	0	13	14.3	13	12.9		
Above 5	-	0	10	11	10	9.9		
Total	**10**	**100**	**91**	**100**	**101**	**100**		
Farming experience (yrs)								
1 – 5	2	20	25	28.6	27	22.8	13.1	9.8
6 – 10	4	40	24	27.6	28	28.9		
11 – 15	3	30	10	11.4	13	13.3		
16 – 20	0	0	11	12.5	11	11.3		
21 – 30	1	10	13	14.8	14	14.6		
31 – above	0	0	4	4.4	4	4.0		
Total	**10**	**100**	**100**	**100**	**110**	**100**		
Monthly income								
1,000 – 15,000	52	82.7	41	55.2	93	70.5	12,595.1	17,251.0
16,000 – 30,000	8	12.8	12	17.3	20	15.3		
31,000 – 45,000	-	0	7	9.9	7	7		
46,000 – 60,000	1	1.6	5	7.1	6	4.7		
61,000 – above	-	0	4	5.6	4	3.2		
Total	**61**	**100**	**69**	**100**	**130**	**100**		

Field survey, 2012

5.1.6 Farmland ownership

From Table 5.1b, 42.9% of the respondents in Giwa LGA, while 57.1% had no farmland as against 68.8% respondents from Jema'a LGA who own farmland and 31.2%

who do not own farmland. Access to and ownership of farmland and results control over property, are fundamental determinants of secure livelihoods. Widespread exclusion of women in developing countries from owning or controlling property, as well as limits often dictated by custom concerning their access and use of property such as land, means they allow them to improve their chances of preventing infection or enhance their capacity to mitigate the consequences of HIV/AIDS (UNAIDS, 2004). Hence, not all people, especially women and girls, own farmland in Africa. This result therefore corroborates with Marengwe (2009) where land and other property have been stripped from widows and orphans.

5.1.7 Gender

Table 5.1b shows that 27.1% of the respondents were male and 71.4% were female. This implies that there are more women respondents than men in this study. This finding agrees with the findings of (UNAIDS, 2001; UNAIDS, 2008; Adesote, 2001; Onuh, 2005) that HIV/AIDS epidemic prevalence rate in Africa is higher among women than among men. In addition (FAO, 2009) confirmed that HIV/AIDS infection rates are three to five times higher in women than among men.

5.1.8 Marital status

With regard to marital status, this study takes marriage to mean formal and informal unions. By formal union, we mean marriage where some ceremonies, customary legal rights have been performed. While informal refers to couples who live together and cohabit without any legal or formal approval. In this regard, out of the 192 respondents, the classification reveals that 6.3% of the respondents were not married, while 69.8% were married, 3.6% were divorced, 14.2% were widowed and 5.3% were separated. This study agrees with Mamman

(2001) that majority of HIV/AIDS infected persons in Africa are the married. This can be attributed to factors such as polygamous system of marriage in operation, widow inheritance and keeping of sex partners or concubines outside the home.

5.1.9 Marital union

Table 5.1b also indicates that 27% of the respondents practice polygamy while 73% practice monogamy. This suggests that there is every possibility of premarital sexual relation or extra-marital affairs. Mamman (2001) advocates that traditional leaders and elders at the community level should support the campaigns against the epidemic by refusing cultural norms against wife inheritance, early marriage, divorce, high bride price and discouraging children or war against commercial sex and prostitution.

Likewise Table 5.1b depicts that 53.3% of the respondents had only one wife, 33.3% had two wives, and 13.3% had three wives, this is another indices for the spread of the HIV/AIDS among family members. The practice of polygamy enhances the spread of the virus.

5.1.10 Formal education attainment

On formal education, 4.9% respondents have no formal education, 20% have Quranic education; 22.2% have obtained primary education, while 39.5% have received secondary education and 13.5% have tertiary education. This suggests that most respondents have formal education, and so they are acquainted with the subject matter of the research. Also, they might have heard about HIV/AIDS control measures brought or introduced to them on how to combat the disease. This finding corroborates UNDP (1997) that any level of education may be able to positively modify people's behaviours.

5.1.11 Source of labour

The analysis of the source of labour is shown in Table 5.1b. The result shows that 51.0% respondents use own children as source of labour for crop production, 34.3% use hire labour, 7.8% use relatives, 3.9% use friends while 2.9% use neighbours respectively. The findings show that majority of the respondents' use their own children as source of labour on the farms, domestic activities as well as nursing their sick parents at home as children were forced to withdraw from school. This finding is in corroboration with UNAIDS (2006).

5.1.12 Credit availability

Access to credit in the form of either accumulated savings or loans from governments or organizations is necessary for HIV/AIDS victims in financing their crop production and to maintain their health status. Majority of the respondents 71.9% indicated that they had no access to credit or loan, while only 28.9% indicated had access to credit facilities. The implication of this is that victims of HIV/AIDS find it difficult to cope due to lack of assistance financially.

Table 5.1b: Distribution of Respondents According to Socio-economic Variables

Socio-economic Variable	Giwa		Jema'a		Overall	
	Freq	%	Freq	%	Freq	%
Land ownership						
Owned	9	42.9	75	68.8	84	64.6
Not Owned	12	57.1	34	31.2	46	35.4
Total	**21**	**100**	**109**	**100**	**130**	**100**
Gender						
Female	47	72.3	90	70.9	137	71.4
Male	17	26.2	35	27.6	52	27.1
Total	**64**	**100**	**125**	**100**	**189**	**98.5**
Marital status						
Never Married	2	3.1	10	8.0	12	6.3
Married	45	69.2	89	71.2	134	70.5
Divorced	03	4.6	4	3.2	7	3.7
Widowed	10	15.4	17	13.6	27	14.2
Separated	5	7.7	5	4.0	10	5.3
Total	**65**	**100**	**125**	**100**	**190**	**100**
Marital union						

Socio-economic Variable	Giwa		Jema'a		Overall	
	Freq	%	Freq	%	Freq	%
Polygamous	25	44.6	18	17.5	43	27
Monogamous	31	55.4	85	82.5	116	73
Total	**56**	**100**	**103**	**100**	**159**	**100**
Formal education attainment						
Non formal	7	10.9	2	1.7	9	4.9
Quranic	33	51.6	4	3.3	37	20
Primary	9	14.1	32	26.4	41	22.2
Secondary	14	21.9	59	48.8	73	39.5
Tertiary	1	1.6	24	19.8	25	13.5
Total	**64**	**100**	**100**	**100**	**185**	**100**
Source of labour for crop production						
Use own children	7	70	45	48.9	52	51
Use neighbours (village)	1	10	2	2.2	3	2.9
Use friends	0	0	4	4.3	4	3.9
Use relatives	2	20	6	6.5	8	7.8
Use hired labour	0	0	35	38	35	34.3
Total	**10**	**92**	**102**	**100**	**100**	**100**
Access to credit/loan facilities						
Yes	-	-	13	28.9	13	28.9
No	-	-	32	71.1	32	71.9
Total	**-**	**-**	**45**	**100**	**45**	**100**

Source =Field survey, 2012.

5.2 Reasons Influencing the Spread of HIV/AIDS

The major reasons causing the spread of HIV/AIDS epidemic in the rural and urban households of Nigeria is sexual abuse, poverty and ignorance (NUAIDS, 2002), as well as violence towards women and children and cultural norms and practices (FMOH, 2005, Yeshiwas, 2007). As seen in Table 5.2, generally, in both Giwa and Jema'a, youth constituted majority (88.9% and 64.5% respectively) of respondents who admitted that they have sex for love, 86.4% and 68.4% respectively for money and 92.9% and 58.2% respectively have sex to satisfy their spouses, girl friend or boyfriend . In Giwa, 13.6% of women have sex for money and 12.5% of men have sex to have babies, while in Jema'a 25% of women have sex out of curiosity and 36.4% of men have sex for self-satisfaction.

In this study, the youth engage in sex which hastens the spread of HIV/AIDS because they are at their active and productive age and so can engage in anything in order to have what they want in life. The findings of the study agree with La'ah (2003) who confirms that

youth are people who are at the stage of their productive or active age 15-34 years can engage in any aspect of agricultural production and also active in sex relation.

In addition, the findings of this study are also in corroboration with UN (2001) that economic reasons particularly money are main factors for women prostitution and majority of these women are unable to negotiate safe sex. There are also situations where women are obliged to sell sex for food or money in order to keep themselves and their families alive.

Table 5.2: Distribution of responses according to factors influencing the spread of HIV/AIDS

LGA	Reasons for Sex	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Love	0	0.00	1	11.11	8	88.89	9	4.69
	Money	3	13.64	0	0.00	19	86.36	22	11.46
	Out of fun	1	100.00	0	0.00	0	0.00	1	0.52
	Self-satisfaction	5	10.20	3	6.12	41	83.67	49	25.52
	having babies	1	12.50	1	12.50	6	75.00	8	4.17
	To satisfy spouse/girlfriend/boy friend	0	0.00	1	7.14	13	92.86	14	7.29
GIWA Total		**10**	**9.71**	**6**	**5.83**	**87**	**84.47**	**103**	**53.65**
JEMA'A	Love	6	19.35	5	16.13	20	64.52	31	16.15
	Money	3	15.79	3	15.79	13	68.42	19	9.90
	Out of curiosity	2	25.00	1	12.50	5	62.50	8	4.17
	Self-satisfaction	6	18.18	12	36.36	15	45.45	33	17.19
	having babies	7	18.92	8	21.62	22	59.46	37	19.27
	To satisfy spouse/girlfriend/boy friend	2	15.38	4	30.77	7	53.85	13	6.77
JEMA'A Total		**26**	**18.44**	**33**	**23.40**	**82**	**58.16**	**141**	**73.44**
GRAND TOTAL		**36**	**14.75**	**39**	**15.98**	**169**	**69.26**	**244**	**127.08**

5.2.1 Ways of transmitting HIV/AIDS

From Table 5.3, 90% of youth from Giwa and 53.4% of youth from Jema'a agree that HIV/AIDS is transmitted through blood transfusion, 82.14% from Jema'a admitted that HIV/AIDS is spread through sexual transmission, and 85.7% from Giwa responded that HIV/AIDS is transmitted from mother to child while 60.9% of youth from Jema'a admitted that HIV/AIDS is spread through the use of unsterilized objects.

Both female 16.7% and 16.7% men in Giwa responded that HIV/AIDS is transmitted through infected breast milk while 22.7% female and 31.8% male in Jema'a admitted that HIV/AIDS is transmitted through mother to child. There are variations of opinion on the means of transmission of HIV/AIDS between men and women as against that of the youth. This may be simply because the men and women are hiding their true identity as to the actual and major means HIV/AIDS is being transmitted. The youth believed that sexual transmission, blood transfusion and the use of unsterilized objects are the root causes of HIV/AIDS transmission.

This study relates with the study of (The Population Council, Inc. 2007) that affirms that young married girls lack knowledge on reproductive health which included HIV/AIDS. They also lack the power and education needed to insist upon the use of condom during sex coupled with the high probability that the men are significantly older than the women and therefore are more likely to have had more sexual partners in the past. Young women are more vulnerable to HIV/AIDS infection in this kind of situation.

Table 5.3: Distribution of Respondents According to Perceived Ways of HIV/AIDS Transmission

LGA	Means of transmission	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Blood transfusion	1	3.33	2	40.00	27	90.00	30	15.63
	Infected breast milk	1	16.67	1	16.67	4	66.67	6	3.13
	Mother to Child		0.00	2	14.29	12	85.71	14	7.29
	Sexual Transmission	7	12.50	3	5.36	46	82.14	56	29.17
	Use of unsterilized objects	6	14.29	2	4.76	34	80.95	42	21.88
GIWA Total		**15**	**10.14**	**10**	**6.76**	**123**	**83.11**	**148**	**77.08**
JEMA'A	Blood transfusion	15	20.55	19	26.03	39	53.42	73	38.02
	Infected breast milk	8	22.22	11	30.56	17	47.22	36	18.74
	Through accident		0.00	1	100		0.00	1	0.52
	Mother to Child	10	22.73	14	31.82	20	45.45	44	22.92
	Sexual Transmission	23	21.10	26	23.85	0	55.05	109	56.77
	Use of unsterilized objects	12	18.75	13	20.31	39	60.94	64	33.33
JEMA'A Total		**68**	**20.80**	**84**	**25.69**	**175**	**53.52**	**327**	**170.31**
GRAND TOTAL		**83**	**17.47**	**94**	**19.79**	**298**	**62.74**	**475**	**247.40**

5.2.2 Sexual relationship

Many adults and adolescents in Africa are sexually experienced, including those who are singles (PRB, 2001). La'ah (2003) takes Sexual experience to mean ever had sexual intercourse. Table 5.4 shows the percentage distribution of respondents who have sex partners. Almost 64.6% of total respondents have had sex partners and 35.4% had no sex partners outside marriage.

Giwa with 52.4% had the highest proportion of respondents who have sex partners, while Jema'a had 47.6%. This finding agrees with UNAIDS (2002) that HIV/AIDS infection were mainly concentrated in homosexual communities in the United States because of the unprotected heterosexual and homosexual intercourse.

Table 5.4: Distribution of Respondents According to Extra-marital Sexual Activities

Extramarital Sex	Giwa		Jema'a		Overall	
	Freq	%	Freq	%	Freq	%
Yes	47	88.7	55	52.4	102	64.6
No	6	11.3	50	47.6	56	35.4
Total	**53**	**100**	**105**	**100**	**158**	**100**

5.2.3 Sexual partners

In Giwa, the male, female and youth that have one sexual partner are 44.6%. Then 10.9% have more than one. While in Jema'a both men and women and youth respondents 40.6% affirmed that they have one regular sex partner while 2.6% have more than one sex partner (Table 5.5). This difference could be as a result of religious inclination: while the Islamic faith encourages polygamy, the Christian faith permits only monogamy. In addition, among all the groups in the two Local Government Areas, youth constituted the majority of respondents of about 100% and men of 89.5% admitted that they have more than one regular partner likely because they are within the reproductive and productive age groups and some

of them are migrants who provide labour away from their homes. This encourages sexual promiscuity. (i.e. having many sexual partners).

The findings of this study is in agreement with Centre for Disease Control (CDC) (2002); National Youth Service Corp (NYSC) and United Nations Children's Education Fund (UNICEF) (2007) that although HIV/AIDS is prevalent in all population groups, data from most countries show that it is quite pronounced among those who are within the reproductive and productive age group (15-24 years). Also, according to UNICEF findings, the migrant labour system that forces thousands of workers to spend long periods away from home has created markets for prostitution all over Africa. Yeshiwas (2007) survey result in Ethiopia shows that about 70% have unprotected sex in extra-marital sex affairs. In addition, this study correlates a study conducted by UNAIDS (2002) in Zimbabwe, that discovered that majority of HIV positive women were actually infected by their spouses due to multiple casual sex partners.

