



**Cross-Border Tomato Trade And Susceptibility to HIV Infection: A
Case of Rural Women and Girls Engaged in Tomato Trade in The
Kassena -Nankana Districts, Ghana.**

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Partial Fulfillment of the Requirements for the Degree of Master of
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By

Koxwell Kaba Tiire

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the Netherlands

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Larenstein University of Applied Sciences

P.O. Box 411

6700 AK Wageningen

The Netherlands

Telephone +31 (0) 317 48 62 30

Fax: +31 (0) 317 48 62 30

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Dedication

This research work is dedicated to the marginalized and vulnerable women with special reference to HIV Positive Women and Children in the Kassena-Nankana- Districts.

Table of Contents

.....	1
Permission to use	2
ACKNOWLEDGEMENT.....	3
List of Abbreviations.....	i
Abstract.....	iii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Introduction to HIV/AIDS.....	1
1.2. Background Information on rural women, tomato trade and susceptibility to HIV	2
1.3 Rational of the study	3
1.4 Research problem	4
1.5 Research Objective	4
1.5.1 The specific objectives are:	4
1.6 Research Questions	5
1.7 Introduction to conceptual framework	5
1.8 Organization of the thesis	6
CHAPTER TWO	8
2. LITERATURE REVIEW.....	8
2.1 Susceptibility to HIV Infection	8
2.2 Socio-economic factors of susceptibility.....	9
2.2.1 Poverty and HIV Infection	9
2.2.2 Mobility and HIV Infection	10
2.3 Gender Inequality and HIV Infection	11
2.4 HIV/AIDS and food security	12
CHAPTER THREE.....	13
RESEARCH DESIGN AND METHODOLOGY	13
3.1 Selection of study Area.....	13
The study area is Navro-pungu, consisting of several rural communities in the Kassena-Nankana District of Upper East Region. Navro-pungu has been chosen because most of the women constitute a greater number of mobile people who cross the border as tomatoes sorters. KNDA (2008).....	13
3 .2 Source of information and data collection tools.....	16
3.2.1 Primary Data	16
3.2.2 Secondary Data.....	16
3.3 Sample size.....	16

3.4 Data collection tools	17
CHAPTER FOUR.....	20
4. RESULTS	20
4.1 Demographic characteristics of respondents	20
4.2 Households' food security situations.....	21
4. 3 Knowledge on risk factors for HIV infection.....	23
4. 4 Perception on susceptibility to HIV.....	24
4.6 Risky social behavior among tomato sorters in Quahigouya	27
CHAPTER FIVE.....	28
5. DISCUSSIONS OF FINDINGS.....	28
Introduction	28
5.1 Discussions	28
CHAPTER SIX.....	32
6. CONCLUSIONS AND RECOMMENDATIONS.....	32
6.1 CONCLUSIONS	32
6.2 Recommendations.....	33
Reference	35
Annexes.....	38

List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BCC	Behavior Change Communication
DHMT	District Health Management Team
ECOWAS	Economic Community of West African States
GAC	Ghana AIDS Commission
FAO	Food and Agriculture Organization
FGDs	Focus Group Discussions
GPRS	Ghana Poverty Reduction Strategy
HIV	Human Immunodeficiency Virus
ICOUR	Irrigation Company of Upper Region
ICRW	International Center for Research on Women
IDIs	In-depth Interviews
IEC	Information, Education and Communication
IOM	International Organization for Migration
JHS	Junior High School
KND	Kassena -Nankana District
KNDA	Kassena -Nankana District Assembly
MDGs	Millennium Development Goals
MLGRD	Ministry of Local Government and Rural Development
MOWAC	Ministry of Women and Children's Affairs
NHRC	Navrongo Health Research Centre
NSTC	Northern Star Tomato Company
NTWA	Navrongo Tomatoes Women Association
NGO	Non Governmental Organization
PACODEV	Participatory Community Development
PLWHA	People Living With HIV/AIDS
STDs	Sexual Transmitted Diseases
STIs	Sexual Transmitted Infections
USAID	United States Agency for International Development

UNAIDS Joint United Nations Programme on HIV/AIDS
VCT Voluntary Counselling and Testing
WHO World Health Organization

Abstract

HIV/AIDS continue to be a developmental and a social problem rather than a health issue throughout the world. It is very much devastating and affects individuals, families as well as communities. In sub-Saharan Africa and rural agricultural settings, poverty, gender inequality and unequal power relations have placed women at higher risk of HIV infection as compared to their male counterparts. Women often cannot choose with whom or under what circumstances they would have sexual intercourse. Several factors have been reported to account for the association between mobility and susceptibility to HIV infection including casual and multiple concurrent partnerships, increasing sexual risk behaviours, reduced access to health services and means of prevention such as condoms

The aim of the study was to assess the knowledge, perception and susceptibility to HIV among Tomato sorters in the Kassena-Nankana District of the Upper East Region in northern Ghana. The outcome of the study is to provide comprehensive information on the determinants of HIV susceptibility among rural women for PACODEV, an NGO and other development partners to design programmes and interventions to fight the threat of HIV susceptibility among rural women and young girls.

The study was conducted in the Kassena-Nankana District, a rural agriculture district boarding Burkina Faso. The study targeted rural women and girls who have been engaged as tomato sorters in a cross border tomato trade between Ghana and Burkina Faso. In total 15 women and young girls between the age (24 to 45) were interviewed. Two focus group discussions and three key informants' interviews were also conducted. The key informants including the district disease control officer, one tomato market queen who is the leader of the tomato market women and a driver of one of the trucks that transport the tomatoes from Burkina Faso to Ghana. Secondary data was also used to supplement the primary data.

Because of the nature of the study, qualitative analysis has been widely used. Data was analyzed qualitatively and quantitatively and presented in the form of frequency distribution tables, pie charts, graphs and selected quotations of relevant responses.

Poverty and household food insecurity were the main reasons that motivate rural women in the district to seek for recruitment into the tomato trade as sorter. Many of the respondents, especially among those who are married agreed that their husbands should be the sole provider's of food to feed the households.

The study shows that all the respondents have heard of HIV/AIDS and the main mode of transmissions. On perception on susceptibility to HIV, most of the women, especial the younger age group and singles reported being susceptible to HIV. Factors that predisposes the tomato sorters to HIV susceptibility include; poverty, competition for selection as a sorter and the strong influence of the loading boys. The study also revealed that lack of good habitation in Burkina Faso when they travel to buy tomatoes and inaccessible health services places women in the tomato trade to be susceptible to the HIV epidemic.

In conclusion, the findings reveals several important points about women's health and the HIV epidemic in the Kassena-Nankana District. These include poverty, food security; unbalance power relations in the job market and low level of education. Women therefore need to be empowered and to protect themselves against the influence of men. Women also deserve support from all stakeholders including men in standing up to male domination in society where that is the case. Empowerment of women is effective through developing and designing interventions that will encourage women to attend school and stay in school. This can be done through non payment of school fees, skills development and training for women and girls.

CHAPTER ONE

INTRODUCTION

1.1 Introduction to HIV/AIDS

HIV/AIDS continues to be a developmental and a social problem rather than only a health issue throughout the world. It is very much devastating and affects individuals, families as well as communities. Globally, about 33.3 million people are living with HIV of whom 22.5 million are living in Sub-Saharan Africa (UNAIDS 2010). The 2010 global report on HIV/AIDS shows that, out of the 33.3 million (31.4 million–35.3 million) people living with HIV/AIDS worldwide as of 2009; sub-Saharan Africa accounted for approximately 70 percent of people living with HIV/AIDS. Also in 2009, the region accounted for about 72 percent of the world's AIDS-related mortality. It is projected that AIDS-related illnesses will continue to remain a significant global cause of premature mortality and one of the leading causes of death in sub-Saharan Africa. Globally, young women aged 15–24 years account for 64 per cent of all HIV infections among young people. In sub-Saharan Africa, young women aged 15–24 are two times more likely to be infected with HIV compared to their male counterparts.