Table 5.5: Distribution of Respondents According to the Number of Sexual Partners

LGA	No had sex with	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	One regular partner	3	10.71	1	3.57	24	85.71	28	14.58
	More than one partner	2	9.42	2	0.52	17	80.95	21	10.94
	Any casual partner	0	0.00	0	0.00	3	100.00	3	1.56
	(blank)	2	15.38	0	0.00	11	84.62	13	6.77
GIWA Total		**7**	**10.77**	**3**	**4.62**	**55**	**84.62**	**65**	**33.85**
JEMA'A	One regular partner	12	15.38	21	26.92	45	57.9	78	40.63
	More than one partner	0	0.00	4	80	1	20	5	2.60
	Any casual partner	1	50.00	1	50.00	0	0.00	2	1.04
	Both regular and casual partner	2	40.00	2	40.00	1	20.00	5	2.60
	(blank)	11	29.73	1	2.70	25	67.57	37	19.27
JEMA'A Total		**26**	**20.47**	**29**	**22.83**	**72**	**56.69**	**127**	**66.15**
GRAND TOTAL		**33**	**17.19**	**32**	**16.67**	**127**	**66.15**	**192**	**100.00**

5.2.4 Responses on the use of condoms during sex

The use of condom during sex is one very important way of reducing the spread of HIV/AIDS. Table 5.6 shows the percentage of respondents who use condom during sex and the proportion of those who do not. Also, 37.5% of the respondents in Giwa LGA use condom during sexual intercourse compared to Jema'a LGA which has 82.5% of respondents that used condom; 63.5% in Giwa indicated that they do not used condom during sexual intercourse and 36.4% in Jema'a indicated that they do nots use condom. The use of condom in Nigeria (especially in Kaduna State) is not necessarily to protect one from sexually transmitted infections (STIs), but as a means of protection from unwanted pregnancy (NPC, 2000).

Many people lack access to condom and general contraceptives. The lack of access is not necessary on none availability of condom, but on poverty that has made many people unable to procure condom even when they know its use. The findings of this study support the World AIDS Day (2005) that "Help me to cure poverty and I will cure problems of HIV/AIDS says one time Ugandan president".

Table 5.6: Distribution of Respondents According to the Use of Condom During Sexual Intercourse

Use condom	Giwa		Jema'a		Overall	
	Freq	%	Freq	%	Freq	%
Use	21	37.5	94	82.5	115	67.65
Don't Use	35	63.5	20	36.4	55	32.35
Total	**56**	**100**	**114**	**100**	**170**	**100**

n = Based on valid responses, missing responses excluded.

5.2.5 Effectiveness of the use of condom during sexual intercourse

Thirty-nine per cent (39%) of the respondents in both Giwa and Jema'a believe that the use of condom during sex is very effective; 34.1% agree that it is effective, 10.6% agree

that it is moderately effective and 16.3% agree that is not effective (Table 5.7). The use of condom is very effective and should be encouraged as admitted by the respondents. Although the use of condom is quite effective, but circumstances such as ignorance affect its use. This is in line with a study that shows that younger married girls lacked knowledge on productive health, which included HIV/AIDS. They also lack the power and education needed to insist upon the use of a condom during sex couple with the high probability that the husband will be significantly older than the girl and therefore is more likely to have more sexual partners in the past, therefore young women are more vulnerable to HIV infection within marriage (The Population Council Inc., 2007).

Table 5.7: Distribution of Respondents According to the Effectiveness of Use of Condom during Sexual Intercourse

Effectiveness of condom	Giwa		Jema'a		Overall	
	Freq	%	Freq	%	Freq	%
Very effective	10	47.6	38	37.3	48	39
Effective	8	38.1	34	33.3	42	34.1
Moderately effective	2	9.5	11	10.8	13	10.6
Not effective	1	4.8	19	18.6	20	16.3
Total	**21**	**100**	**102**	**100**	**123**	**100**

5.2.6 Responsibility of protection against HIV/AID infection during sex

From Table 5.8 and Figure 1, 8.33% female, 4.2% male and 0.9% youth in Giwa are of the opinion that both male and female partners should be responsible for the proection against HIV/AIDS infection during sex.

While in Jema'a, 71.4% males and 26.9% of females agree that both male and female partners should be responsible for the protection against HIV/AIDS infection during sex. Generally, majority of respondents both in Giwa and Jema'a (34.9%) admit that both male and female partners should be responsible for protection of HIV/AIDS spread infection during sex.

Unfortunately, female condom is not commonly available for female partners during sex, so as to reduce the chances of contracting the HIV/AIDS inflection. Women are more vulnerable in contracting the HIV/AIDS infections because of their open genital track.

Yeshiwas (2007) opined that women in general, including young girls, bear the burden of the impact of the epidemic as they are more likely to take care of the sick, to lose jobs, income and schooling as a result of illness and to face stigma and discrimination. A survey had been made on the ratio of women to men who are living with HIV/AIDS in certain African countries. The findings of the study indicated that the ratio of women to men ranged from 20%:10% in South Africa , 45%:10% in Kenya and Mali.

Table 5.8: Distribution of Respondents According to who should be Responsible for Protection against HIV/AIDS Infection During Sexual Intercourse

LGA	Who is responsible for protection	Female		Male		Youth		Grand Total	
GIWA		Freq	%	Freq	%	Freq	%	Freq	%
	Male partner	0	0.00	1	33.33	2	0.69	3	1.56
	Female partner	1	50.00	0	0.00	1	0.50	2	1.40
	Male and Female partners	4	8.33	2	4.17	42	0.88	48	25.00
	Don't know	2	20.00	0	0.00	8	0.80	10	5.21
GIWA Total		**7**	**11.11**	**3**	**4.76**	**53**	**0.84**	**63**	**32.81**
JEMA'A	Male partner	3	10.00	5	16.67	22	0.73	30	15.63
	Female partner	0	0.00	5	71.43	2	0.29	7	3.65
	Male and Female partners	18	26.87	14	20.90	35	0.52	67	34.90
	Don't know	4	36.36	1	9.09	6	0.55	11	5.73
JEMA'A Total		**25**	**21.74**	**25**	**21.74**	**65**	**0.57**	**115**	**59.90**
GRAND TOTAL		**32**	**17.98**	**28**	**15.75**	**118**	**0.66**	**178**	**92.71**

5.3 Respondents' Responses on Prevalence Level of HIV/AIDS among Men, Women and Youth Farmers

Objective three was to identify the prevalence level of HIV/AIDS among men, women and youth in the study areas. Prevalence here means which of this group of people do HIV/AIDS affects most. The result on Table 5.9 shows that 87.5% and 65.9% of youth respondents in Giwa and Jema'a respectively affirmed that women suffer most from

HIV/AIDS infection. Also, 90.9 % of youth from Giwa and 55.3% of youth from Jema'a admitted that youth in both areas have higher prevalence of HIV/AIDS than men. This may be because women constitute the highest percentage among the youth groups than that of men.

There is sufficient evidence to the fact that women were more vulnerable to the virus and that the infection rate among women are higher than that of men in agreement with UNAID,(2002), NPC (2000) and in La'ah's (2003). As shown on Table 9 and Figure 2, women have higher proportion of HIV/AIDS prevalence with 38% responses in the two local government areas, this was followed by youth35.9% . This result agrees with earlier studies that women have higher prevalence of HIV/AIDS than men (Armstrong, 1995, in La'ah's (2003). The study affirms UNAIDS (2000) that 54% of women from the ages of 15-49 years live with HIV/AIDS and are increasingly confronted with the consequences of HIV infection as individuals, mothers, partners of persons with AIDS and care providers. In addition, Onuh (2005) reports the prevalence of HIV infection among women aged 20-34 years as 69% and young men as 60% in Makurdi, Benue State.

Table 5.9: Distribution of Respondents According to the Prevalence Level of HIV/AIDS

LGA	Prevalence group	Female		Male		Youth		Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Men	2	22.22	1	11.11	6	66.67	9	4.69
	Women	4	12.50	0	0.00	28	87.50	32	16.67
	Youth	1	4.55	1	4.55	20	90.91	22	11.46
GIWA Total		**7**	**11.11**	**2**	**3.17**	**54**	**85.71**	**63**	**32.81**
JEMA'A	Men	2	18.18	2	18.18	7	63.64	11	5.73
	Women	6	14.63	8	19.51	27	65.85	41	21.35
	Youth	10	21.28	11	23.40	26	55.32	47	24.48
	Children	4	33.33	3	25.00	5	41.67	12	6.25
JEMA'A Total		**22**	**19.82**	**24**	**21.62**	**65**	**58.56**	**111**	**57.81**
GRAND TOTAL		**29**	**16.67**	**26**	**14.94**	**119**	**68.39**	**174**	**90.63**

5.3.1 Age- group prone to HIV/AIDS infection

The distribution of age group prone to HIV/AIDS as shown on Table 5.10 reveals a high prevalence rate of HIV/AIDS among the age group 21-39 years with 69.3% respondents cutting across ages and Local Government areas, 8.9% age group 15-20 year, and 4.7% age group 40-49 years respectively. As shown on Table 11, the age group 21-39 years corresponds with the most sexually active age group. Though, there is a small proportion of HIV/AIDS prone among children, this may be a result of mother to child transmission. Ages 15-20 years had 8.9% respondents who favoured the age group prone to HIV/AIDS infections; this may be as a result of puberty and possibly juvenile delinquency and early exposure to sex, phonographic movies, nude pictures and the internet.

There is a small proportion of HIV/AIDS in the age group 50 and above years (3.7% responses). This might not be unconnected with the fact that this group is likely to be less sexually active or are less likely to engage in adventurous sexual escapades. This is in corroboration with Best (2000) and La'ah (2003) possible that because of the low life expectancy, there are generally fewer older people in the population . The general opinion is that Aids afflict only young people and most campaigns tend to emphasise on this. Many older persons themselves believe they have a very low risk of contracting HIV/AIDS. However, older people are not spared from HIV, as they are usually unfamiliar with most modern methods of preventing STIs (including HIV/AIDS), and no longer needing contraception they are unlikely to use condoms consistently during sexual intercourse (Best, 2002, in La'ah, 2003). Thus, while the risk of HIV infection continues beyond the age of 50, the vast majority of people with substantial risk behaviours are likely to have become

infected by this age. This study supports the findings of La'ah (2003) and Mamman (2001) that HIV/AIDS is most common among the sexually active group of 21-39 years.

Table 5.10: Distribution of Respondents According to Age group Prone to HIV/AIDS

LGA	Prone age	Female		Male		Youths		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Less than 14 years	0	0.00	0	0.00	1	100.00	1	0.52
	15 – 20 years	3	50.00	0	0.00	3	50.00	6	3.13
	21 – 39 years	4	7.27	3	5.45	48	87.27	55	28.65
	40 – 49 years	0	0.00	0	0.00	1	100.00	1	0.52
	(blank)	0	0.00	0	0.00	2	100.00	2	1.04
GIWA Total		**7**	**10.77**	**3**	**4.62**	**55**	**84.62**	**65**	**33.85**
JEMA'A	Less than 14 years	0	0.00	3	20.00	12	80.00	15	7.81
	15 – 20 years	4	36.36	4	36.36	3	27.27	11	5.73
	21 – 39 years	16	20.51	15	19.23	47	60.26	78	40.63
	40 – 49 years	3	37.50	4	50.00	1	12.50	8	4.17
	50 years and above	2	28.57	1	14.29	4	57.14	7	3.65
	(blank)	1	12.50	2	25.00	5	62.50	8	4.17
JEMA'A Total		**26**	**20.47**	**29**	**22.83**	**72**	**56.69**	**127**	**66.15**
Grand Total		**33**	**17.19**	**32**	**16.67**	**127**	**66.15**	**192**	**100.00**

5.4 Effects of HIV/AIDS on Crops Output, Income and Level of Living of Men, Women and Youth Farmers

In Giwa, 76.9% of the respondents (male, female and youth) agreed that income, level of living and crops output are affected by HIV/AIDS, while 23.1% disagreed. Giwa females formed 8.9% of the total sample. Out of this, 70.6% agreed that HIV/AIDS affects their income, level of living and crops output, while 29.4% disagreed. Giwa males form 4.7% of total sample. All (100%) of them agreed that HIV/AIDS affects their income, level of living and crops output. Youth form the majority of the respondents in Giwa with 63%. Out of this, 76% agree that HIV/AIDS affects their income, level of living and crops output while only 24% did not agree (Table 5.11).

In Jema'a, 90.5% of the respondents agreed that income, level of living and crops output were affected by HIV/AIDS, while 9.6% disagreed. Jema'a female form 18.2% of the

total sample. Out of this all (100%) agreed that HIV/AIDS affect their income, level of living and crops output. Jema'a males form 21.4% of the total sample, 75.6% of them agreed that HIV/AIDS affects their income, level of living and crops output while 24.4% disagreed. Youth from Jema'a form 53.1% of the total sample. 93.1% of them agreed that HIV/AIDS affects their income, level of living and crops output, while 6.9% disagreed (Table 5.11).

Also, the pooled analysis of variance on effect of HIV/AIDS on crops output result in Table 5.20 shows that there is a significance difference of crops output among the respondents at 5% level of significances, calculated F = 9.569 is greater than the Table F = 3.33. In the case of income, pooled analysis of variance result in Table 5.23 shows that there is a significance difference of income among the respondents at 5% level of significances, calculated F = 4.056 is greater than the Table F = 3.33. Whereas, the pooled analysis of variance on effect of HIV/AIDS on level of living result in Table 5.26 shows that no significance difference in level of living exist among the respondents at 5% level of significances, calculated F = 0.21 is less than the Table F = 3.33.

This study agrees with the study of Mather *et al*. (2004) which shows that cash, livestock, assets, total and per adult equivalent income were lower for households experiencing death in Mozambique as a result of HIV/AIDS infection. There is also sale of livestock such as cattle, goats and donkeys to cover medical and funeral expenses (Rugalema, 1999; Bukola *et al.*, 2005). In addition, in the Bukola district of Tanzania, poor households were observed to be selling chickens or to be exchanging them for food (Rugalema, 1999).

Table 5.11: Distribution of Respondents According to Effects of HIV/AIDS on Crops output, Income and Level of Living

LGA	Respondents	Effect Indicators	Agree		Disagree		Grand Total	
			Freq	%	Freq	%	Freq	%
GIWA	**Female**	Income	4	80.00	1	20.00	5	2.60
		Level of living	4	66.67	2	33.33	6	3.13
		Output	4	66.67	2	33.33	6	3.13
	Female Total		**12**	**70.59**	**5**	**29.41**	**17**	**8.85**
	Male	Income	3	100.00	0	0.00	3	1.56
		Level of living	3	100.00	0	0.00	3	1.56
		Output	3	1500.00	0	0.00	3	1.56
	Male Total		**9**	**100.00**	**0**	**0.00**	**9**	**4.69**
	Youth	Income	32	82.05	7	17.95	39	20.31
		Level of living	35	77.78	10	22.22	45	23.44
		Output	25	67.57	12	32.43	37	19.27
	Youth Total		**92**	**76.03**	**29**	**23.97**	**121**	**63.02**
GIWA Total			**113**	**76.87**	**34**	**23.13**	**147**	**76.56**
JEMA'A	**Female**	Income	9	100.00	0	0.00	9	4.69
		Level of living	12	100.00	0	0.00	12	6.12
		Output	14	100.00	0	0.00	14	7.29
	Female Total		**35**	**100.00**	**0**	**0.00**	**35**	**18.23**
	Male	Income	9	69.23	4	30.77	13	6.77
		Level of living	10	76.92	3	23.08	13	6.77
		Output	12	80.00	3	20.00	15	7.81
	Male Total		**31**	**75.61**	**10**	**24.39**	**41**	**21.35**
	Youth	Income	32	94.12	2	5.88	34	17.71
		Level of living	33	94.29	2	5.71	35	18.23
		Output	30	90.91	3	9.09	33	17.19
	Youth Total		**95**	**93.14**	**7**	**6.86**	**102**	**53.13**
JEMA'A Total			**161**	**90.45**	**17**	**9.55**	**178**	**92.71**
GRAND TOTAL			**27**	**84.31**	**51**	**15.69**	**325**	**169.27**

5.5 Coping Strategies among People Living with HIV/AIDS

On Table 5.12, the most common coping strategies adopted in Giwa among men, women and youth infected with HIV/AIDS include: 16.2% are involved in sale of family assets, crops, labour; 14.6% withdrew their children from school and 13.5% substituted expensive meals with cheap ones. In Jema'a, the respondents affirmed that 24% substituted eating of expensive meals, 14.6% indicated sale of family assets, crop, labour and 12% lived on less intake of preferred food. This means that most of the HIV/AIDS infected persons in

the study area struggled to cope with the disease and not to put burden on relations. This study corroborates those of Rugalema (1999) that in Tanzania infected households cope through the sales of assets; in Muwanga (2002) by withdrawal of children from schools and also in Veni and Geoff (2006) that in Soweto the most important survival strategies are borrowing from friends and relatives, receiving loans from relatives and taking up social grants. The literature in Nigeria show that the coping strategies include sales of households assets and farm produce, child labour, reduction in varieties of crops cultivated, remittance from extended family members and use of herbal drugs (Adeoti, 2004).

However, coping strategy affects crops output, income and level of living by reducing the quality and quantity of crops output, drop in consumption intake, drop or loss of income availability and utility, general increased in poverty as money is always diverted for treatment, funeral/burial services and finally reduces labour power and skills. Consequently, the coping strategies adopted by the HIV/AIDS victims help to maintain life to an extent .It helps them to be able to do one or two things for their survival and also to keep them fit in order to reduce burdens or dependence on relations.

Table 5.12: Distribution of Respondents According to Coping Strategies

LGA	Coping strategies	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Borrowing money	1	6.67	2	13.33	12	80.00	15	7.81
	Depends on assistance from friends	1	10.00	0	0.00	9	90.00	10	5.21
	Depends on assistance from relations	3	12.00	0	0.00	22	88.00	25	13.02
	Hiring labour	1	33.33	0	0.00	2	66.67	3	1.56
	Less intake of preferred food	0	0.00	1	7.14	13	92.86	14	7.29
	Sale of family assets, crops, labour	6	19.35	1	3.23	24	77.42	31	16.15
	Send children away to live with relatives	1	11.11	1	11.11	7	77.78	9	4.69
	Skipping of meals	0	0.00	0	0.00	11	100.00	11	5.73
	Substitutes expensive meals	2	7.69	1	3.85	23	88.46	26	13.54
	Using local herbs for treatment	1	9.09	1	9.09	9	81.82	11	5.73
	Withdrawal of children from school	3	10.71	0	0.00	25	89.29	28	14.58
	(blank)	0	0.00	0	0.00	1	100.00	1	0.52
GIWA Total		**19**	**10.33**	**7**	**3.80**	**158**	**85.87**	**184**	**95.83**
JEMA'A	Borrowing money	10	45.45	3	13.64	9	40.91	22	11.46
	Depends on assistance from friends	2	20.00	4	40.00	4	40.00	10	5.21
	Depends on assistance from relations	6	33.33	4	22.22	8	44.44	18	9.38
	Hiring labour	4	33.33	5	41.67	3	25.00	12	6.25
	Less intake of preferred food	7	30.43	5	21.74	11	47.83	23	11.98

LGA	Coping strategies	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
	Sale of family assets, crops, labour	6	21.43	7	25.00	15	53.57	28	14.58
	Send children away to live with relatives	3	33.33	3	33.33	3	33.33	9	4.69
	Skipping of meals	4	30.77	2	15.38	7	53.85	13	6.77
	Substitutes expensive meals	11	23.91	10	21.74	25	54.35	46	23.96
	Using local herbs for treatment	1	50.00	0	0.00	1	50.00	2	1.04
	Withdrawal of children from school	4	66.67	0	0.00	2	33.33	6	3.13
	(blank)	1	50.00	0	0.00	1	50.00	2	1.04
JEMA'A Total		**59**	**30.89**	**43**	**22.51**	**89**	**46.60**	**191**	**99.48**
GRAND TOTAL		**78**	**20.80**	**50**	**13.33**	**247**	**65.87**	**375**	**195.31**

5.5.1 Access to health centres

Generally in the study, as shown on Table 5.13, majority of the respondents in both Giwa (88.9%) and Jema'a (59.9%) visited general hospitals for their HIV/AIDS treatment, while 77.8% of the respondents in Giwa visited teaching hospitals and 50% in Jema'a went to prayer houses. It was revealed in this study that majority of both the elderly and the youth HIV/AIDS victims visited general hospitals for their treatments. This finding is in line with Onuh (2005) who asserted that HIV/AIDS will dominate our hospitals to the detriment of other areas of concern, and Yeshiwas (2007) who confirms that in some hospitals and health care centres in Ethiopia, 20% of the beds are occupied by AIDS patients with shortage of medical facilities.

Table 5.13: Distribution of Respondents According to Access to Health Centres

LGA	Health Centres	Female		Male		Youth		Total
		Freq	%	Freq	%	Freq	%	
GIWA	Chemist/Pharmacy	0	0.00	0	0.00	7	100.00	7
	Clinics/Dispensary	0	0.00	0	0.00	5	100.00	5
	General Hospital	4	7.41	2	3.70	48	88.89	54
	Herbal/Spiritual Healers	0	0.00	0	0.00	2	100.00	2
	Private Hospital	2	22.22	0	0.00	7	77.78	9
	Specialist Hospital	1	11.11	1	11.11	7	77.78	9
	Teaching Hospitals	2	22.22	1	11.11	6	66.67	9
JEMA'A	General Hospital	25	22.73	20	18.18	65	59.09	110
	Prayers	0	0.00	1	50.00	1	50.00	2
	Private Hospital	0	0.00	3	100.00	0	0.00	3
	Specialist Hospital	2	66.67	1	33.33	0	0.00	3
	Teaching Hospitals	1	50.00	1	50.00	0	0.00	2

5.5.2 Ways HIV/AIDS can be prevented/controlled

Table 5.14 shows responses on ways HIV/AIDS can be prevented and controlled. The result reveals that youth have the highest responses on knowing one's status with 88.9% from Giwa and 58.1% from Jema'a; 87.2% from Giwa and 57.9% from Jema'a opted for abstinence; 95.2% in Giwa avoid using unsterilized blades, needles and syringes as against 10.9% of youth from Jema'a who indicated that being faithful to one's partner is a way HIV/AIDS can be prevented and controlled. Females in both Giwa and Jema'a, 12.5% and 32.4% respectively agreed with creating awareness as a means of controlling and preventing HIV/AIDS. On the other hand, men in both Giwa (14.3%) and Jema'a (27.9%) agreed with the use of condom. Hence, majority of respondents agree with creating awareness, knowing your status, abstinence and use of condom as ways HIV/AIDS can be prevented and controlled in the Nigerian society.

The above responses from the adults in both LGA's may be connected to the submission of La'ah (2003) that with increasing age, awareness and knowledge about how HIV/AIDS is contracted, prevention and control is a possibility as articulated by Fawole *et al.* (1999) and in La'ah (2003) that "as people grow they show more interest in and discuss reproductive health issues including information on sexuality and HIV/AIDS".

Table 5.14: Distribution of Respondents According to Ways HIV/AIDS can be Prevented/Controlled

LGA	Ways of Preventing HIV/AIDS	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Abstinence	3	6.4	3	6.4	41	87.2	47	24.5
	Be faithful	6	10.9	3	5.5	46	83.6	55	28.6
	Creating awareness	2	12.5	2	12.5	12	75.0	16	8.3
	Do not use unsterilized blades, needles or strings	1	4.8	0	0.0	20	95.2	21	10.9
	Knowing your status	1	11.1	0	0.0	8	88.9	9	4.7
	Use of condoms	0	0.0	1	14.3	6	85.7	7	3.6
GIWA Total		**13**	**8.4**	**9**	**5.8**	**133**	**85.8**	**155**	**80.7**
JEMA'A	Abstinence	14	24.6	10	17.5	33	57.9	57	29.7
	Be faithful	15	22.4	13	19.4	39	58.2	67	34.9
	Creating awareness	11	32.4	6	17.6	17	50.0	34	17.7
	Do not use unsterilized blades, needles or strings	10	27.0	6	16.2	21	56.8	37	19.3
	Knowing your status	6	23.1	8	30.8	12	46.2	26	13.5
	Use of condoms	6	14.0	12	27.9	25	58.1	43	22.4
JEMA'A Total		**62**	**23.5**	**55**	**20.8**	**147**	**55.7**	**264**	**137.5**
GRAND TOTAL		**75**	**17.9**	**64**	**15.3**	**280**	**66.8**	**419**	**218.2**

5.5.3 Other stakeholders' suggestions of strategies for combating HIV/AIDS

Respondents were asked of strategies that other stakeholders need to adopt in combating HIV/AIDS in the society. Table 5.15 shows that majority of youth (90.2%) in both Giwa and Jema'a advocated the involvement of PLWHA in enlightenment programmes for combating HIV/AIDS, 87.1% for participatory education programmes. About 6.5% of the male respondents in Giwa suggested participation on programmes and 15.8% of the female indicated voluntary counselling. The males (41.1%) and females (27.3%) in Jema'a opted for regular advocacy and voluntary counselling respectively to be adopted by stakeholders in combating HIV/AIDS in the society. Therefo rity of the respondents are of the view that involvement programmes, participatory programmes and voluntary counselling are good ways of combating the disease.

Table 5.15: Distribution of Respondents According to other Stakeholders' Suggestions in Combating HIV/AIDS

LGA	Prevention suggestions	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Involvement of PLWHA in enlightenment programmes	3	7.32	1	2.44	37	90.24	41	21.35
	Participatory education programmes	2	6.45	2	6.45	27	87.10	31	16.15
	Regular advocacy	2	8.33	1	4.17	21	87.50	24	12.50
	Voluntary counselling	3	15.79	1	5.26	15	78.95	19	9.90
	Workshops	2	8.00	0	0.00	23	92.00	25	13.02
GIWA Total		**12**	**8.57**	**5**	**3.57**	**123**	**87.86**	**140**	**72.92**
JEMA'A	Involvement of PLWHA in enlightenment programmes	15	28.30	12	22.64	26	49.06	53	27.60
	Participatory education programmes	12	17.14	14	20.00	44	62.86	70	36.46
	Regular advocacy	3	17.65	7	41.18	7	41.18	17	8.85
	Voluntary counselling	8	22.22	11	30.56	17	47.22	36	18.75
	Workshops	6	27.27	9	40.91	7	31.82	22	11.46
	(blank)	1	50.00	1	50.00	0	0.00	2	1.04
JEMA'A Total		**45**	**22.50**	**54**	**27.00**	**101**	**50.50**	**200**	**104.17**
GRAND TOTAL		**57**	**16.76**	**59**	**17.35**	**224**	**65.88**	**340**	**177.08**

5.5.4 Suggested ways of preventing/controlling HIV/AIDS

In Giwa, the highest suggestion (88.9%) by the youth respondents to government and society on controlling and preventing HIV/AIDS is provision of loan/credit facilities, followed by creating awareness with 79% of the respondents. Only one respondent (female) said avoid discrimination, while 50% of the respondents who say be faithful are males. Others include free education to wards, provision of free medical treatment and provision of social amenities among others (Table 5.16).

In Jema'a, most of the respondents (21.4%) said creating awareness by government and society can help in controlling and preventing HIV/AIDS. Out of this, 61%, 24.4% and 14.6% were youth, male and female respondents respectively. Provision of credit/loan has the second highest responses with 13.5% out of which youth had 76.9% and male and female had 11.5% each. Other suggestions included creating job opportunities, provision of farm inputs and provision of free condoms, among others (Table 5.16).