In some parts of sub-Saharan African countries, especially in countries where HIV were reportedly high; such as in Côte d'Ivoire, Kenya and Zimbabwe, national HIV prevalence (percentage of persons infected with HIV) have either stabilized (continuing earlier trends) or are showing significant signs of reduction. In order to maintain these momentum and accelerate further progress towards achieving the Millennium Development Goal six; to have halted by 2015 and begun to reverse the spread of HIV/AIDS. These concerns therefore, suggest that efforts must be made to increase our understanding of the dynamics of HIV infection in all sectors of the economy.

The HIV epidemic is characterized by several intervening factors including, men having sex with men, transactional and commercial sex, casual and multiple partnership, mobility and inadequate access to HIV prevention care and treatment services. In Ghana the main mode of HIV transmission is through heterosexual contact which accounts for 80 percent of all infections, mother to child transmission accounts for 15 per cent while that of blood and blood products and contaminated sharps instruments account for 5 percent (Amenyah, 2008).

In West Africa statistics show that Burkina Faso is second with the highest HIV prevalence rate between (1.5–2.5%) (UNAIDS 2005a) after its southern neighboring country, Côte d'Ivoire which has a prevalence rate of between (4.3–9.7%) (UNAIDS 2005b). The INSD 2003 report shows that Burkina Faso has long experienced substantial internal and international migration, where Burkinabe travel to and from Côte d'Ivoire and Ghana in search of economic opportunities (INSD 2003).

In Ghana, the HIV/AIDS epidemic is relatively low compared to other West African countries, and appears to be fairly stable. However, there are increasing number of people living with HIV/AIDS in the country, posing challenges to both programs and treatment efforts. For instance, Ghana's first case of HIV/AIDS reported in 1986, the disease spread slowly but steadily until 2003, when prevalence peaked at 3.1 per cent. In 2007, the estimated adult HIV/AIDS prevalence was 1.9 percent. The national HIV prevalence is 1.7 percent. However, there are different prevalence rates for the different Regions and districts in the country. It is interesting to note that HIV prevalence in the Kassena-Nankana district is 2.2 per cent which is higher than the National HIV prevalence (Ghana Health survey, 2010). The 2008 DHS survey report shows that about 28 percent of women and 34 percent of men age between 15-24 years have comprehensive knowledge of AIDS. The report shows that comprehensive knowledge is highest (42 percent) among men age 23-24 years. However, women and men in urban areas (34 percent and 42 percent, respectively) have a higher level of

comprehensive knowledge of HIV/AIDS than rural women and men (22 percent and 28 percent, respectively). The important questions confronting health authorities and other developmental agencies in the fight against the HIV epidemic is what factors are responsible for the high prevalence of the disease in the district.

1.2. Background Information on rural women, tomato trade and susceptibility to HIV

Agriculture is the backbone of food security and livelihood for millions of rural households including men and women. People whose agricultural livelihoods are secure are able to produce sufficient food to meet their household food requirement and other important social and economic needs. When households are faced with food insecurity and limited income opportunities, they are compelled to undertake several risky activities in order to employed and earn income to be able to provide for their households. This is particularly the case for women and girls from rural areas in less developed countries. This difficult situation, among others factors put women and girls at higher risk of HIV infection as they are forced to migrate from their households in search for waged labour to earn money to complement the household income. Because of women limited access to, and control over resources and assets in the household, women and girls are also more susceptible to HIV infection. This is particularly common in rural areas where socio-cultural practices of property grabbing after the death of a woman's husband and lack of knowledge on HIV are high.

HIV infection has been found to be associated with population mobility (UNAIDS/IOM 1998), including cross- border trade and labour migration (Coffee et al 2005). The movement of people from areas of high prevalence to areas of low prevalence may result in leveling effects in the distribution of HIV infection. Several factors have been reported to account for the association between mobility and susceptibility to HIV infection including casual and multiple concurrent partnerships, increasing sexual risk behaviors, reduced access to health services and means of prevention such as condoms (Lydie et al. 2004, White 2003 and UNAIDS/IOM 2001).

One of the core objectives of establishing the West African regional integration body (ECOWAS) is to promote cross-border trade and cooperation among member states. Therefore, over the last few years, ECOWAS has encouraged and strengthened the development of cross-border cooperation by encouraging free movements of people and goods within member's states. Based on the ECOWAS agreements, Ghana and Burkina Faso has developed and maintained bilateral cooperation allowing the free movements of their citizens. This phenomenon has resulted in the increased influx of temporary migrants engaged in various forms of economic and social activities in both countries. One of such economic activity that is increasingly gaining prominent is the buying and selling of tomatoes (Awo , 2010). Statistics from the Customs, Excise and Preventive Service of Ghana at the Paga/Ghana-Burkina Faso boarder post indicate that during the 2008 to 2009 tomatoes farming season, Ghana imported about 6,562.43 metric tons of tomato from Burkina Faso. This constitutes over 60 per cent of the total amount of tomatoes transported from Northern Ghana to the consuming markets in Southern Ghana.

In the late 1990s and early 2000, the tomato Market Queens buys tomatoes from farmers in Navrongo. The Market Queens organize the labor needed to pick and load the tomatoes which are then transported to the major urban centers in southern Ghana, such as Accra and Kumasi, where they are distributed to retailers, who sell them to the consumers. One important marketing challenge faced by farmers in the region is the competition from Ouagadougou- Burkina Faso tomato producers. Farmers complained that Market Queens prefer the Ouagadougou tomatoes to the tomatoes from the study region. This situation therefore made majority of Young men and women to abandon farming in Navrongo and join the market queens to Burkina Faso to buy tomatoes.

Therefore, studies on the tomato industry in Ghana have turned to focus on the challenges faced with the production; marketing and distribution of the commodity (Amikuzuno , 2009, Awo, 2010). However, the association between food security, mobility of rural women and susceptibility to HIV infection are less researched. It is against this background that I set out to investigate and analyse the key drivers of the complex interconnections between household food security, unequal power relations, rural women participation in cross border tomato trade and susceptibility to HIV infection.

One study (Awo , 2010) which investigated tomatoes marketing and market queens in the Upper East Region of Ghana reported of several problems associated with the cross -border tomato trade. One important concern in terms of risks was job insecurity for the tomato sorters who are engaged by the market queens to help them sort the tomatoes they purchase from the farmers. The study found that these rural women are hired without any written contract and the market queen can terminate their services at the slightest misunderstanding. The study also reported of allegations from most of these sorters that the men (Drivers, Leading and loading boys) are taking advantage of their (sorters) insecurity and having sexual intercourses with them:

“There are unconfirmed stories of some sorters contracting HIV AIDS as a result. The station leader was indifferent about the risky nature of the sorters job, saying that “it is an indecent job environment. This is because most of the sorters have to sleep with the men (loading boys, interpreters or drivers) to secure their position in the trade” (Awo, 2010).

In order to throw more insight on the risk of susceptibility to HIV among cross border tomato traders in rural Ghana and provide evidence based recommendation for government and not-for-profit organizations to responses to the HIV/AIDS epidemic, it is important to address the HIV epidemic by linking poverty, food insecurity, gender inequality and mobility. This is particularly important in rural Ghana where improving the knowledge and livelihood opportunities of women and young girls can reduce their level of mobility and risk to HIV susceptibility.

1.3 Rational of the study

Participatory Community Development (PACODEV) a Non Governmental Organization (NGO) in the Kassena-Nankana District was set up with the primary objective of reducing households' susceptibility to HIV and of the impacts of AIDS. In recent years, the organization has become concern with the plight of women and girls and the HIV epidemic. The main areas of focus of PACODEV is promoting and protecting the livelihood security of individuals and households and empowering women with knowledge of the effects of HIV/AIDS. These efforts are achieved through intensive peer education and small scale micro finance tailored towards groups most at risk of the HIV menace, including women, young girls and pupils who are out of school due to the death of their parents through HIV/AIDS. The project has been able to make significant impact in the five years of its operation in the intervention areas including; the socio-cultural and economic problems; lack of knowledge on HIV, food security, and unequal power relationships affecting many rural households in the district. However, recent observation of women and young girls in the tomato industry, particularly those who have been engaged by the tomato market queens to travel across the Ghanaian border to neighboring Burkina Faso to support them buy tomatoes from irrigation farmers are susceptible to HIV/AIDS. Therefore, it became of great concern for PACODEV that if this problem were not meticulously investigated and address, it has the potential of reversing the gains made by the Organization and the Ghana Health Services (GHS) in sustaining and reducing the impact and effects of HIV/AIDS in the district and country as a whole.