Table 5.16: Distribution of Respondents' in Controlling and Preventing HIV/AIDS

LGA	Responses	Female		Male		Youth		Grand Total	
		Freq	%	Freq	%	Freq	%	Freq	%
GIWA	Assistance from Gov/NGOs/Philanthropists	0	0.00	0	0.00	3	100.00	3	1.56
	Avoid discrimination	1	100.00	0	0.00	0	0.00	1	0.52
	Be faithful	0	0.00	1	50.00	1	50.00	2	1.04
	Creating awareness	3	15.79	1	5.26	15	78.95	19	9.90
	Free education to wards	1	16.67	0	0.00	5	83.33	6	3.13
	Involvement of victims in Gov/NGOs in programmes affecting them	1	25.00	0	0.00	3	75.00	4	2.08
	Job opportunities	0	0.00	0	0.00	5	100.00	5	2.60
	Provision of farm inputs	0	0.00	0	0.00	2	100.00	2	1.04
	Provision of free medical treatment	0	0.00	1	20.00	4	80.00	5	2.60
	Provision of loan/Credit	2	11.11	0	0.00	16	88.89	18	9.38
	Provision of social amenities	0	0.00	0	0.00	3	100.00	3	1.56
	Others	0	0.00	0	0.00	4	100.00	4	2.08
GIWA Total		**8**	**11.11**	**3**	**4.17**	**61**	**84.72**	**72**	**37.50**
JEMA'A	Abstinence	5	41.67	1	8.33	6	50.00	12	6.25
	Assistance from Gov/NGOs/Philanthropists	2	25.00	3	37.50	3	37.50	8	4.17
	Avoid discrimination	0	0.00	1	50.00	1	50.00	2	1.04
	Be faithful	2	50.00	1	25.00	1	25.00	4	2.08
	Creating awareness	6	14.63	10	24.39	25	60.98	41	21.35
	Free education to wards	2	33.33	0	0.00	4	66.67	6	3.13
	Involvement of victims in Gov/NGOs in programmes affecting them	0	0.00	0	0.00	2	100.00	2	1.04
	Job opportunities	0	0.00	2	14.29	12	85.71	14	7.29
	Provision of farm inputs	3	23.08	0	0.00	10	76.92	13	6.77
	Provision of free condom	4	33.33	4	33.33	4	33.33	12	6.25
	Provision of free medical treatment	2	22.22	3	33.33	4	44.44	9	4.69
	Provision of loan/Credit	3	11.54	3	11.54	20	76.92	26	13.54
	Provision of social amenities	0	0.00	0	0.00	1	100.00	1	0.52
	Others	0	0.00	1	33.33	2	66.67	3	1.56
JEMA'A Total		**29**	**18.95**	**29**	**18.95**	**95**	**62.09**	**153**	**79.69**
GRAND TOTAL		**37**	**16.44**	**32**	**14.22**	**156**	**69.33**	**225**	**117.19**

5.6 Challenges/Constraints among Men, Women and Youth HIV/AIDS Infected Farmers

The result of the analysis of constraints of the respondents in the study area is presented in Table 5.17. Stigmatization, unemployment, insufficient income were rated high in both Giwa (95.2, 72.6 and 64.5 per cents respectively) and Jema'a (93.9, 75.4 and 64.6 respondents respectively) local governments areas as the most challenges by the respondents.

Table 5.17: Distribution of Respondents According to Challenges/Constraints

Location	Challenges/Constraints	Freq	%
GIWA	Stigmatization	59	95.60
	Insufficient income	40	64.52
	Lack of means of income (Farm land)	30	48.39
	Distance to medical care facilities	30	48.39
	Gender bias in terms of job opportunities	28	45.16
JAMA'A	Stigmatization	122	93.85
	Insufficient income	84	64.62
	Lack of means of income (Farm land)	69	53.08
	Distance to medical care facilities	65	50.00
	Gender bias in terms of job opportunities	56	43.08

5.7 Test of Hypotheses

5.7.1 ANOVA test of the effects of HIV/AIDS on crops output.

5.7.1.1 Test of the effect of HIV/AIDS on crops output in Giwa LGA

The null hypothesis which states that, " there is no significant difference among men , women and youth infected with HIV/AIDS in their crops output in Giwa LGA" was tested and the result is presented in Table 5.18. It shows that there was a significant difference in the crops output among men, women and youth at the 5% level of significance, with the calculated F=13.724 greater than the Table F=3.33. The male average crops output was 5,000.00kg followed by the youth group with average crops output of 2,500.00kg. Female group had the least average crops output, 950.00kg. Therefore, the null hypothesis is rejected.

Table 5.18: Test of Crops Output among Men, Women and Youth in Giwa LGA

Sources of variation	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	37,250,000.00	18,620,000.00	13.724	0.016
Within Groups	4	5,428,000.00	1,357,000.00		
Total	6	42,670,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error of Mean
Female[a]	950	353.553	250.000
Youth[b]	2,500	c1,410.674	814.453
Male[c]	5,000	4,666.905	3,300.000

Different superscripted letters: The mean difference is significant at the 0.05 level.
Df=2/4, F=13.724, Sig.=0.016

5.7.1.2 Test of the effect of HIV/AIDS on crops output in Jema'a LGA

The null hypothesis which states that, "there is no significant difference among men, women and youth infected with HIV/AIDS in their crops output in Jema'a LGA" was tested and the result is presented in Table 5.19. The result shows that there is a significant different among men, women and youth crops output at 5% level of significance, this is because the calculated F=3.549 is greater than the Table F=3.33. The male average crops output was

2,625.00kg, the youth 821.43kg and the female 798.00kg. Although female and youth groups crops output are not significantly different, but the male crops output is higher than both the female and youth crops output group; therefore, the null hypothesis is rejected.

Table 5.19: ANOVA Test of Crops Output among Men, Women and Youth in Jema'a LGA

	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	6,049,289.61	3024644.81	3.549	0.046
Within Groups	22	18,750,000.00	852182.70		
Total	24	24,800,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error of Mean
Female[a]	798.00	579.137	193.046
Youth[a]	821.43	1,002.442	267.914
Male[b]	2,625.00	1,732.412	1,225.000

Different superscripted letters: The mean difference is significant at the 0.05 level.
Df=2/22, F=3.549, Sig.=0.046

5.7.1.3 Pooled test of the effect of HIV/AIDS on crops output

The null hypothesis which states that "there is no significant difference among men, women and youth infected with HIV/AIDS in their crops output in the study area" was tested and the result is presented in Table 5.20. It shows that there is a significant difference among men, women and youth crops output at 5% level of significance, this because the calculated F = 9.569 is greater than the Table F = 3.33. There are two groups of significant difference among the respondents. First, female and youth groups on one hand are not significantly different at 5% level of significance from each other. This is due to the fact that women form the bulk of the youth group. Secondly, on the other hand, the Male group is significantly different from the female and youth groups at 5% level of significance. The male average crops output was 4,516.67kg followed by youth group with average crops output of 1,152.63kg. Female group had the least average crops output, 788.20kg. Although Female

and Youth groups are not significantly different, the youth group crops output is higher than that of the female group; therefore the null hypothesis is rejected

Table 5.20: Pooled ANOVA Test of Crops Output among Men, Women and Youth in the Study Area

Sources of variation	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	33,980,000.00	16,990,000.00	9.569	.001
Within Groups	29	51,490,000.00	1,775,547.47		
Total	31	85,470,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error
Female[a]	788.20	546.89	46.45
Youths[a]	1,152.63	1,162.55	37.29
Male[b]	4,516.67	3,497.98	287.51

Different superscripted letters: The mean difference is significant at the 0.05 level.
Df=2/29, F=9.569, Sig.=0.001

5.7.2 ANOVA test of the effect of HIV/AIDS on income among men, women and youth farmers

5.7.2.1 Test of the effect of HIV/AIDS on income of respondents in Giwa LGA

The null hypothesis which state that, "there is no significant difference among men, women and youth infected with HIV/AIDS in their income in Giwa LGA" was tested and the result presented in Table 5.21. It shows that there is no significant difference among men, women and youth income at 5% level of significant, this is because the calculated F=0.448 is less than the Table F=3.33. Therefore the hypothesis is retained.

Table 5.21: ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in Giwa LGA

Sources of variation	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	66,910,000.00	33,460,000.00	0.448	0.668
Within Groups	4	298,800,000.00	74,700,000.00		
Total	6	365,700,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error of Mean
Female[a]	10500	13435.03	9500
Male[a]	10500	707.11	500
Youth[a]	15000	8660.25	5000

Same superscripted letters: Mean difference is not significant at the 0.05 level.
Df=2/4, F=0.448, Sig.=0.668

5.7.2.2 Test of the effect of HIV/AIDS on income in Jema'a LGA

The null hypothesis which states that, '' there is no significant difference among men, women and youth infected with HIV/AIDS in their income in Jema'a LGA'' was tested the result presented in Table 5.22. It shows that there is a significant difference among men, women and youth income at 5% level of significance, this is because the calculated F=5.686 is greater than the Table F=3.33. There are two groups of significant difference among the respondents at 5% levels of significance. The first group is the youth and female group and the second group is the male group. The average income of youth, women and men were ₦14, 821.43k, ₦25, 888.89k and ₦77, 500.00k respectively. Although female and youth groups are not significantly different, the youth group was less than the female group average income. The null hypothesis is rejected.

Table 5.22: ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in Jema'a LGA

Sources of variation	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	6,935,000,000.00	3468000000.00	5.686	0.01
Within Groups	22	13,420,000,000.00	609900000.00		
Total	24	20,350,000,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error of Mean
Youth[a]	14,821.43	25,355.63	6,776.577
Female[a]	25,888.89	22,491.36	7,497.119
Male[b]	77,500.00	31,819.81	22,500.000

Different superscripted letters: The mean difference is significant at the 0.05 level.
Df=2/22, F=5.686, Sig.=0.01

5.7.2.3 Pooled ANOVA test of the eEffect of HIV/AIDS on income among men, women and youth farmers in the study area

The null hypothesis which states that "there is no significant difference among men, women and youth infected with HIV/AIDS in their income in the study area" was tested and the result presented in Table 5.23. It shows that there is a significant difference among men, women and youth income at 5% level of significance, this because the calculated F= 4.056 is greater than the Table F = 3.33. There are two groups of significant difference among the respondents at 5% level of significance. The first group, youth and female groups and the other group is male group. The average incomes of youth, women and men are ₦13, 868.42k, ₦25, 300.00k and ₦55, 333.33k respectively. Although female and youth groups are not significantly different, the youth group income was less than the female group average income. The null hypothesis is rejected.

Table 5.23: Pooled ANOVA Test of the Effect of HIV/AIDS on Income among Men, Women and Youth in the study Area

Sources of variation	Df	Sum of Squares	Mean Square	F	Sig.
Between Groups	2	4,684,000,000.00	2,342,000,000.00	4.056	.028
Within Groups	29	16,740,000,000.00	577,400,000.00		
Total	31	21,430,000,000.00			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error
Youths[a]	13,868.42	12,991.06	5,045.10
Female[a]	25,300.00	12,286.67	6,731.44
Male[b]	55,333.33	15,500.94	2,980.35

Different superscripted letters: The mean difference is significant at the 0.05 level.
Df=2/29, F=4.056, Sig.=0.028

5.7.3 ANOVA test of level of living among men, woman and youth farmers

5.7.3.1 Test of the effect of HIV/AIDS on level of living in Giwa LGA

The null hypothesis, "there is no significant difference among men, women and youth infected with HIV/AIDS in their level of living in Giwa LGA" was tested and the result

presented in Table 5.24. It shows that there is no significant difference in men, women and youth level of living at 5% level of significance, this is because the calculated F=0.10 is less than the Table F=3.33. Therefore, the null hypothesis is accepted.

Table 5.24: ANOVA Test of Level of Living among Men, Woman and Youth in Giwa LGA

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	56.74294	28.37147	0.10	0.9075
Error	56	16345.83333	291.88988		
Corrected Total	58	16402.57627			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error
Female[a]	1.67	0.52	0.21
Male[a]	2.00	0.00	0.00
Youths[a]	1.92	0.56	0.08

Same superscripted letters: Mean difference is not significant at the 0.05 level.
Df=2/56, F=0.10, Sig.=0.9075

5.7.3.2 Test of the effect of HIV/AIDS on level of living in Jema'a LGA

The null hypothesis, ''there is significant difference among men, women and youth infected with HIV/AIDS in their level of living in Jema'a'' was tested and the result presented in Table 5.25. It shows that there is no significant difference in men, women and youth level of living at 5% level of significance, this is because the calculated F=1.50 is less than the Table F=3.33. Therefore, the null hypothesis is accepted.

Table 5.25: ANOVA Test of Level of Living among Men, Women and Youth in Jema'a LGA

Source Variation	DF	Sum of Squares	Mean Square	F Value	Sig
Between Group	2	0.33176179	0.16588089	1.50	0.2314
Within Group	59	6.52307692	0.11056063		
Total	61	6.85483871			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error
Female[a]	2.08	0.28	0.08
Male[a]	1.86	0.53	0.14
Youths[a]	1.94	0.24	0.04

Same superscripted letters: Mean difference is not significant at the 0.05 level.
Df=2/59, F=1.50, Sig.=0.2314

5.7.3.3 Pooled ANOVA test of level of living among men, women and youth in the study area

The null hypothesis, "there is no significant difference among men, women and youth infected with HIV/AIDS in their level of living in the study area" was tested and the result presented in Table 5.26. It shows that there is no significant difference in men, women and youth level of living at 5% level of significance, this is because the calculated F = 0.21 is less than the table F = 3.33. Therefore, the null hypothesis is retained.

Table 5.26: Pooled ANOVA Test of Level of Living among Men, Women and Youth in the Study Area

Source Variation	DF	Sum of Squares	Mean Square	F Value	sig
Between Group	2	59.26790	29.63395	0.21	0.8092
Within Group	118	16487.72384	139.72647		
Total	120	16546.99174			

Duncan multiple range test

	Mean	Std. Deviation	Std. Error
Female[a]	1.95	0.40	0.09
Male[a]	1.88	0.49	0.12
Youths[a]	1.93	0.45	0.05

Same superscripted letters: Mean difference is not significant at the 0.05 level.
Df=2/118, F=0.21, Sig. =0.8092

CHAPTER SIX

6.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Findings

The broad objective of this study was to analyse the effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa Local Government Areas of Kaduna State, Nigeria. The specific objectives were to identify the socio-economic characteristics of HIV/AIDS infected men, women and youth farmers in the study area, determine the factors influencing the spread of HIV/AIDS among men, women and youth farmers in the study area, identify the prevalence level of HIV/AIDS among men, women and youth farmers in the study area, analyse the effects of HIV/AIDS on (crops output, income and level of living) of men, women and youth farmers in the study area, describe the coping strategies among HIV/AIDS infected men, women and youth farmers in the study areas and to identify challenges/constraints faced by the HIV/AIDS infected farmers in the study areas. Random sampling technique was employed to select 10% of the total population of HIV/AIDS infected men, women and youth in the study area to give a sample size of 192. Primary and secondary data were utilized in the study and the data were collected through the use of structured questionnaire. The data were analyzed using descriptive statistics and ANOVA.