Secondly, there is too little research on gender and HIV susceptibility in rural Ghana. This is because most of the research on gender, vulnerability, and HIV has been conducted in resource-rich settings; therefore, it is important to conduct research in rural setting to develop interventions appropriate to behavioral change. A qualitative investigation into the knowledge, sexual behavior and the unbalance power relations associated the cross border tomato trade among rural women in northern Ghana, will provide comprehensive information that will help PACODEV and other development partners to design programmes and interventions to fight the threat HIV susceptibility among rural women and young girls.

1.4 Research problem

In sub-Saharan Africa and rural agricultural settings, gender inequality and unequal power relations have placed women at higher risk of HIV infection as compared to their male counterparts. Women often cannot choose with whom or under what circumstances they would have sexual intercourse. In less developed countries, gender inequities relating to the unequal distribution of power and economic and social resources play a large role in this. Women and girls are often forced to resort to sex work or offer sexual services to earn income to support their families because they have no other source of income or livelihood opportunities (*Women and HIV/AIDS*, WHO Fact sheet 242 (2000)). The literature also reports that women migrants also have difficulties in access health services and information about HIV prevention and the ability to negotiate for safer sexual encounters. In many situations, women who ask partners to use condoms risk being considered unfaithful, resulting in physical or emotional abuse, or being forced to leave the household. Women's susceptibility to HIV is further aggravated by their physiological and biological make up which makes them more susceptible to HIV infection than men (*AIDS - 5 years since ICPD*, UNAIDS, 1999).

As migrant laborers leave their households to seek for employment and other sources of income, many of them do not have access to health services or health information. Migrants and especially women migrants may be forced by circumstances to engage in unprotected sexual activity with males, exposing them and their partners to HIV infection (UNAIDS/IOM 1998). Women risks to HIV infection can also be associated with forced migration where women are compelled to migrate due to violence against them, social or political disorder or such factors as poverty, unequal power relations socio-cultural practices, and marginalization (Declaration on the Elimination of Violence against Women).

Women and young girls also carry the greatest psychosocial and physical burden of care of HIV/AIDS-infected family members. For instance, women are likely to shoulder the responsibility of taking care of family and household needs, even when they are sick, and are often forced to leave their paid jobs and schooling in order to be caregivers.

1.5 Research Objective

The objective of this study is to investigate the potential risk factors which contribute to HIV susceptibility among rural women and girls tomato sorters in cross-border trade in the Kassena-Nankana districts of Ghana.

1.5.1 The specific objectives are:

- I. To assess the knowledge on socio-economic factors for HIV transmission among tomato sorters in cross- border tomato trade in the Kassena-Nankana Districts.

- II. To investigate the potential risk factors which contribute to HIV susceptibility among rural women who engages in cross border tomato trade in the Kessena-Nankana Districts.
- III. To recommend possible policy interventions that will reduce susceptibility to HIV infection among rural women and girls in cross border tomato trade.

1.6 Research Questions

The main research question is: what are the contributing factors for susceptibility to HIV infection among rural women and girls tomato sorters in the cross-border trade?

1.6.1 The specific questions:

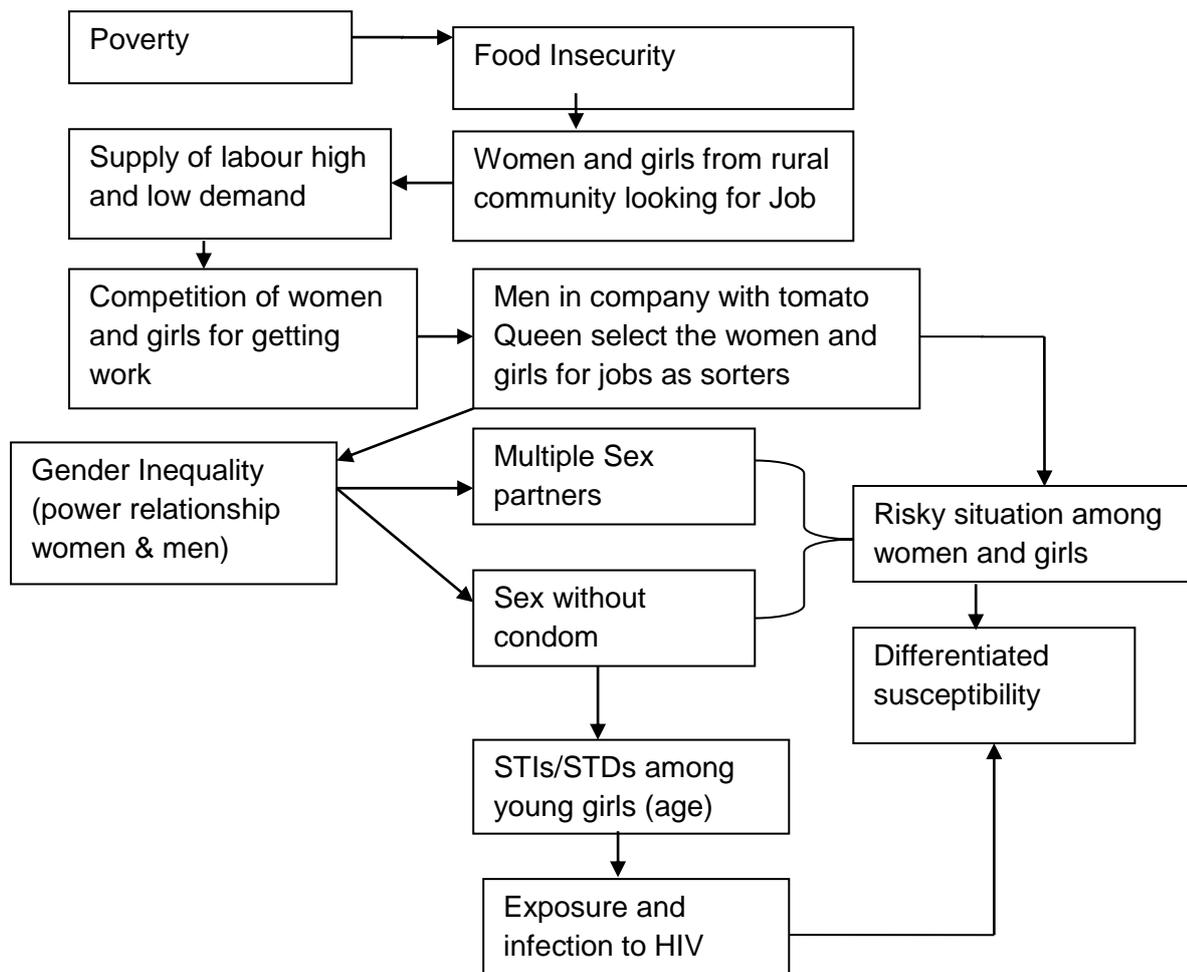
- I. What are the perceptions of tomato sorters in cross border tomato trade and their susceptibility to HIV?
- II. What knowledge does tomato sorters have on the socio-economic risk factors that make rural women susceptible to HIV?
- III. What can be done to reduce risk factors associated with cross-border tomato trade among tomato sorters in the Kessena-Nankana Districts?

1.7 Introduction to conceptual framework

Women are mostly cultivating the land for food crops as subsistence farmers, thus tilting the land for preparation, sowing, weeding and harvesting during the period of the rainy season. However due to the weather climatic changes, the pattern of the rainy season has change to a short period of rain fall, drought, crops failure resulting in famine and food insecurity for households in the rural areas. This has lead women and girls to move from the rural areas to tomato trade as the available source of Women livelihood during the dry season to be engaged by tomato Queens.

Indeed, the supply of labor of women and girls becomes high than the demand for labor which is low as required by the tomato Queens. As the demand for labor falls, women and girls compete to be engaged by negotiating for tomato jobs through the Men of the tomato Queens who does the selection of women and girls. Due to women low status at the household and community levels, women do not have equal power to demand for safer sex or negotiate to use condom during sexual intercourse with their husbands or male friends. These risky behaviors put women and girls at a high risk of contracting sexual transmitted infections (STIs) especially among young girls since many men practices polygamy and have multiple sex partners.

Conceptual Framework



1.8 Organization of the thesis

The thesis has been divided into six main chapters. Chapter one is the introduction and its aim is at establishing the bases for this research. It describes in broad terms poverty, food insecurity, the tomato trade in Navrongo Ghana and the cross border tomato trade in Burkina Faso.

The second chapter begins a comprehensive review of the literature on HIV/AIDS at the global, regional, and national and district level. The section also provides an overview of the HIV/AIDS epidemic in Ghana and Burkina Faso and seeks to establish the association between HIV and a conceptual framework of key concepts, including poverty and HIV, food security and HIV, unequal power relations and HIV and mobility and HIV. Although, the research literature on this subject is not well developed, various conceptual models have been devised to help understand these relationships. The section also provides a literature review on the tomato industry and the major players and challenges confronting the sector. Finally, the chapter draws together these sets of relationships and outlines the key knowledge gaps and emerging research questions that motivated the implementation of this empirical research.

The third chapter focuses on the research methods and materials used in this research. The chapter presents a detailed description of the Kassena-Nankana District of northern Ghana

where the study was undertaken. The chapter also defines the research methodology that was employed and the justification for the sample size and the mix of qualitative tools used to gather the data for analysis. Finally, the chapter explained the analysis process that I used to interpret the data and the limitation that were observed in the process of data collection.

The fourth chapter presents the main results of the research. Findings were presented in tables, graphs and pie charts in order to get visual advantage when comparing the results. I also presented relevant quotations from the respondent to emphasis particular issues.

The fifth chapter of the thesis discusses the main findings by seeking to contribute to our understanding of the complex and dynamic linkages between poverty, food insecurity, unequal power relations, mobility and the susceptibility to HIV among rural women and young girls. The chapter discussed the finding and relates it to the available research on the topic; rural women and cross border tomato trade in northern Ghana.

The sixth and final chapter presents the conclusions and recommendations. The conclusions are drawn from the main finding and discussion presented in previous chapters. Also the recommendations selected from various respondents are critical in reversing and reducing the susceptibility to HIV infection among rural women engaged in cross border tomato trade. It is my expectation that these multi-sectoral approaches proposed to address the HIV situation in the Kassena-Nankana district will form the policy framework for PACODEV and program of action to plan a comprehensive HIV intervention package for rural women.

CHAPTER TWO

2. LITERATURE REVIEW

This chapter presents the literature review from different sources including articles, journals, books and HIV/AIDS websites. The reviewed literature will help to compare and support the result of the findings. The chapter has five sections. The first section defines and explains susceptibility to HIV infection. The second section presents about differential susceptibility and the rest of the section indicates the socio-economic driving factors to HIV infection.

2.1 Susceptibility to HIV Infection

Literature defines susceptibility to HIV infection as a chance of getting HIV infection. Susceptibility could be both at individual and groups of people level. It is also defined as to the chance of an individual becoming infected by HIV. The chances being categorized into two components as being exposing to the virus and being infected with the virus once exposed (Holden, 2004; Michael and Stuart, 2003). Susceptibility refers to any set of factors which determine the rate at which the epidemic is propagated. Susceptibility reveals aspects of situation that contribute to the increased or decreased riskiness of an environment which will enhance or diminish the ease with which diseases are transmitted. Susceptibility can be thought of at any level (Barnett, 2006). For example, individual may be susceptible due to unsafe sexual behavior, household may be susceptible because of one of its members is a migrant worker or an entire society or country may be considered susceptible because its population is constantly on move-through national or international borders.

According to Holden (2004) the factors that make people susceptible for HIV infection can be determined by different factors including social, economical, and cultural factors of a society, relations between groups, livelihood strategies, culture and balance of power.

ICRW (2011) highlighted that Women and girls are therefore more susceptible to sexually transmitted infections, including HIV than men due to their biological makeup. Further, the data from UNAIDS indicate that women and girls are disproportionately susceptible to HIV and generally account for 50 percent of all people living with HIV worldwide and in sub-Saharan Africa they account for 60 percent of HIV infections (UNAIDS,2010).

Biologically, women and girls are more of recipients of men semen during sexual activity and hence semen stays longer in their reproductive system; signs and symptoms of sexually transmitted infections tend to be realized sooner in men than women. Further, girls mature and get involved in sexual activities earlier, yet their reproductive systems may not have fully developed to produce secretions that have some immunity to infections (USAID, 2006). Moreover, naturally the mucosal surface of women is larger which in turn facilitate an entry points for the HIV virus and also the sperm has a higher viral load than the vaginal secretions making the recipients (women) more susceptible.

The biological factor of women susceptibility to HIV infection is also compounded by the prevailed social status within the community. For instance in most African countries men can make sexual contact without the interest of the woman whether she is raped or because she lacks the power to refuse her partner's demands (forced sex). According to UNAIDS (2007) sex without the interest of women will expose the women for HIV infection because during this kind of sexual intercourse the vagina is not lubricated, the tissue tears more easily which create an entry to the HIV.

Susceptibility to HIV infection even varies between women and girls due to biological reasons. Age of women and girls will make a difference that accounts for one of the factors for differential susceptibility to HIV infection. Those women in a higher age and those who reach menopause do not have equal sexual interest as compared to young girls who are

highly active to have sex. Thus, this might increase their susceptibility to HIV infection and a chance of getting the HIV infection. Moreover, the sexual organ of young girls are not matured as such compared to older women, therefore, sexual penetration may easily create a damage in their organ and thereby facilitate the transmission process of HIV infection.

In general, due to biological and other socio economic and socio cultural factors women are susceptible to HIV infection and other sexually transmitted diseases compared to men. Gender inequality, economic dependence on men and the perceived women status in the society and traditional practices like female genital mutilation increases their susceptibility to HIV infection. Moreover, the lower decision making status including negotiation to have safer sex (use of condom) disadvantage women and girls which in turn increases their susceptibility. Studies in African countries (Zambia and South Africa) indicate 18% of women who said they had been virgins a year before being tested for HIV were found to be HIV-positive and 21% of sexually active girls 16–18 years of age tested HIV-positive in Zambia and South Africa respectively (IFPRI,2005).

2.2 Socio-economic factors of susceptibility

As indicated above, different literatures highlighted the factors that make people susceptible to HIV infection. In this part factors that drive or increase susceptibility like poverty, gender inequality and mobility of people are explained.

2.2.1 Poverty and HIV Infection

Julia and Charlotte (2009) by citing the report of the United Nations poverty, gender inequalities and HIV/AIDS are the three threats facing the continent Africa to achieve the Millennium Development Goals which would be achieved in 2015. The effect of poverty has majorly associated with mobility, bartering sex for money, gender inequalities (like polygamy) and child marriage (early marriage). These factors have a direct link with getting HIV infection (Croat Med J, 2007).

World Bank (2010), defines poverty as lack in human well being and have different dimensions including having lower income to fulfill the basic goods and services for the survival and dignity of human nature. Further FAO (2008) indicate that poverty is deprivation of human abilities including food security, health, education, rights, voice, security, dignity and decent work.

Globally in 2008 an estimated number of 1.4 billion people in the world found to be poor based on poverty line that consists of making less than \$1.25 US Dollars (USD) per day, according to world bank (Wisegeek, 2009). In Ghana, data from Ghana Poverty Reduction Strategy I and II indicate that people living in the three northern regions are living in abject poverty. This implies that nine out of ten people in the Upper East region lives below the poverty line of one dollar per day. (Samuel, 2006)

Literatures have shown that many women take part in high-risk behaviours in order to manage their economic situation. For example, many girls and women participate in transactional sex, trading sex for food, clothing, or school fees. Often, they do this to survive or live not only because their current options are limited, but because they can't imagine that a better life is possible. Further, the consequences of poverty have mostly been associated with migration, sexual trade, polygamy, and teenage marriages. Different research findings have also showed that these variables are directly related to HIV/AIDS (Mbirimtengerenji, 2007).

In the Kassena/ Nankana District in the Upper East region, lack of socio economic activities during the dry season and high level of poverty forced Women and girls from the rural centers to engage in tomato trade by tomato queens to earn a living. Poverty therefore place

women and young girls at risk of sexual exploitation by those who control access to resources, whether it is within households, at the worksite or in the wider community (IFPRI, 2005).