The results of objective one of the study revealed that majority (58.2%) of the respondents who are the youth were within the ages of 16-34 years while 41.8% (men and women) were within ages 35 years and above. The study further revealed that 6.3% of the respondents were not married, 69.8% were married, 3.6% were divorced, 14.2% were widowed and 5.3% were separated. With respect to the educational qualification of the

respondents, 20% of the respondents have received Quranic education, 22.2% have undergone primary education, 39.5 % have received secondary education, and 13.5% have post-secondary education. The respondents who have 1-5 persons in their households were 32.5%, those with 6-10 persons were 46.3% while those with 11-20 persons were 21%. The respondents with one and less than a hectare of farm land were 40.6%, 11.9% have 1.1-2.0 hectare; 9.9% have 2.1-3.0 hectares; 14.9% have 3.1-4.0 hectares; 12.9% have 4.1-5.0 hectares; while 9.9% have above 5 hectares. In terms of farmland ownership, 64.6% owned farmlands while 35.4% do not have land of their own. The respondents' farming experience of 1-5 years were 22.8%; 6-10 years were about 28.9%; 11-15 years' experience were 13.3%; 16-20 years 11.3%; 21-30 years were 14.6% and 31 and above years constituted 4%. Few of the respondents (28.9%) indicated that they had access to credit facilities while many (71.9%) indicated that they do not have access to credit facilities for their crop production.

The key finding of objective two was that sex was the major reason responsible for influencing the spread of HIV/AIDS in the study area. In both Giwa and Jema'a, youth constituted majority (88.9% and 64.5% respectively) of respondents who admitted that they have sex for love, 86.4% and 68.4% respectively for money and 92.9% and 58.2% respectively have sex to satisfy their spouses, girlfriend or boyfriend respectively. The engagement of youth in sex which hastens the spread of HIV/AIDS because they are at their active and productive age and so can engage in anything in order to have what they want in life.

The key finding of objective three was that HIV/AIDS was prevalent among women and youth than men, youth 87.5% and 65.9% youth respondents in Giwa and Jema'a respectively who suffer most from HIV/AIDS infection. This may be because women

constitute the highest percentage among the youth groups than that of men. The distribution of age group prone to HIV/AIDS revealed a high prevalence rate of HIV/AIDS among the age group 21-39 years with 69.3% respondents cutting across ages and Local Government areas.

The key finding of objective four was that 76.9% of the respondents (male, female and youth) agreed that income, level of living and crops output are affected by HIV/AIDS, while 23.1% disagreed in Giwa. In Jema'a, 90.5% of respondents agreed that income, level of living and crops output were affected by HIV/AIDS, while 9.6% disagreed. This was further established with the pooled ANOVA result which indicated that there was significant. Difference among men, women and youth crops output at 5% level of significance and also, that there was significant difference among men, women and youth income at 5% level of significance. However, there was no significant difference in men, women and youth level of living at 5% level of significance.

The key finding of objective five was that 16.2% of the respondents were involved in sale of family assets, crops, labour; 14.6% withdrew their children from school and 13.5% substituted expensive meals with cheap ones in Giwa as coping strategies to the HIV/AIDS. In Jema'a, the respondents affirmed that 24% substituted eating of expensive meals, 14.6% indicated sale of family assets, and crop, labour and 12% lived on less intake of preferred food. This means that most of the HIV/AIDS infected persons in the study area struggled to cope with the disease and not to put burden on relations, although few (5% and 9% respectively) of them depended on relations and friends for assistance.

The key finding of objective six was that discrimination, unemployment, insufficient income were rated high in both Giwa (95.2, 72.6 and 64.5 per cents respectively) and Jema'a

(93.9, 75.34 and 64.6 respondents respectively) local governments areas as the most challenges by the respondents.

6.2 Conclusion

Based on the findings of this study, it can be concluded that poverty and self-satisfaction are factors responsible for the spread of HIV/AIDS in the study area. In addition, the study confirmed that in terms of income, women fall within the low income earners group between (₦1000-₦ 15,000) annually. The poverty factor was most common among the women and girls folds suggesting that this might be the reason that pushed them into committing prostitution in order to earn a living as it is confirmed in the study. Vulnerability to HIV/AIDS varied according to age in the study area as majority (69.3%) of the age group prone to HIV/AIDS infection in the study area were relatively young (youth) with a modal age bracket of between 21-39 years; probably because the youth are the most cosmopolitan group and so can easily be involve in sex for satisfaction. Based on the result of the ANOVA test on effects of the HIV/AIDS on crops output, level of living and income, it is concluded that HIV/AIDS has significant economic effects on crops output and income of the respondents in the study area implying that there might be a diverted attention, time and money to nursing the HIV/AIDS patients and burial or funeral services instead of on crop production. This in great measures affects crops output and income of the HIV/AIDs infected farmers.

6.3 Recommendations

Based on the conclusion of this study, the following recommendations are made to enhance crop production among HIV/AIDS infected farmers in the study areas and probably other rural communities:

6.3.1 Recommendation based on the Findings of this Study

i. Arising from the influence of poverty in the spread of HIV/AIDS in the study area, it is recommended that poverty reduction strategies or measures need to be taken seriously and given priority among rural people. There is no doubt that poverty reduction strategies are effective methods for controlling the spread of HIV/AIDS because HIV/AIDS flourishes in an impoverished environment. For example, micro credit facilities should be encourage to create access to borrowing and the creation of sustainable income for the people affected by HIVAIDS.

ii. Youth were found to be adventurous group of people and may not take pieces of advice seriously especially in the area of HIV/AIDS spread. Therefore, enlightenment campaign on abstinence should be intensified and use of condoms if abstinence is not possible should be the best alternative for this active stubborn group. Social marketing schemes at market centers in the best venue should be made to reach out the population.

iii. Direct support for HIV/AIDS infected farmers such as credit facilities and inputs need to be provided promptly at highly subsidized rates and should be directly delivered to the farmers in good time by the governmental agencies at any of their meeting point so as to cushion the effects of HIV/AIDS on their crops output and income.

iv. Special package and programs towards alleviating or improving women condition in particular since they are the most affected or vulnerable group by HIV/AIDS should be taken into serious consideration by the government at all levels, stake holders, and non- governmental organizations, which should be strickly implemented on them.

v. Farm land ownership, income levels and sex were among the socio-economic characteristics that significantly affects HIV/AIDS infected farmers particularly women, widows and girls who are more in the low income earners group, excluded from owning or controlling property as land and who suffer most the effects of the epidemics and the deadly diseases. Therefore, the main recommendation emerging from this study is the need to draw up legislation that can protect the land rights of women and children. This may help to improve the income levels of women who in a great measure contribute to crop production development in Nigeria.

6.4 Contributions to knowledge

Hitherto, no empirical data were available on the effects of HIV/AIDS among men, women and youth in crop production in Jema'a and Giwa Local Government Areas of Kaduna State, Nigeria. This study has made the following contributions to knowledge:

i. This study has revealed that HIV/AIDS affects both men, women and youth in the study area in their crops output and income but women were more affected. There was significant difference between the crops output of HIV/AIDS infected men, women and youth crop farmers at 5% level of significance because the calculated F value of 9.569 is greater than the Table F value of 3.33, between the incomes of

HIV/AIDS infected men, women and youth crop farmers at 5% level of significance because the calculated F value of 4.056 is greater than the Table F value of 3.33, between the level of living of HIV/AIDS infected men, women and youth crop farmers at 5% level of significance because the calculated F value of 0.389 is less than the Table F value of 3.33.

ii. The study revealed that in terms of level of living, men, women and youth were living the same. That is their material possessions was not any much different as reported by the respondents at 5% level of significance.

iii. The study has also revealed that age group of 21 – 39 years were more prone to HIV/AIDS infection .

iv. The study has shown that HIV/AIDS was more prevalent among women and youth than among men respondents in the study area at 38% and 35.9% respectively.

v. Self-satisfaction, money and love were identified as the major factors influencing the spread of HIV/AIDS in the study at 42.7%, 21.4% and 20.8% respectively.

vi. Dependence on relatives and friends, sale of family assets, withdrawal of children from schools and substitutes of expensive meals were revealed by the study as their copping strategies.

vii. Discrimination, unemployment, insufficient incomes were identified as the most challenges faced by the respondents in the study.

6.5 Suggestions for Further Research

Based on the findings of this study, it is noted that HIV/AIDS affects men, women and youth crops output and income. It then shows that there are other areas of man's life or endeavour that HIV/AIDS affects other than those identified. It is, therefore, recommended

that further research be targeted at studying: firstly, economic analysis of the effects HIV/AIDS on volume of income lost by women, secondly, analysis of the effects of HIV/AIDS on the relationship between mother and child and thirdly, analysis of effects of HIV/AIDS on the education of orphans with a view of establishing the effects of HIV/AIDS on them. This may help in combating HIV/AIDS in the rural areas.

REFERENCES

Abdulsalami, A.S. (2005). Research Methods in Education. Published by Ahmadu Bello University Press, ABU, Zaria. 87-93.

Achike, A. (1999). "The role of Non-Governmental Women Organizations in Enhancing Effective Participation of Women in Agriculture and Rural Development". Agricultural Extension Research and Development in Nigeria. Proceedings of the 5th Annual National Conference of Agricultural Extension Society of Nigeria, held at University of Benin-Edo State,12th – 14th April, 1999.

Actionaid International (2005). Food security and HIV and AIDS in Southern Africa: Food security. ActionAid International – Southern Africa Partnership Programme, August, 2005, 36 – 60.

Adejuyigbe, E.A., Fasubaa, O.B. and Onuyade, A.A. (2004). Socio-Demographic Characteristics of HIV Positive Mother-Child Pairs in Ile-Ife. *Journal of AIDS Care*, 16(3):275 – 282.

Adeoti, A.I. (2004). Coping Strategies of Farm Households Living with HIV/AIDS in Rural Nigeria. Ibadan. International Conference AIDS, held at Obafemi Awolowo University Ibadan, July 11 -16: 15.

Adesote, O.A. (2001). "The Prevalence of HIV/AIDS: A Case Study of Gwagwalada Specialist Hospital Abuja". An Unpublished B.Sc. Project, Department of Geography, Ahmadu Bello University, Zaria, 40-44.

Adisa, B.O. and Okunade, E.O. (2005). Livelihood Diversity Strategies of Rural Women in Imo State, Nigeria. *Journal of Agricultural Extension*: A Publication of AESON 10: 117-124.

Agadzi, V.K. (1989). AIDS: The African Perspective of the Killer Disease, Accra. Ghana University Press, 30-35.

Agbogun, E.A. (2000). "Spatial Variation in AIDS Prevalence in Kaduna Metropolis", Unpublished B.A. Project: Department of Geography, ABU., Zaria.

Akatu, E.A. (2000). "The Prevalence of HIV/AIDS in Zaria: A Case Study of Ahmadu Bello University Teaching Hospital", Unpublished B.A. Project: Department of Geography, ABU., Zaria.

Akpoko, J.G. (1988). "Socio-economic Constraints on Agricultural Production in Jema'a Local Government Area of Kaduna State, Nigeria. An Unpublished M.Sc. Thesis, Department of Geography, Faculty of Science, ABU, Zaria, Nigeria.

Alemtsebai, A. and Tsegazeeb, B. (2008). The Impacts of HIV/AIDS on Livelihoods and Food Security in Rural Ethiopia: Results from Household Survey in Four Regions. United Nations, World Food Programme, August, 2008.

Alex de W. and Joseph T. (2003). HIV/AIDS and Food Security in Africa. A Report for DFID. *www.sarp.org.za/ducuments/doo1386/links.php 1st Febuary,2003*.

Aliber, M., Walker, C., Machera, M., Kamau, P., Omondi, C. and Kanyinga, K. (2004). The Impact of HIV/AIDS on Land Rights: Case Studies from Kenya. Changs in Customary Land Tanure in Africa. *Human Sciences Research* Council, Rome, FAO. *www.fao.org./sd/dim-pes3/do/cs/pe3-040902di-en.pdf.*

Armstrong, J. (1995). *Uganda's AIDS Crisis: Its Implications for Development, World Bank Discussion papers,* 298. The World Bank, Washington, D.C.

Atala, T.K. (1986). "The Role and Impact of Extension Agents in Kaduna State of Nigeria". Unpublished Ph.D. Thesis, Iowa State University, Ames., Iowa State, U.S.A.

Avert, B. (2010). HIV and AIDS in Nigeria. Retrieved from *www.avert.org/aids.htm* (Accessed date: February 18th, 2010).

Bankole, A., Singh, S., Woog, V., and Wulf, D. (2004). Risk and Protection: Youth and HIV/AIDS in Sub-Saharan Africa. New York: The Alan Guttmacher Institute.

Banmeke, T.O.A (2003),. Accessibility and Utilization of Agricultural Information in the Economic Empowerment of Women Farmers in South Western Nigeria. Unpublished Ph.D thesis Submitted to the Department of Agricultural Extension and Rural Development, University of Ibadan, Ibadan.

Barnett, T. and Blaike, P. (2003). "AIDS in Africa: Its Present and Future Impact". London, England: Belhaven Press.

Botswana (2005). *http://www.avert.org/aids-botswana.htm* .June,2012.

Bryceson, D.F. (2006). Ganyu Casual Labour, Famine and HIV/AIDS in Rural Malawi: Causality and Casuality. *Journal of Modern African Studies* 44(2): 173-202.

Centre for Disease Control (CDC) and Prevention (2002). HIV/AIDS Surveillance Report, 13(2): 1-144.

Chapoto, A., Jayne, T.S. and Mason, N. (2007). 'Security of Widows'. Access to Land in the Era of HIV/AIDS: Panel Survey Evidence from Zambia, Ministry of Agriculture and Cooperatives, Agricultural Consultative Forum, Michigan State University and Lusaka, Zambia Policy Synthesis, Food Security Research Project 22, *http://wwwaec.msu.edu/agecon/fs2/zambia/idex.htm*(7 September, 2007).

Chuks, A.P. (2008). The Effects of HIV/AIDS Pandemic on Agricultural Production as Perceived by Farmers in the Central Agricultural Zone of Delta State, Nigeria. *Middle-East Journal of Scientific Research* 3(2): 90-95. ISSN 1990-9233. IDOSI Publications.

Clark, R.C. and Akinbode, L.A. (1968). Factors Associated with Adoption of Three Farm Practices in the Western State of Nigeria. Research Bulletin 1, Faculty of Agriculture, University of Ife, Nigeria.

Clive, B. (2002). HIV/AIDS and Socio-Economic Development in Southern Africa. "HIV/AIDS and Food Security.

Cohen, D. (2001). Poverty and HIV/AIDS in sub-Saharan Africa. Available online: *www.undp.org/hiv/publications/issues/english/issue27e.html*.January,2004.