2.2.2 Mobility and HIV Infection

The word mobility and migration involve movement of people from place to place. However, the duration of the movement makes mobility and migration different. Mobility is a temporary movement of people from place to place while migration is permanent relocation to the new place. Both forms of population movement could be due to natural or manmade reasons including looking for a better life, education or business. However, the focus of this study is on mobile population who are cross border mobile engaged in trading of tomato.

Cross-border migrants are particularly susceptible to HIV infection, this is because of their high mobility and short stays on the farms, they are also not able to access health services or are reached by the infrequent HIV/AIDS information campaigns targeted at farm workers. Their insecure legal status is a barrier to access to public services for fear of being deported. In addition, cross-border migrants have to cope with separation from their family units, feelings of anonymity and loneliness, mental stress associated with the dangers and uncertainty of migration, and a basic need for acceptance and recreation which may lead them to engage in unsafe sexual experimentation.

Different literature indicates the link between HIV and population mobility (UNAIDS/IOM, 1998), including cross- border trade and labor migration (Coffee et al 2005). Movement of people might be from areas in which HIV prevalence is to areas in which the prevalence is low. This may result in distributing HIV infection to areas of low prevalence. According to literature casual and multiple concurrent partnerships, increasing sexual risk behaviors, reduced access to health services and means of prevention such as condoms are identified as factors that are associated between susceptibility to HIV infection and mobility (Lydie et al. 2004, White 2003 and UNAIDS/IOM 2000).

According to IOM, mobility itself is not considered a vulnerability factor for HIV infection, the unsafe conditions under which people migrate exposes them to a greater risk of infection. Susceptibility to HIV in source communities can also be heightened if these are not well targeted for HIV and AIDS prevention activities and when returning migrants find their home communities ill-prepared to deal with potential HIV and AIDS-related needs and susceptibilities (IOM, 2002).

Moreover, Dodson and Crush (2006) highlighted that the spread of HIV across the world might be a testimony for the direct linkage of HIV/AIDS and mobility of people. The article further discusses mobile people like truck drivers, traders, military, seafarers have identified as a risk group due to their mobility nature.

In many countries, regions reporting higher seasonal and long-term mobility also have higher rates of infection. The same report indicates that mobility increase susceptibility to HIV/AIDS because mobility and HIV/AIDS is related to the conditions and structure of the mobility process. In general, mobility is considered as a driving factor for HIV infection because it leads the community to exploitation, separation from families and partners, and separation from the socio-cultural norms that guide behaviors in stable communities and these in turn forces the mobile people to engaged into casual sex Dodson and Crush (2006).

It can encourage people to have casual sexual contact and make them to be in a high risk sexual behavior. The difficulty of intervening mobile people for HIV/AIDS prevention activity can aggravate the riskiness of mobility for HIV infection (Dodson and Crush, 2006)

2.3 Gender Inequality and HIV Infection

Beside the socio economic factors that fuels HIV infection, gender inequality is also a major aggravating factor for the spread of HIV infection. Literatures define gender in equality as an equality of men and women or the imbalance of power that favour men to access to and control over asset.

The link between gender inequalities and HIV/AIDS can be realized in different ways such as gender norms, violence against women and girls and lower level of women in decision making favours the spread of HIV infections. In general, due to the prevailed gender inequality much of women are considered to be susceptible to HIV infection compared to their counterpart male in sub Saharan Africa countries (Kher, 2008)

Gender inequality drive HIV infection because it might create differences in norms, role and expectations and economic differences among women and men. The differences in this relation have been identified as a factor for that makes women susceptible to HIV infection. Thus, gender inequality contributes to the higher susceptible of HIV/AIDS among women than men and as a result women are found to be the most susceptible group of the society. Study in Africa indicate that due to the existed gender inequality between women and men, having multiple sexual partner by men is considered as a normal whilst if women have a multiple sexual partner it deserves particular and especial attention by the society, these implies that how women are powerless within the society. Further the same study indicated that gender inequality facilitate the spread of HIV infection among women and girls because of the lower decision making power of women to negotiate safer sex like negotiation or decision in using condom (Gender team, 2005).

Among other gender inequality factors the economic dependency of women and girls to men makes them to engage and involve in risky livelihood activities like sex for money or favours, less power to negotiate to use condom and negotiate for safer sex and less likely that they will leave a relationship that they perceive to be risky for HIV infection (Temah, 2007).

Temah (2007) further explained in his article the violence against women and girls as one of the gender inequality driving factor for HIV infection. Gender inequality beside its effect on the economic dependency of women it has also social insecurity effect among women and girls. Violence is another product of gender inequality many women and girls face especially if they are not sufficiently fulfils the desire that men want. Due to this most women engaged to risky sexual activity forcefully as a result they increase their chance of getting HIV infection. Temah (2007) confirm in his study the link between HIV infection and sexual violence as follows:

“Violence in the form of coerced sex or rape may also result in the acquisition of HIV, especially as coerced sex may lead to the tearing of sensitive tissues and increase the risk of contracting the HIV virus. Studies in adolescent girls from several countries have found that an important proportion of them report that their first intercourse was forced. Young women and girls are at greater risk of rape and sexual coercion because they are perceived to be more likely to be free from infection, or because of the erroneous but widespread belief in some regions that sex with a virgin can cleanse a man from infection. Young women, too, may view sexual violence or sex that is obtained through force, fear or intimidation as normal, reflecting perverse gender norms in some communities or societies” (Temah, 2007)

As presented above gender inequality drive HIV infection among women and girls in different ways. Moreover, gender inequality drive HIV infection by preventing girls and women from accessing HIV/AIDS information, being tested, disclosing their HIV status, accessing

services for the prevention of HIV transmission to infants, and receiving treatment and counselling, even when they know they have been infected.

In general, it is widely recognized that gender inequality is one of the key driving forces of the epidemic, putting women and girls at greater risk of being infected by HIV. The pattern of women's and men's roles and relationships puts women at greater risk. In this sense, polygamy, sexual coercion and violence against women all contribute to the distressing gender gap in getting HIV infection.

2.4 HIV/AIDS and food security

Food security exist when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preference for an active and healthy life (FAO, 2008)

Globally, countries with large rural populations and wide spread small-scale agriculture where subsistence farming is practiced counts for women susceptible to HIV infections (FAO, 2010). It is therefore apparent that food insecurity or lack of food and income among families in rural households may lead women to migrate in search of work and thereby increasing their chances of contracting HIV and other women may resort to commercial sex as the only option to get income and food to be able to feed and support the family. In deed the overwhelming majorities are the rural poor, and among them women figure disproportionately.

Women are biologically, socially and economically more susceptible than men to HIV. People without access to adequate food, income and land, especially women and girls, are more likely to be forced into situations that place them at risk of HIV infection. High-risk situations can include migration and mobility for work (also, migrant and mobile communities often have poor access to health care), transactional or commercial sex or staying in high-risk or abusive sexual relationships due to economic or social dependency.

Food insecurity increase risk of HIV transmission, □decrease resistance to opportunistic infection in HIV positive persons, undermine access and adherence to treatment and above all□Increases in rural inequalities and deepening levels of poverty result from the disproportionately severe effects of HIV/AIDS on relatively poor households.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

Introduction

This chapter highlights the research design and methodology used during collecting of data for the field work. It is divided into different sections including study area, the type of tools employed, sampling method, data analysis and the issue found in the field work.

3.1 Selection of study Area

The study area is Navro-pungu, consisting of several rural communities in the Kassena-Nankana District of Upper East Region. Navro-pungu has been chosen because most of the women constitute a greater number of mobile people who cross the border as tomatoes sorters. KNDA (2008).

Profile of Kassena- Nankana District

Ghana as a country is located in West Africa with a total population of about 24 million people. The country borders Burkina Faso to the north, Togo to the east, Cote d'voire (Ivory Coast) to the west and the Gulf of Guinea to the south. Ghana has ten regions of which Upper East, Upper West and Northern Region forms Northern Ghana, originally comprised the former Northern Territories during the British colonial rule. These three regions by economic indicators are the poorest in Ghana and are comparable in terms of poverty level to some of the poorest countries in the West Africa, notably Burkina Faso and Mali, Senegal and Ivory Coast. The Upper East region also has nine administrative districts with the regional capital at Bolgatanga. The current study was conducted in the Kassena-Nankana Districts.

The Kassena-Nankana Districts (KND) of the Upper East region of Ghana, covers an area of 1675 km² in size, and inhabited by a population of approximately 14,400 people who reside in about 28,000 households (NHDSS report 2009). The area lies between latitude 10° 30' and 11°00' north and longitude 0°50' and 1°30' west of the zero Meridian. The District is bordered to the north by Burkina Faso, to the west by Builsa and Sisaala East districts, to the south by the Mamprusi west districts and to the East by Bolgatanga municipality and the Bongo districts all in Upper East region.

Ecologically, the districts are part of the Guinea savanna belt. Located in the Guinea Savannah belt, the area is characterized mainly by semi-arid conditions with the vegetation consisting of vast grassland interspersed with short trees. The dominant tree species in the area are locust ('dawadawa') (*Parkia biglobosa*), shea (*Vitellaria paradoxa*) and kapok (*Ceiba pentandra*) with a ground cover of perennial grasses such as *Andropogon gayanus*. Further north, baobab (*Adansonia digitata*) and whitethorn (*Faidherbia albida*) predominate.

The area has two main seasons, a short wet season with an average annual rainfall of 950mm to 1,100mm from May/June to September/October and a prolonged dry season from October to April which experience little or no rainfall. Monthly temperatures range from 20° to 40°C, with the mean minimum and maximum monthly temperatures estimated at 22.8° and 34.4°C, respectively. The KNDs is typical of many rural areas in sub-Saharan Africa in that agriculture is predominantly the main stay of the local economy, with about 90% of the people being farmers. Due to the seasonal and erratic nature of the rainfall coupled with deteriorating soil quality, harvests are often poor resulting in shortage of basic foodstuff and characterized by high levels of seasonal food insecurity between the months of February and July. Planting of food crops are normally done at the beginning of the rainy season (May/June) and harvest are done at the end of the raining season (September/October). Consequently, seasonal and temporal out-migration (especially of the youth) to the southern parts of the country in search for greener pastures is predominant in the districts.

Various aspects of the Kassena-Nankana Districts have been described elsewhere (Binka et al, 1999; Nyarko et al, 2002). There are two main ethnic groups: the *Kassena* who form about 49% of the districts' population and the *Nankani* who constitute about 46% of the population. The remaining 5% is made of a minority tribe, *Builisa* and migrants belonging to other ethnic groups. The main languages spoken are *Kassem* and *Nankam*, with *Bulli* being spoken by most of the minority tribe. Despite the linguistic differences, the population is, in many respects, homogenous, with a common culture. The dominant religious faith is traditional religion. However, Christianity is gradually becoming more prominent in the districts, especially among women (Debpuur and Ayaga, 2002). Illiteracy rates in the districts are very high with more males attaining higher education than females. For instance, 33.4% and 50.1% of males and females respectively have not had any formal education. With respect to water and sanitation facilities, 80.8% and 9.5% of the population have access to good sources of drinking water and toilet facilities respectively.

The provision of social infrastructure in the districts has improved over the years. The districts has 134 primary schools, 50 junior high schools, 8 senior high schools, 1 teachers training college, 1 nursing training school, 2 vocational institutions and a faculty for the University for Development Studies. Health facilities in the districts are poor relative to many parts of the country this is typical to other rural areas in Northern Ghana. The districts has a hospital located in Navrongo town which services as the main referral facility to all the health facilities. The districts also have five health centers and four clinics located in selected communities in the districts. These health facilities are complemented by several community health compounds located in various communities.

Table 1: Population by age and sex, and sex ratio by age, KND 2009

AGE	FEMALE	MALE	TOTAL	SEX RATIO
0-4	8593	8860	17453	103.11
5-9	9153	9337	18490	102.01
10-14	9033	9746	18779	107.89
15-19	7948	9021	16969	113.50
20-24	5746	5883	11629	102.38
25-29	4611	4277	8888	92.76
30-34	3506	2914	6420	83.11
35-39	4447	2915	7362	65.55
40-44	3842	2654	6496	69.08
45-49	4771	2964	7735	62.13
50-54	2996	1952	4948	65.15
55-59	3310	2270	5580	68.58
60-64	2984	1630	4614	54.62
65-69	2299	1660	3959	72.21
70-74	1134	907	2041	79.98
75-79	878	750	1628	85.42
80-84	241	293	534	121.58
85-89	166	190	356	114.46
90+	54	104	158	192.59
Total	75,712	68,327	144,039	90.25

Sources: *Navrongo Health and Demographic Surveillance System of the Navrongo Health Research Center 2009 report.*

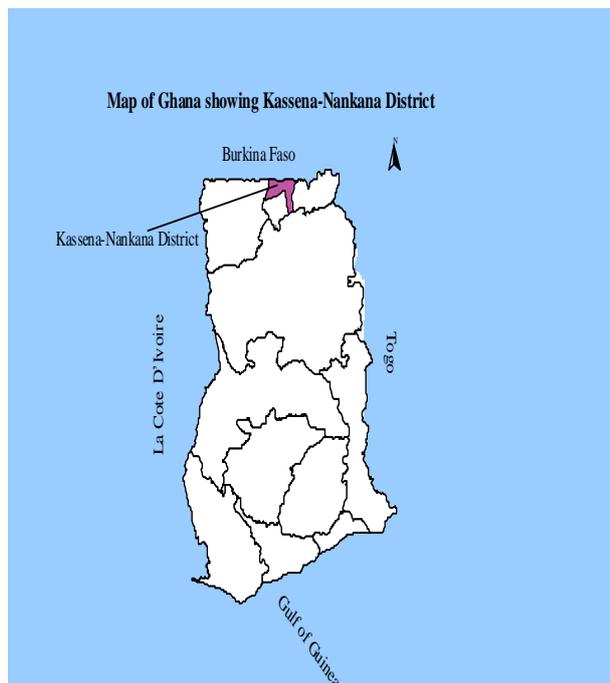


Figure 1: Map of Ghana

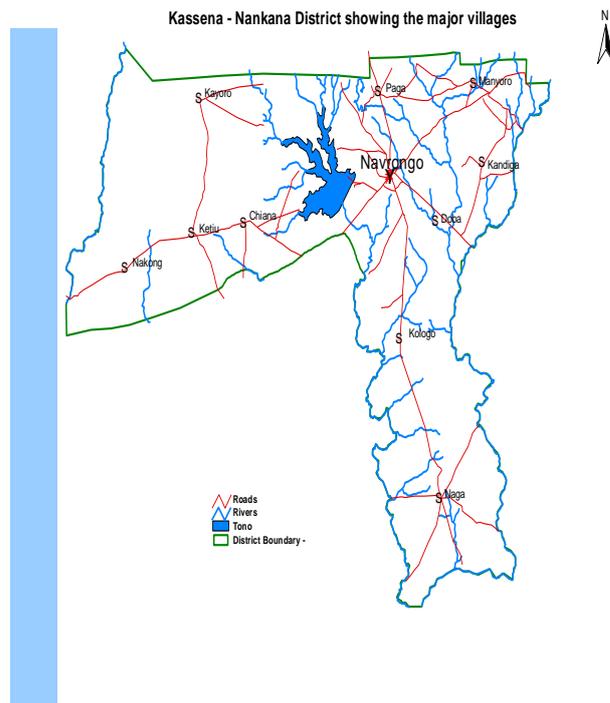


Figure 2: Map of Kassena-Nankana district

3.2 Source of information and data collection tools

3.2.1 Primary Data: In order to answer the research questions and to achieve the objective of this research, primary data was collected from respondents from the field. I collected the primary data using a combination of qualitative research tools including; Interviews, Focus Group Discussions (FGDs) and key informant interviews.

3.2.2 Secondary Data: As a source of information and to support the literatures review. I also made use of the internet, journals, books and unpublished reports to reference issues on HIV/AIDS, market women, rural women, poverty, mobility, food insecurity, gender imbalance and cross -border trade.

3.3 Sample size

The survey sample size initially was to cover 30 women aged between 18– 48 years old. However, I was able to interview 15 of them due to women unwillingness to participate in HIV related issues which were very human sensitive, and also for fear of being stigmatized. Sampling was mainly purposive and only those who were available and most importantly willing to participate were interviewed. The leader of the Tomato Women Association was contacted and she provided the list of members of the association. Not all the women involved in the cross border trade are members of the association. Non members of the association were also contacted and interviewed.