Country for Tropical Agriculture (CTA) (1997). The HIV/AIDS Pendamic – atreat for Rural Communities and Agricultural Productivity in ACP Countries. Technical Centre for Agricultural and Rural Cooperation, ACP-EU.

Country for Tropical Agriculture (CTA) (1999). The Economic of Women in Agriculture and Rural Development. Summary Report of a Seminar, Athens, Greece 18-22 October.

Cross Road (2001). United States Acquired Immunide Deficiency Syndromes Report on HIV/AIDS in Nigeria. Public Affairs Section, US Consolate, General, Lagos, Nigeria 7 (7) 9.

Crowder, B. (2004). "AIDS, Finding Hope and Compassion". Discovery series. Nelson,Inc.USA.RBC Ministries, Grand Rapids, Michigan.

Daniel, S.U. (2009). Socio-Economic Impact of HIV/AIDS On-Farm Women in Nigeria: Evidence from Enugu State. *World Applied Sciences Journal* 6(12): 1617-1624.

Daudu, M. (2005). Contemporary Ethical Issues in Christian Perspective. Zaria: Adex Ventures.

David W. T. (2006). HIV/AIDS and African Development: The Social and Economic Roots of an Epidemic. 3- 4.

De Waal, A., Tumushabe, J., Mamdani, M. and Kilama, B. (2005). HIV/AIDS and Changing Vulnerability to Crisis in Tanzania: Implications for Good Security and Poverty Reduction. Paper Presented at the International Conference on HIV/AIDS and Food and Nutrition Security, Durban, 14 – 16 April, 2005.

Diane, C. (1993). *Guidelines on Social Analysis for Rural Area Development Planning*. A Text for FAO's Website on Agricultural planning. *http://www.fao.org/docrep/htm* Retrieved 06/06/09.

Digai, H. (2000). Relationship Between Socio-economic Characteristics of Women and Management System in Pig Production in Jema'a Local Government Area, Kaduna State. An Unpublished M.Sc. Thesis Submitted to the Department of Agricultural Economics and Rural Sociology, ABU, Zaria.

Division of HIV/AIDS Prevention (2006). *www.cdc.gov/gov/pubs/fags.htm.*May,2011.

Dixon, A.G.O. (2005). The Status of Cassava Mosaic Disease, Cassava Begomovirus and Whitefly, Vector Population in Nigeria. International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria and National Root Crop Research Institute (NRCRI) Umudike, Umuahia, Nigeria.

Dixon-M. (1985). *Women, Work and Development*. International Labour Organization, Geneva. "Energy Strategies and Greenhouse Gas Mitigation."

Doovan, C. and Bailey, L. (2005). Understanding Rwanda Agricultural Households Strategies to Deal with Prime Age Illness and Death: A Propensity Score Matching Approach.

Drimie, S. (2002). The Impact of HIV/AIDS on Rural Households and land Issues in Southern and Eastern Africa. A Background Paper Presented for the FAO. Pretoria: Sub-regional Office for Southern and Eastern Africa, Integrated Rural and Regional Development; Human Sciences Research Council, FAO (1997). Impact du VIH/SIDA Sur Les Systemes d'exploitation agricoles en Afrique de L' Quest, Rome: FAO.

Drimie, S. (2003). HIV/AIDS and Land: Case Studies from Kenya, Lesotho and South Africa. *Development Southern Africa* 20(5):647-658.

Dyaji, R. D. (2002). Women in Cassava Production and Processing in Jema'a Local Government Area of Kaduna State, Nigeria. "An Unpublished M.Sc. Thesis, Department of Geography, Faculty of Science, Ahmadu Bello University, Zaria – Nigeria.

Egbemode, F. (1998). "Horrors Widows Face" in Sunday Punch, July 19, pg. 20.

Egbemode, F. (1999). "Sex with father-in-law", Sunday Punch, September 19, pg. 35.

Ekong, E.E. (2003). Women in Rural Nigeria. An Introduction to Rural Sociology and Analysis of Rural Nigeria. Second Edition. Dove Educational Publishers, Uyo, Nigeria, pgs. 372 – 375.

Engh, I.E., Shoukal, L. and Du Guerny, J. (2005). HIV/AIDS in Namibia: The Impact on the Livestock Sector. SD Dimensions: FAO.

Enugu State Government (2004). Poverty Reduction Strategy/State Economic Empowerment and Development Strategy 2004 2009.

Fasugba, O. (1999). "Polygamy too is Guilty" in the Punch, Wednesday December 22, pg. 27.

Federal Ministry of Agriculture and Rural Development (FMARD) (2008). Agriculture in Nigeria: The New Policy Thrust.

Federal Ministry of Health (FMOH) (2005). Orphans and Vulnerable Children, National Plan of Action 2006 – 2010. Pg. 8-9.

Federal Ministry of Health (FMOH) (2006). Technical Report of HIV/AIDS Sentinel Surveillance 2006, Federal Ministry of Health, Abuja.

Food and Agricultural Organisation(FAO) (1995). The Effects of HIV/AIDS on Farming Systems and Rural Livelihood in East Africa.

Food and Agricultural Organisation(FAO) (2001). Committee and World Food Security, The Impact of HIV/AIDS on Food Security; Twenty – Seventh Session, Rome.

Food and Agricultural Organization (FAO) (1994). HIV/AIDS and Agriculture in Sub-Saharan Africa.

Food and Agricultural Organization (FAO) (1997). Agricultural Education Training Issues and Opportunities. Rome, FAO.

Food and Agricultural Organization (FAO) (2004). HIV/AIDS and Food Crisis in Sub-Saharan Africa. 23rd regional Conference for Africa, Cairo Egypt.

Food and Agricultural Organization (FAO)(2000). Extension and Education Analysis. In: SD Dimensions, Rome, FAO.

Food and Agricultural Organization (FAO)(2001). Gender and Food Security. In: SD Dimensions, Rome, FAO.

Food and Agricultural Organization (FAO)(2009). "HIV/AIDS, Food Security and Rural Livelihoods" www.fao.org. March,2012.

Food and Agricultural Organization (FAO) (2004). The Impact of HIV/AIDS on Rural Livelihoods in Northern Zambia, Rome.

Food and Agricultural Organization of the United Nations (2001). "Rural Women carry Family Burdens". Focus, AIDS-a threat to Rural Africa.

Friedili, C. (1992). "AIDS and Women: A Swiss Perspective", *Feminist Review*, 41: 58-63. Published by Palgrave Macmillan Journals

Galia, S.F. (1995). AIDS Prevention and the Church, AIDS and Society.

Garland, C.J. (2003). AIDS is Real and Its in our Church. Bukuru:.

Gidens, A. (1994). Sociology (2nd Edition). Oxford,UK, Polity Press,

Global AIDS News, (1993). Published by Panos Institute, Great Britain. No. 3.

Haan, R.M. (2004). AIDS, Finding Hope and Compassion. Grand Rapids, Michigan: R.B.C. Ministries (HIV/AIDS)crp.2/Add.1).*www.cppministry.com/resources/print.* Rev/date/16/may/2001/

Henry, J. (2002). "Hitting Home, How Households Cope with the Impact of HIV/AIDS Epidemic". Kaiser Family Foundation and Health System Trust. October HIV/AIDS Orphans in Africa. Avert Organization.

Hilhorst, T., Marti, J.L., Adiya, V.O. and Korrie, K. de. (2004). Impact of AIDS on Rural Livelihoods in Benue State, Nigeria Implications for Policy Makers. KIT/DFID – Nigeria (downloadable from www.kit.nl).March,2009.

Hill, P. (1975). "West African Farming Household" In: Jack Goody (ed.) changing Social Structure in Ghana: Essays in the Comparative Sociology of New State and an old Tradition. International African Institute London.

Akpan, H. E. (2004). Human Development (Nigeria report) "HIV and AIDS: A Challenge to Sustainable Human Development". Abuja: United National Development Programme (UNDP), Nigeria.

Idoko, J. (2004). "The HIV/AIDS Epidemic in Nigeria: Past, Present and Future". Paper Presented at Department of Medicine, Jos University Teaching Hospital, University of Jos, Nigeria.

Igbago, R. (2008). An Assessment of Legislative Oversight Functions on Budget Monitoring in Benue, Nasarawa and Plateau States. Unpublished M.Sc. thesis, Makurdi, Nigeria: Benue State University.

Ijere, M.O. (1991). Women in Rural Development. Women in Nigerian Economy, ACENA Published, Enugu.

Information Office, Jema'a Local Area (1992). Brief History of Jema'a Local Government Area, Kaduna State.

Institute for Agriculture Entebbe, Uganda (IAEG) (1991). Impact Assessment of Agricultural Research, Context and the Art. Paper Presented at ASRE CA/E CART/CTA Workshop on Impact Assessment of Agricultural Research in Eastern and Central Africa, Entebbe, Uganda, 16 – 19 Nov, 1999, 15-21.

International Labour Organization (ILO) (1999). "In Search of a Social Viccine", World of Wore 32: 7 – 11.

Janelid, I. (1975). The Role of Women in Nigerian Agriculture. Rome. FAO.

Jayne, T., Villarreal, M., Pingali, P. and Hennrich, G. (2004). Interactions Between the Agricultural Sector and the HIV/AIDS Pandemic. Implications for Agricultural Policy. ESA Working Papers No. 04-06. Agricultural and Development Economics Division, FAO, March. Available: www.fao.org/es/esa.May,2006.

Kaduna State Action Committee on AIDS (SACA) (2000). "AIDS what Parents Should Know". Kaduna: 3.

Kenneth, G.C. (1992). "Perspective in HIV/AIDS Epidemiology and Prevention from the 8th International Conference on AIDS". *American Journal of Public Health*, 11, (82): 1465-1468.

Knode, J. and Im-em, W. (2004). The Economic Consequences for Parents Losing an Adult Child to AIDS: Evidence From Thailand. *Social Science and Medicine,* 59 (5): 987 – 1001.

Koyenikan, M.J. (2008). Issues for Agricultural Extension Policy in Nigeria. *Journal of Agricultural Extension*, 12(2): 52 -63. Dec., 2008.

La'ah, J.G. (2003). The Demography and Socio – economic Effects of HIV/AIDS in Kaduna State. An Unpublished Ph.D. Thesis, Department of Geography, Faculty of Science, Ahmadu Bello University, Zaria – Nigeria.

La'ah, J.G. and Ayiwulu, E. (2010). Socio-Demographic Characteristics of Patients Diagnosed with HIV/AIDS in Nasarawa Eggon. *Asian Journal of Medical Sciences* 2(3): 114 -120. ISSN: 20408773 © Maxwell Scientific Organization.

Laketch, M. (2002). Exploring the Impact of HIV/AIDS on Household Food Security in Rural Ethiopia: 2 Case Studies, a Join UNECA/UNDP/WFP Study, Addis Ababa, Ethiopia.

Liverpool Association in Tropical Health (LATH) (2003). Vulnerable Groups and HIV/AIDS: The Nigerian Context. Briefing Paper No. 5 LATH-Nigeria.

Mabogunje, A.L. (1991). Women in Business and Agribusiness in Nigeria. Mimeograph, Ibadan, Wemilore Printers.

Mafimsebi, T.E. and Fasina, O.O. (2008). Rural Women's Productivity and Welfare Issues: A Cause for Concern. In: *Perspectives in Agricultural Extension and Rural Development. 261 – 385.*

Mamman, M. (2001) "Combating Sexual Transmitted Disease (STDs) and Human Immune Deficiency Virus Through Community –based Health Education, Kamuru-Ikulu District, Kaduna State". A Research Proposal Submitted to the J.D. and C.T. MacArthur Foundation.

Mamman, M. (2003). Gender HIV-infection and AIDS Related Death in Sub-Saharan Africa. *Journal of Population Association, Nigeria* 3(1): 79-94.

Manyong, V.M., Douthwaite, B., Cloulibaly ,O. and Keatinge, J.D.H. (2001). Participatory Impact at the International Institute of Tropical Agriculture: Functions and Mechanism (Annex). The Future of Impact Assessment in the CHIAR: Needs, Constraints and Options. Proceedings of a Workshop Organized by the Standing Panel on Impact Assessment of Technical Advisory Committee, 3 – 5th May 2000, FAO, Rome, Italy. 69 – 74.

Marongwe, N. (2005). Women's Land and Property Rights in the HIV/AIDS Context: Case Studies from Zimbabwe.

Masland, T. (2000). "Breaking the Silence". Newsweek, July 17, pg. 12-14.

Mather, D., Donova D., Weber M., Marrule H., and Alage, A. (2004). Prime AgeAadult Mortality and Household livelihood in Rural Mozambique: Preliminary Results and Implications for HIV/AIDS Mitigation Efforts. Reprint of Paper Prepared for the Centre for the Study of African Economies Conference, St, Catherine's College, Oxford. March 2004.

Michael, H. and Martin H. (2000). Themes and Perspectives Sociology. Hammersmith, London. Published by Harpercollins Publishers Limited 77 – 85 Fulham Palace Road. 9 – 16.

Michiels, S.I. (2001). Strategic Approaches to HIV Prevention and AIDS Mitigation in Rural Communities and Households in Sub-Saharan Africa. In: SD Dimensions, Rome, Food and Agricultural Organization (FAO). 40-45.

Momoh, S.O. (2004). "Teachers Knowledge and Attitude towards HIV/AIDS Infection". *The Counselor* 20. (1): 86-90.

Muchunguzi, J.K. (1999). The Impact of HIV/AIDS on Dmallholder Agriculture: The Experience of Muleba District, Tanzania. In: *AIDS and African Smallholder Agriculture* (eds.) Mutangadura G., Jackson H. and Mukurazita D., SAFAIDS, MG printers,36-40.

Murray, R.S. and Larry, J.S. (2007). Schaum's Outlines of Theory and Problems of Statistics. Third Edition. Schaum's Outline Series. Schott Drimie,Geneva Swizerland. Mcgraw-Hill International.

Mutangadura, G., Mukurazita, D. and Kackson, H. (1999). "A Review of Household and community Response to the HIV/AIDS Epidemic in the Rural areas of Sub-Saharan Africa. UNAMS Best Practice Paper, Geneva.

Mutangadura, G.B. (2005). Gender, HIV/AIDS and rural livelihoods in southern Africa: Addressing the challenges. *A Journal of Agriculture and Culture and African Women Studies*, pg. 1-13.

Muwanga, F.T. (2002). Impact of HIV/AIDS on Agriculture and the Private Sector Swaziland: The Eemographic, Social and economic Impact on Subsistence Agriculture, commercial Agriculture in Swaziland: Ministry of Agriculture Co-operatives and Business.