The following criteria were used to select the women for the study.

1. Rural women and young girls between the ages of 18 years and above were eligible to participate.

2. Rural women and girls selected by the tomato market Queens to travel across the Ghana border to Burkina Faso (Oauhigouya) to help them sort and buy tomatoes were eligible for participation.
3. Members and Non members of the Tomato Women Association.
4. Both members and non members of the association who were women and have consented and are willing to participate in the study after the consent form was read and explained to them in the local language.

3.4 Data collection tools

The main instrument used in the survey was an in-depth interview guide (see appendix 1) which I used for the interviews and support from two males as my assistants. Two days of training were organized for them.. The first day was used for intensive training on the survey instruments and part of the second day used for pre-test the survey instruments on the field. The FGDs and the IDIs guides were translated into the main local languages (Kasem and Nankam) in order to give the two assistants a common understanding of the subject matter. Training started on the 21st - 22nd of July 2011., and I conducted all the interviews from the 25th of July to the 10th of August 2011.

For the in-depth interviews, 15 completed interviews were conducted. Most of the respondents were interviewed on market days, while others were interviewed at home in the evening after the day's activity. These were women who chose to be interviewed at home when the interviewers met them in the market.

Two separate focus groups discussions were organized for women between the ages of 18 and above including both (married and unmarried women), who have been part of the itinerant who cross the border to trade in tomato in the last farming season, December to July 2011. A lists of ten names were provided by the Market Queen for each of the two FGDs and all of them were contacted and invited to participate in the discussions. This was to ensure that if some of the respondents were not available for the discussions, the required number could still be obtained. One focus group discussion was organized for 6 women in Paga, the border town between Ghana and Burkina Faso and the other focus group discussion was held with 7 women from Navrongo Central at the Oauhigouya lorry station. For the FGDs, participants were usually given 24 hours notification before they meet for the discussion. The meetings were conducted early in the morning in order to get participants before they leave home. There were however, challenges of getting some respondents to attend the discussions because of their busy schedules at work. Arrangements were thus made to meet respondents at their convenience, but there were still some few instances where some respondents could not attend the discussions. This however did not affect the expected and acceptable number of participants required for an effective Focus Group Discussions. The two research assistants conducted the interviews which were supervised by the principal investigator. I therefore, sat through all the focus group discussion and also took notes on key issues that were raised by the market women.

To corroborate and expand the information gained through these interviews. I also conducted 3 key informant's interviews; these include interviews with the District Health Management Team Disease Control Officer at Paga, a tomato truck driver and a tomato queen. The Key informant's interviews were to capture the views of opinion leaders in the district regarding rural women risk to HIV infection as a result of the cross border trade and their recommendation on feasible interventions that could be initiated to minimized the problem.

Also, in order to have a first observation of the situation on the ground, and also have deep insight into the process, activities and behaviour of the study participants. I under took a two days trip to Burkina Faso on the 29th to 30th of July to conduct a participant observation. I also seek the opinion of the tomato market queen. This was to gain more information on how

the engaged mostly rural women from the district and also the influence of the men in the selection of the sorters for the trade.

All the interviews were conducted in the local language of the respondents (either Kasem or Nankam). The in-depth interviews lasted between 30 and 45 minutes, whereas the focus group discussions lasted between 55 and 75 minutes. All these interviews were tape recorded using micro tape recorders, transcribed and translated into English with the help of a translator in Nankam.

Key Informants

Disease Control Officer

The District Disease control officer of the District Health Management Team, stationed at Paga is among the three key informants selected for the Focus Group Discussions. I chose the District disease control officer because his outfit is responsible for surveillance of disease in the district and has a better knowledge on the current HIV situation in the district.

Tomato Truck Driver

The drivers are responsible for taking the women across the border to Burkina Faso to buy the tomatoes. However, there are times at the border post where the customs officers may not allow the vehicles to cross if they arrive late or if there is a breakdown during the journey where do they sleep?. Therefore, it was important to solicit for information on the tomato trade and the sorters' susceptibility to HIV from him.

Tomato Queen Mother

The tomato queen mother is a powerful woman who controls trade and the selection of tomato sorters. In deed, the tomato queen influences and dictates the prices of tomatoes to farmers of the cross-border trade.

3.5 Data Analysis

The data collected from the questionnaires is processed using Microsoft Office Excel and manual coding and interpretations of all the data. I took several steps in analyzing the data to ensure a fair interpretation of the data from an insider and outsider point of view. First, I made a trip across the border and spend two days to observe the activities of the traders. Secondly, I observed all the focus group discussions and the key informant interviews that gave me insight on some of the emerging critical issues discussed in the report and also participated in the transcription of the interviews. Guided by the objectives of the study and the research questions I further developed broad codes such as the women's role in household food security, the process of recruitment, the knowledge of the women on HIV and their opinion on the risk associated with the cross border trade.

I further conducted the in-depth analysis, including critical analysis of the initial broad themes into specific codes related to each of the research questions. Important concepts and themes were then selected and quotes from various informants were chosen that best represented the ideas and concepts presented in the results section of this report.

3.6 Issues in Data Collection

A few problems were encountered in the data collection process; these were related to the place of destination and the nature of the economic activity in which the study participants are engaged in. As at the beginning of this study, the tomato season was almost ending and only three to five trucks and few women were still travelling to Burkina Faso to search for tomatoes to buy. Therefore, when I crossed to Burkina Faso on the 29th to 30th of July to

conduct a participant observation, I met only two trucks with one market Queen, six sorters and three loading boys with few crates of tomatoes.

Previous studies have observed that women are rather not open in discussing issues bordering their intimate life (Awusabo and Anarfi ,1995). Some of the women feared that if they disclose their sexual life, it will affect their relationship with their intimate partners or cause stigmatization against them in the community. All the above factors could have adversely affect the validity of the study results. However, this problem was resolved by repeated assurance to the women that, the information they will provide was confidential and will not be shared with any person other than the study team. Another technique that was used in the in-depth interviews was to conduct anonymous interviews by not recording the names, house numbers and village of the study participants

CHAPTER FOUR

4. RESULTS

Introduction

In this chapter I present the main findings from the study. The section is divided into five sub-sections. In the first sub-section, I describe the demographic characteristics of the respondents in order to assess any association between perceived risk to HIV infection and selected demographic indicators including age group, marital status and religion. In the second section, I examined poverty and household food security situation of the respondents and the role of women in providing for the household livelihood. The section also relates food insecurity, mobility and the cross border trade. The third section assesses the knowledge and attitudes to the respondent on HIV and their perception of the risk of HIV infection in relation to the cross border tomato trade among rural women and young girls. In the fourth section of this chapter, I examine the selection process of the rural women for the trade and the role and influence of men in the selection of women in trade. In the last section I analyze other social activities that the women engage in when they cross the border to Quahigouya to buy tomatoes that also predispose them to HIV infection.

4.1 Demographic characteristics of respondents

The survey covered 15 rural women engaged in cross border tomato trade between Navrongo in Ghana and Quahigouya in Burkina Faso. Table 1 below shows the distribution of the demographic characteristics of the respondents. About 67 per cent of the respondents were aged between 25 - 34 years and 33 percent aged between 35 – 44 years of age. This shows that most of the women engaged in the tomato trade are younger women. In terms of education, the educational level attained by most of the traders engaged in the tomato trade was low. For instance, about 20 percent of the respondents had never been to school and 47 percent had up to primary school education. The highest level of education obtained by the respondent was up to the Junior high school or middle school level which is the basic education level in Ghana. Only 33 percent had obtained junior high school or middle school education. The educational attainment of the tomato traders was to control for any bias on the knowledge on risk factors associated with HIV infection. In Ghana moral and religious education is taught at the basic level in order to improve pupil sexual behavior.

Similarly, about 66 percent of the respondents were Christians compared to 26 percent who were Muslims. Less than 10 per cent of the respondents practice traditional religion, which in many instances, is the predominant faith for most rural households in northern Ghana.