National Population Commission (NPC) (2000). A Handbook on National Policy on HIV/AIDS and STI's Central programme E.M. and N. ent. Surulere, Lagos. 1-25.

National Population Commission (NPC) (2006). Population and Housing Census of the Federal Republic of Nigeria.

National Population Commission and ICF Macro (2009). Nigeria Demographic and Health Survey 2008, Abuja.

National Youth Service Corps/UNICEF (2007). National Baseline Survey on Knowledge, Attitudes, Beliefs and Practices on Rural Health and HIV/AIDS, NYSC, Abuja.

Neema, S. (1999). Afflicted and Affected: Consequences of HIV/AIDS on women in a Farming Community in Uganda. In: *AIDS and African Smallholder Agriculture* (eds.) Mutangadura G., Jackson H. and Mukurazita D. Uganda/Donahues J. SAFAIDS, MG printers, 70 – 78.

Odey, J.E. (2004). The role of the family in sex and sexuality education. *The Journal of Family Development* 1: 77-85.

Ogunbameru, O.A. (2008). Functionalism (Structural Functionalism 'HOLISTIC' Approach). Sociological Theory. Revised and Enlarged Edition. Pgs. 13 – 24.

Ogungbile, A.O.,Olukosi, J.O. and Ahmed, B. (1991). Women's Participation in Agricultural Production in Northern Nigeria.Zaria, ABU Press.

Onuh, I.O. (2005). Overview of HIV/AIDS. A Paper Presented at the Voluntary Counseling and Testing (VCT) Training Workshop in Kaduna. March,20th 2005.

Oluwunmi, N.W. (2005). Factors Affecting Peanut Producer Adoption of Integrated pest Management. *Review of Agricultural Economics* (13): 129-139.

Oxford Advanced Learner's Dictionary (2000). Cornelsen and Oxford University. Oxford University Press.

Patton, M.Q. (1978). Utilization Focused Evaluation. Beverly Hill, Sage publication.

Rahman, S.A. and Alamu, J.F. (2003). Estimating the level of women interest in agriculture: an application of logit regression model. *The Nigerian Journal of Scientific Research* 4(1): 45-49.

Rean, K. (1993). Where is the good Samaritan Today? A Challenge to Fight HIV/AIDS. Lagos: Bible Society of Nigeria.

Reid, E. (1998). Gender and AIDS Almanac: World Health Organization, Published by UNAID and Sociometries Corporation,2001. Los Altos Califonia. *www. Socio.com. March,2001. Pg. 28-29.*

Richard, T.S. and Robert, P.L. (1997). Sociology. A Brief Introduction. Second Edition. New York. McGraw-Hill Companies, Inc. 331 – 334.

Rogers, E.M. (1983). Diffusion of Innovations. 3rd Edition, New York: Collier Macmillan, 13.

Rosen, S. (2004). The Cost of HIV/AIDS to Business in South Africa: The Impact of HIV/AIDS on Africa, AIDS, 18: 317-324.

Rosenberg, V. (2007) Factors Affecting the Preferences of Industrial Personnel for Information Gathering Methods. *Information Storage and Retrieval Journal*, 3: 199-129.

Rugalema, G. (1999). Adult Mortality as Entitlement Failure: AIDS and the Crisis of Rural Livelihoods in a Tamanian Village. Ph.D Dissertation. Institute of Social Studies, The Hague.

Rugalema, G. (1999). HIV/AIDS and Commercial Agricultural Sub- Sector of Kenya: Impact, Vulnerability, Susceptibility and Coping Strategies. *Building Capacity For the Agricultural Sectors Responding to AIDS. Module 8.*

Scharf, E. and Toole, S. (1992). HIV and the Invisibility of Women: Is There a Need To Redefine AIDS. *Feminist Review*,41. 65.

Senefeld, S. and Polsky, K. (2005). Chronically Ill Households, Food Security, and Coping Strategies in Rural Zimbabwe. C.SAFE (Consortion For Southern Africa's Food Emergency).

Shah, M.K., Osborne, N., Mbilizi, M. and Vilili, G. (2002). Impact of HIV/AIDS on Agriculture Productivity and Rural Livelihoods in the Central Region of Malawi. Malawi: Care International in Malawi.

Shen, X.H. and Jiang, Q.J. (2000). Report on Application of Chinese Version of MCMQ in 701 Patients. *Chinese Journal of Behavioural Medical Science* 9(1): 18-20.

Shrag, C. (1967). Elements of Theoretical Analysis in Sociology. In: Sociological Theory: Inquiries and Paradigms. 1st Edition New York: Harper and Raw, 220-221.

Sinkaiye, T. (2005). Agricultural Extension Participatory Methodologies and Approaches in Agricultural Extension in Nigeria. S.F. Afolayan (ed.) Ilorin AESON, pg. 220 – 233.

Solomon, O. (2008). Identification of Training Needs of Oil Palm (*Elaeisguinensisjocq*) Farmers in Rainforest Zone of South West Nigeria. Unpublished Ph.D Thesis, University of Agriculture, Abeokuta. 124.

Soyinka, F. (1998). "Responding to the AIDS Pandemic", *MacArthur Foundation Newsletter*,2: 14 -19.

Spore No. 69. AIDS, A Hidden Threat to Agriculture. B1-Monthly Bulletin of the Technical Cantar For Agricultural Rural Cooporation. No.1-No.68.June,1997. CTA.http. *://www.org/nesda/Dakar Senegal*

Squire, P.J. (2004). Enhancing the Capability of Agricultural Training Institutions in Sub-Saharan Africa in the Fight against the Spread of HIV/AIDS Epidemic Through Reform in Agricultural Education and Extension Programmmes. *Journal of Extension Systems* . 65 – 76. Web: *http://www.jesoline.*org.January ,2006.

Sub-Saharan African update (2005). *www. Hivinsite ucsf. Educ/global*? January,2006.

The Population Council, Inc. (2007). The Experience of Married Adolescent Girls in Northern Nigeria. Report.

The Population Council, Inc. (2007). The Prevalence of HIV/AIDS among Youth in h

Higher Level Area of Makurdi Local Government, Benue State. Report

The Watch Tower (2004). "Are we Winning the Battle Against the Disease". Awake, May, 22. Benin City.

Topouzis, D. and Du Guerney, J. (1999). Sustainable Agriculture Rural Development ad Vulnerability to the AIDS Epidemic. UNAIDS best Practice Collection, UNAIDS and FAO, Geneva.

Topouzis, D. and Du-Guerny, J. (1999). Sustainable Agricultural Rural Development and Vulnerability of the AIDS Epidemic. UNAIDS, Geneva and FAO, Rome, 1-13.

Umar, A.G.,Owa, O., Kareem I.A. and Madugu, I.E (2007). Socio-economic Characteristics and Agricultural Productivity of Women Farmers in Two Local Government Areas of Plateau State. In: Promoting Private Sector Participation in Nigerian Agriculture. Amadu, C. (ed.). Paper presented at 18th Annual Conference of Farm Management Association of Nigeria (FAMAN) 3-8 Dec.2003, University of Calabar.

United Nation Development Programme (UNDP) (1997). Human Development Report. New York: Oxford University Press.

United Nation Development Programme (UNDP)(2002). HIV/AIDS and Poverty Reduction Strategies: UNDP Policy Note. August, 2002. New York. UNDP.

United Nations Programme on AIDS (UNAIDS) (2006). Report on the Global AIDS Epidemic (*http://www.unaids.org/en/HIV-data/2006Global Report/default.asp*); Chapter 4: The Impact of AIDS on People and Societies.

United Nations Programme on AIDS (UNAIDS) (2000). A Report on the Global Epidemics.

United Nations Programme on AIDS (UNAIDS) (2001). AIDS Epidemic in Africa. Royal Tropical Institute, Amsterdam, Netherlands, 261.

United Nations Programme on AIDS (UNAIDS) (2002). Report on the Global AIDS Epidemic. Zimbabwe (*http://www.avert.org.//aids-zimbabwe.html*.

United Nations Programme on AIDS (UNAIDS) (2002). A Report on Geneva and Switzerland Epidemic.

United Nations Programme on AIDS(UNAIDS) (2006). Report on the Global AIDS Epidemic Botswana (*http://www.avert.org.//aids-botwana*).

United Nations programme on AIDS (UNAIDS) (2008). Report on the Global AIDS Epidemic. Retrieved from: *http://www.data.unaids.org/pub/Global Report/2008/GR08-2007-HIV PrevWallMap-GR08-en.jpg* (Access date: February 19, 2010).

United Nations Systems in Nigeria (2001). Nigeria-common Country Assessment, 141-152.

United Nations/Economic Council for Africa (UN/ECA) (1974). The Changing and Contemporary Role of Women in African Development. UN/ECA, Addis Ababa.

United Nations/Economic Council for Africa (UN/ECA) (2000). Africa's Population Development Bulletin, Addis Ababa.

United State Agency for International Developments (UNIAIDS) (2002). Report on the global HIV/AIDS epidemic. New York. *United Nations Journal of Extension System*. June, 2004, 66 – 76.

Veni, N. and Geoff, H. (2006). Survival Strategies of HIV/AIDS Affected Households in Soweto. School of Economics and Finance, University of Kwazulu-Natal, Durban, South Africa. *Development Southern Africa* 23, Issue (3): 417 – 426, September.

Voh, J.P. 1979. An exploratory Study of Factors Associated with Adoption of Recommended Farm Practices Among Giwa Farmers. Institute for Agricultural Research, Ahmadu Bello University, Zaria. Samaru Miscellaneous paper 73.

Weiser, S.D., Leiter, K., Bangsberg, D.R., Butler,and L.M., Percy-deKorte, F. (2007). Food Insufficiency is Associated with High Sexual Behavior among Women in Botswana and Swaziland. *PLOS Med, 4(10):e260.doi:10.137/ Journal pmed*.

Wikipedia, The Free Enclopedia (2008). "Perception". www. Wikipedia.org. March, 2010.

Williams, E. (1993). "How to Improve Prevention: Empower African Women". World Health Organization Global Programme on AIDS Report, France. *Network* 13(4): 8.

World Bank (1996). Nigeria: Poverty in the Pidst of Plenty. The Challenge of Growth with Inclusion. Report No. 14733-UNI.

World Bank Group (2003). Confronting *AIDS http://www.worldbank.org/aids-econ/confront/confronfull/aidshead.html.*

World Health Organization (WHO) (1993). World Health Statistics, Geneva

World Health Organization (WHO) (1999). HIV/AIDS Prevention and Control Programme. World Bank, Washington, D.C. USA. 275.

WOTCLEF (2000), Women Trafficking Child Labour Eradication Foundation. Report.

Yamano, T. and Jayne, T.S. (2004). Measuring the Impact of Working-Age adult Mortality on Small-Scale farm household in Kenya. *World Development* 30(1):91-119.

Yawa, P.M. (1985). Government Policies, Equal Opportunities and the Rights of Women in Nigeria's Setting in Women and Trade Unionism in Nigeria, Ibadan, Johnmof Printer Limited.

Yeshiwas, B. (2007). Impact of HIV/AIDS on the Well-being of the Rural Population in East Gojjam, Amhara, Ethiopia. PhD Dissertation in Development Studies, St. Clements University, Ethopia.

Yohana, A.S. (2002). Overview of HIV/AIDS in Kaduna State. Kaduna HIV/AIDS, Project Team. Report

Zambia (2006). http://www.avert.org/aids-Zambia.htm. May,2011.

Appendix I: Research Questionnaire

ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP PRODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA

(INDIVIDUAL QUESTIONNAIRE)

By

HANNATU YOHANNA MICHAEL
P13AGAE9002

Department of Agricultural Economics & Rural Sociology
Faculty of Agriculture,
Ahmadu Bello University, Zaria

DEPARTMENT OF AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY
FACULTY OF AGRICULTURE,
AHMADU BELLO UNIVERSITY, ZARIA

TOPIC: ANALYSIS OF EFFECTS OF HIV/AIDS AMONG MEN, WOMEN AND YOUTH IN CROP RPODUCTION IN JEMA'A AND GIWA LOCAL GOVERNMENT AREAS OF KADUNA STATE, NIGERIA

Questionnaire No:

DEAR RESPONDANT,
I AM A STUDENT OF THE ABOVE MENTIONED DEPARTMENT CURRENTLY ON PH.D SURVERY.

INDIVIDUAL QUESTIONNAIRE

INTRODUCTION: The survey is part of an academic research to analyse the effects of HIV/AIDS on crop production in Jema'a and Giwa Local Government Areas of Kaduna State. Your responses will be treated with utmost confidentiality and used primarily for the purpose of this study. Thank you.

Local Government Area: Town:

SECTION A: SOCIO-ECONOMIC CHARACTERSTICS OF RESPONDENT. Please fill/tick the correct answer

1. Age

2. Gender: Male [1] Female [2]

3. Marital status:

Never married	[ ]	Married	[ ]	Divorced	[ ]
Widowed	[ ]	Separated	[ ]		

4. Type of marital union:

Polygamous	[ ]	Monogamous	[ ]

5. If in polygamous union how many wives do you have? (for males):

6. Major occupation

SNO	Occupation	Response
1	Farmer	
2	Business professional	
3	Full time housewife	
4	Unemployed	
5	Civil/public servant	
6	Petty trader	
7	Commercial sex worker	
	Others (Specify):	
8		
9		

7. Formal education attainment:

None	[ ]	Quranic	[ ]
Primary	[ ]	Secondary	[ ]
Tertiary	[ ]		

Others
(specify)……..

8. What is your income per month?

9. Do you live near any major commercial centre?
Yes [ ] No [ ]

10. How often do you visits this centre?

Any available opportunity	[ ]	Every day	[ ]
Weekly	[ ]	Monthly	[ ]

Quarterly [ ] Yearly [ ]

11. Number of children ever born (for females only)

Male Children		Female Children		Total	
Alive	**Dead**	**Alive**	**Dead**	**Alive**	**Dead**

12. Number of persons that live in your household

13. What type of accommodation are you living in? (Tick)

SNO	Accommodation	Type
1	One/Two bedroom apartment	
2	Two/Three bedroom apartment	
3	Duplex	
4	Compound house	
5	Hostel	
	Others (Specify)	
6		
7		

14. Ownership of accommodation (Tick)

SNO	Accommodation Ownership	Type
1	Self-owned	
2	Rented	
3	Family house	
4	Official (Government owned houses)	
5	Squatting	
	Others (Specify)	
6		
7		

15. Do you own a land for crop production?
(a) Yes [1] (b) No [0]

16. How did you get your farm land?

Inherited (land tenure)	[1]	Rented	[2]
Borrowed	[3]	Through lease	[4]
Others (specify)			

……

17. What is the size of your farmland?

Less than a hectare	[ ]	3.1-4.0 hectares	[ ]
1.1-2.0 hectares	[ ]	4.1-5.0 hectares	[ ]
2.1-3.0 hectares	[ ]	5.1 and above hectares	[ ]

18. Years of farming experience:

/19. Is the products from your farm enough for your consumption and sale?
(a) Yes [ ] (b) No [ ]
20. Have you faced any food shortage after contacting HIV/AIDS?
(a) Yes [ ] (b) No [ ]

21. What types of farm implements do you use?
Simple implements [ ] Heavy hired tractors (machines) [ ]

22. What type of fertilizer do you use on your farm?
Organic (manure) [ ] Inorganic [ ]
Both [ ]

23. How do you get access to the inorganic (modern) fertilizer?
Buy from open market [ ] Provided by relation [ ]
Buy at subsidized rates from government [ ]
Other (specify) ……..……..

24. What is the source of your labour for crop production?
Use own children [ ] Use neighbours/villagers [ ]
Use friends [ ] Use relatives [ ]
Use hired labour [ ]

25. Kindly indicate the hours of labour for the following crops you cultivated in the last cropping season (2012)

SNO	Crops grown	Land preparation and planting	Weeding	Inorganic fertilizer application	Organic fertilizer application	Pesticide application	Harvesting
1	Maize						
2	Sorghum						
3	Rice						
4	Soybean						

26. Do you have access to loan/credit facilities for crop production?
Yes [ ] No [ ]

27. If yes, from who and how much?

SNO	Sources of Credit	Amount (N)
1	Government	
2	NGOs/CBOs/FBOs	
3	International Agencies	
4	Cooperative societies	
5	Commercial banks	
6	Relations	
	Others (Specify)	
7		
8		

28. Apart from loan, do you also have access to grants?
Yes [ ] No [ ]

29. If yes, what type of grant have you accessed?
Kind [ ] Cash [ ]

30. For what purpose was this grant given to you?

SNO	Sources of Credit	Amount (N)
1	To boost agricultural production	
2	For HIV/AIDS Treatment	
3	To eat good diet	
4	To have accommodation	
	Others (Specify)	
5		
6		

31. Are you a member of any organization that carters for HIV/AIDS?
Yes [ ] No [ ]

32. If yes, what is the name of the organization?

33. What kind of assistance do you get from the organization as a farmer?

SNO	**Assistance**	**Values**
1	Seedlings	
2	Fertilizer	
3	Free extension training	
4	Drugs	
5	Facilitation of credit acquisition process	
6	Food	
7	Received advice	
	Others specify	
8		
9		

34. Have you shifted from the cultivation of certain crops in the last six years?
Yes [ ] No [ ]

35. If yes, why the shift? (tick)

SNO	**Reasons for shift**	**Response**
1	To reduce cost	
2	To reduce labour demand	
3	To produce fast yielding crops	
4	To reduce energy requirements	

	Others	
5		
6		

SECTION B: FACTORS RESPONSIBLE FOR THE SPREAD OF HIV/AIDS

36. Do you know how HIV/AIDS is transmitted?

Yes [ ] No [ ]

37. Identify from the under listed ways you think HIV/AIDS can be transmitted

SNO	Means of Transmission	Response
1	Sexual Transmission	
2	Blood transfusion	
3	Use of unsterilized objects	
4	Mother to Child	
5	Infected breast milk	
	Others	
6		
7		

38. Do you have any sexual partner?

Yes [ ] No [ ]

39. What do you think are the reasons for having sexual relationships?

SNO	Reasons for having sex	Response
1	Self satisfaction	
2	To satisfy spouse/girl friend/boy friend	
3	Out of curiosity	
4	For love	
5	For money	
6	To have babies	
	Others	
7		
8		

40. How many people do you have sex with?

One regular partner [ ] More than one partner [ ]

Any casual partner [ ] Both regular and casual partner [ ]

41. Have you ever use condom during sex (both sexes)?

Yes [ ] No [ ]

42. How effective is the condom?

Very effective [ ] Effective [ ]

Moderately effective [ ] Not effective [ ]

43. Who should be responsible for protection against HIV/AIDS infection during sex?

Male partner [ ] Female partner [ ]

Both above [ ] Don't know [ ]

44. Which of the health centres/facilities do often go to for treatment?

SNO	Health centres/facilities	Response
1	Teaching Hospitals	
2	Specialist Hospital	
3	General Hospital	
4	Private Hospital	
5	Clinics/Dispensary	
6	Chemist/Phermacy	
7	Herbal/Spiritual Healers	
8	Prayers	
	Others	
9		
10		

45. In what ways do you thing HIV/AIDS can be prevented/controlled?

SNO	Prevention and control	Response
1	Abstinence	
2	Be faithful	
3	Use of condoms	
4	Knowing your status	
5	Do not use unsterilized blades, needles or strings	
6	Creating awareness	
	Others	
7		
8		

SECTION C: PREVALENCE LEVEL OF HIV/AIDS

46. What group of people is prevalent to HIV/AIDS in your area?

Men [ ] Women [ ]
Youth [ ] Children [ ]

47. What age groups are prone to HIV/AIDS?

Less than 14 years [ ] 15 – 20 years [ ]
21 – 39 years [ ] 40 – 49 years [ ]
50 years and above [ ]

SECTION D: EFFECTS OF HIV/AIDS ON CROPS OUTPUT, INCOME AND LEVEL OF LIVING

48. To what extent do you agree that HIV/AIDS negatively affected agricultural production, income and level of living of farmers?

Perceived effects	Strongly agreed=5, Agreed=4, Undecided=3, Disagree=2, Strongly disagree=1
Output	
Income	

Level of living	

49. Do you rare or own domestic animals?
Yes [ ] No [ ]

50. What type of domestic animals do you have presently and how many each?

SNO	Domestic Animals	Number of animals	Number sold for HIV treatment from 2011 – 2013 and amount (N)
1	Cattle		
2	Goat		
3	Sheep		
4	Donkey		
5	Pigs		
6	Dogs		
7	Poultry		
	Others		
8			
9			

51. What is the purpose(s) of rearing the domestic animals?
For domestic use [ ] For commercial purposes [ ]
For source of manure [ ] All above [ ]
Other (specify) ……

52. What crops did you grow in 2012?

SNO	CROPS GROWN	Farm size (ha)	Output (100Kg.bag)	Portion sold for HIV treatment in 2012
1	MAIZE			
2	SORGHUM			
3	COWPEA			
4	MILLET			
5	RICE			
6	HUNGARY RICE (ACHA)			
7	SOYABEANS			
8	VEGETABLES			
9	WAKEN MADA			
10	GINGER			
			Pick up load	
11	YAM			
12	COCO YAM			
13	SWEET POTATO			
14	CASSAVA			
	OTHERS (SPECIFY)			
15				

16				
17				

53. What is the quantity of inputs used in 2012 crop production?

SNO	Agric Inputs	Quantity
1	Fertilizer (Kg)	
2	Chemicals (Lt/gram)	
3	Labour (Hrs)	
4	Seeds (Kg)	
5	Distance (Km)	
	Others (specify)	
6		
7		
8	Total	

54. In what areas has HIV/AIDS affected income and level of living of farmers?

SNO	EFFECTS	VALUES
	INCOME (ANNUAL INCOME (N))	
1	Farming income	
2	Non-farming income	
	LEVEL OF LIVING	
3	Farm size (ha)	
4	Motorcycle (no)	
5	Sewing (no)	
6	Television (no)	
7	Gas/electric cooker (no)	
8	Bicycle (no)	
9	Beds (no)	
10	Plots (no)	

SECTION E: COPING STRATEGIES AMONG THE HIV/AIDS INFECTED PEOPLE

55. How do you cope with your HIV/AID status?

SNO	COPPING STRATEGIES	RESPONSE	SNO	COPPING STRATEGIES	RESPONSE
1	Substitutes expensive meals		7	Send children away to live with relatives	
2	Sale of family assets, crops, labour		8	Hiring labour	
3	Withdrawal of children from school		9	Using local herbs for treatment	
4	Depends on assistance from relations		10	Depends on assistance from friends	
5	Skipping of meals		11	Less intake of preferred food	

6	Borrowing money		12		

SECTION F: SUGGESTION FOR PREVENTION AND CONTROL OF HIV/AIDS

56. What strategy do you think stakeholders need to adopt in combating HIV/AIDS?

SNO	Prevention and control	Response
1	Participatory education programmes	
2	Involvement of PLWHA in enlightenment programmes	
3	Regular advocacy	
4	Workshops	
5	Voluntary counseling	
	Others	
6		
7		

57. In your own opinion, suggest other ways in which government and the society could help in controlling and preventing HIV/AIDS destruction

SNO	Suggestion
1	
2	
3	

SECTION G: CHALLENGES AND CONSTRAINTS

58. What are the challenges/constraints you face as HIV/AIDS infected farmer?

SNO	Challenges/constraints	Yes	No
1	Stigmatization		
2	Unemployment		
3	Insufficient income		
4	Lack of means of income (Farm land)		
5	Distance to medical care facilities		
6	Gender bias in terms of job opportunities		
	OTHERS		
7			
8			

Appendix II: Charts

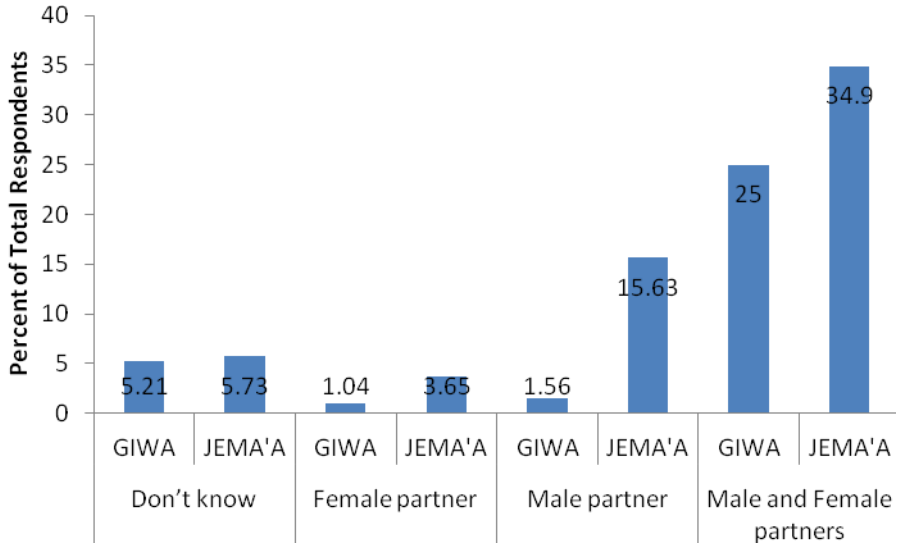


Figure 1: Distribution of Respondents According to those who should be Responsible for Protection against HIV/AIDS Infection during Sex

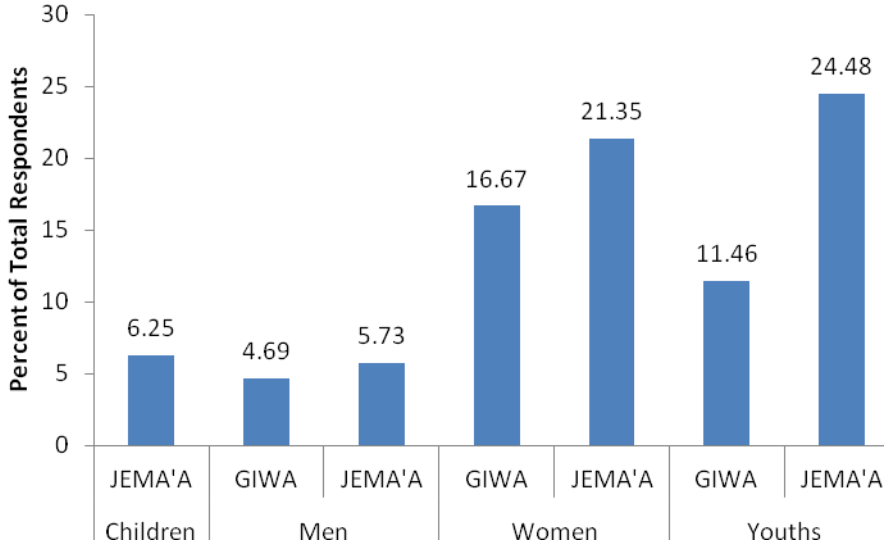


Figure 2: Distribution of Respondents According to Prevalence Level of HIV/AIDS

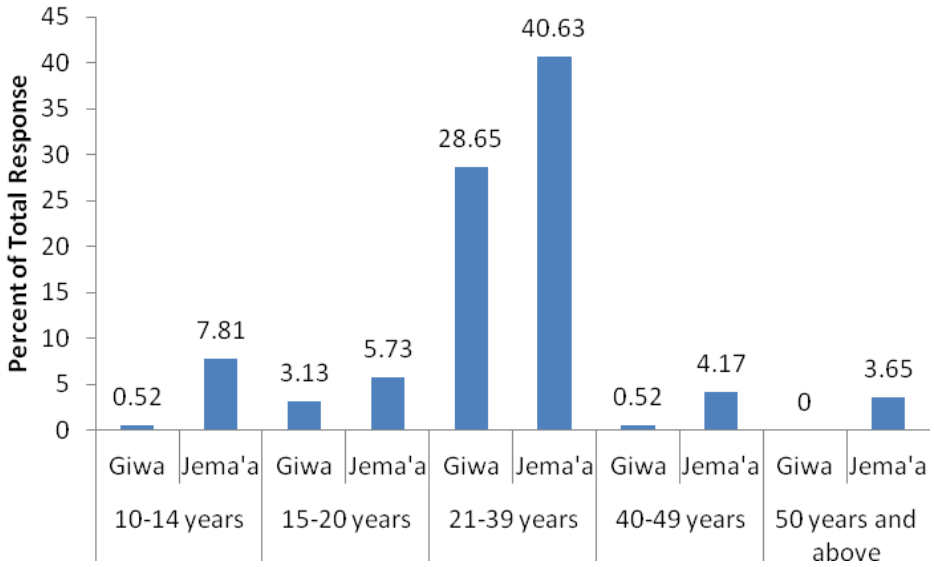


Figure 3: Distribution of Respondents According to Age group Prone to HIV/AIDS