Table 2: Demographic characteristics of respondents

Age group	Number	Percent
25 – 34	10	67.0
35 – 44	5	33.0
Total	15	100.0
Marital status		
Single	4	26.7
Married	8	53.3
Devoiced/ separated	3	20.0
Total	15	100.0
Religion		
Catholic	3	20.0

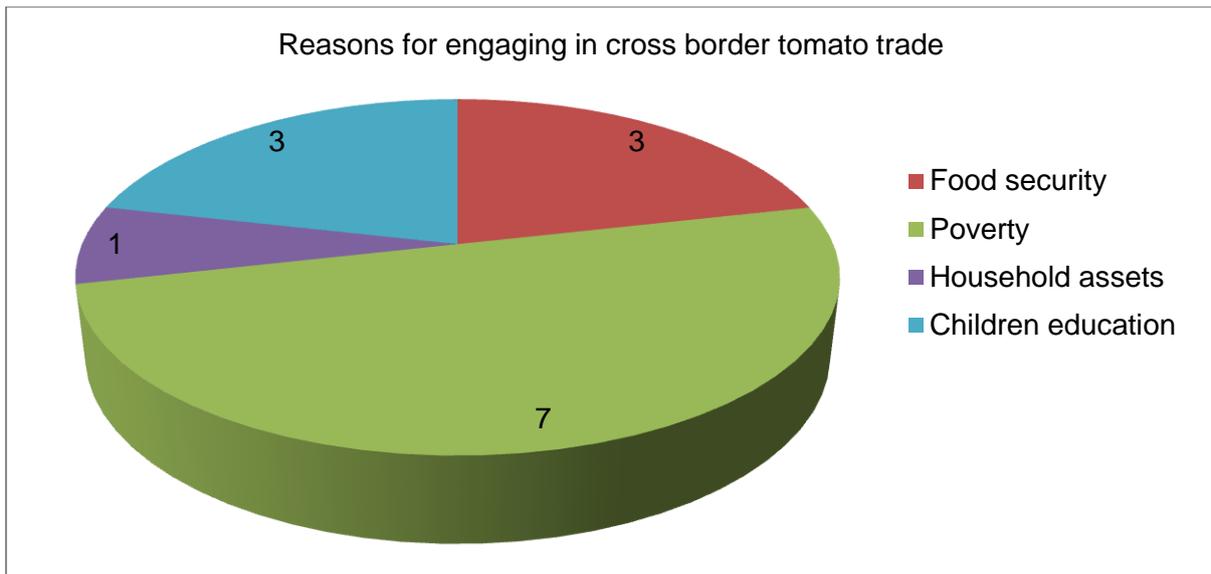
Other Christian	7	46.7
Islam	4	26.7
Traditional	1	6.0
Total	15	100.0
Education		
Education	Number	Percent
None	3	20.0
Primary	7	47.0
JHS/Middle	5	33.0
Total	15	100.0

In summary, over half of the women represented in this study are young between the ages of 20 and 45 years of age. Similarly, over half of the respondents are married and belong to the Christian faith. Their educational level is very low and the highest level of education attained was basic level.

4.2 Households' food security situations

Food insecurity is one of the main perennial problems facing rural households in Northern Ghana. Farming is the main source of food supply and livelihood for most of these households. When households are threaten by food insecurity, especially in the lean season between January and July, household members are forced to search for other alternative means of livelihood including migrating to southern Ghana in search for paid job and also engaging in other risky economic activities. I therefore asked a question on the household food situation, the role of women in providing for household and what was the main factors that motivated them to engage in the cross border tomato trade. Over 80 percent of the women admitted poverty and household's food insecurity as the main motivation factors, because there are instances where their households did not have adequate food to sustain them throughout the year. Only 13 percent of the women did not see food as a problem in their households since they are trading and still get support from their husband's. Other factors that were mention by the respondents include, paying their children school fees and to purchase household access such as utensils. Figure 2 below shows the distribution of the reasons reported by the women.

Figure 2: Reasons given by rural women for engaging in cross border tomato trade



In the discussion it was reported that women were increasingly engage in a lot of small business, which make them, travel to other places and spend considerable number of days in those places. One of the main business activities that were mentioned by the women is the cross border tomato trade. They indicated that the average number of days they spend outside the home when they travel is between three and four days.

“Truly, we don’t have enough food to eat, we are living in abject poverty this is because my parents cannot do any work again, they are weak and these time the harvest are not good enough and we always have food shortage every year” (IDI with Tomato Woman).

“ Truly, we don’t have serious food problem in my household and every time we have food to eat. This is because my husband has a big farm in the outskirts of Paga and he harvests enough food every year” (IDI with Tomato Woman).

In response to the question on the role of the women in household food security, many of the respondents, especially among those who are married agreed that their husbands should be the sole provider’s of food to feed the households. However, they indicated that it is also their responsibility to support their husbands to provide for the household. For those who were divorce and have children, they reported that it is their responsibility to cater for their children and one of the means of livelihood for them is for them to engage in this business at Ouahigouya (cross border tomato trade). However, for girls who were single, they reported that it is the responsibility of their parents to take care of the household needs including food requirements and the work they are doing is to supplement the work of their parents in ensuring that the household has adequate food for the whole year.

‘ It is the duty of the children’s father to provide food but nowadays if you look up to only your husband to provide for you and your children you will suffer, so both of you must go out and earn something to keep the household alive” (IDI with a married Tomato trader).

“It is the duty of the children’s father to provide food but now that we are divorced it is mine, I sometime get support from my relatives” (IDI with divorced Tomato trader).

“It is my father and mother duty to provide food for the whole family but they are old and weak and cannot work again, times are also hard and we the children also have to work to support the family and ourselves” (IDI with unmarried Tomato trader).

These views were confirmed in the focus group discussion with the women. Most of the women argued that it is normally the responsibility of the man who is the head of the family to provide for the household. They indicated that most of the time, the food that is harvested from the farms doesn't take them for the whole year. One woman indicated that these days they don't get good harvest and the little food they harvest on the farms does not last and they will be suffering again. The food normally last for 3 or 4 months, then they would start to buy from the market to feed the family. Another woman also explained that it is hard to have enough food in your household to eat when you don't have any paid work doing in addition to the farming. So many of them (women) have to go out and look for work to do to earned money to support their husbands and buy their own utensils and cloths.

“You see, as my colleagues are saying, there are no jobs here after the farming season, so when this tomato season starts and the market women come from Southern Ghana to buy tomato in “Quahigouya” we also go there for them to engage us to work for money to support our families. I sell doughnuts in the market. I don't earn much from that trade to be able to cater for myself. As I can't cater for myself, can I cater for my children? And that is why we have to engage in this trade. This work is normally seasonal, it starts from January and end in July. And if you are lucky and you work for these six or seven months, you will earn some money to support yourself and family” (FGD with tomato women).

“For the actual fact the tomato trade that I indulge myself in is just because I don't have anything to do. If I try here it is not working, if I try there it is not working. So I saw that if I also go there for two days I will be able to get some small money to buy a bag of maize to feed my children. So what I will say is that if you can get me some work even sweeping at your place I think it will help me a lot. So any help that you think you can give me it will be ok for me, laugh” (IDI with tomato trader).

4. 3 Knowledge on risk factors for HIV infection

The study revealed that all the respondents were aware of the signs and symptoms of HIV/AIDS that is; what the disease is and the mode of HIV transmission. They were also aware of the socio-economic factors that predispose people to HIV infection. Two of the respondents went further to talk about the impact of AIDS on household productivity. On the knowledge of HIV, over 90 percent of the women have broad knowledge of HIV/AIDS and were able to describe some of the signs and symptoms of HIV/AIDS. The question was to assess the knowledge of the participants on HIV and the risk of infection. This is because ignorance of the infection and the mode of transmission as a result of lack of education could make people engage in risky sexual behavior. Almost all the women were able to report that HIV is mainly transmitted through sexual and blood contact. They also indicated that HIV/AIDS persons normally looked lean and weak and not able to do any economic work. Some of them explained that the disease has no cure and was a major problem facing many people including women and young girls. On the risk factors for HIV infection, about 80 percent of them said poverty made them to travel and get involve in risky sexual behavior that makes them susceptible to HIV infection. Others were of the opinion that in addition to commercial sex, other causes of HIV infection includes, living style, mode of dressing and eating habits of the individual.

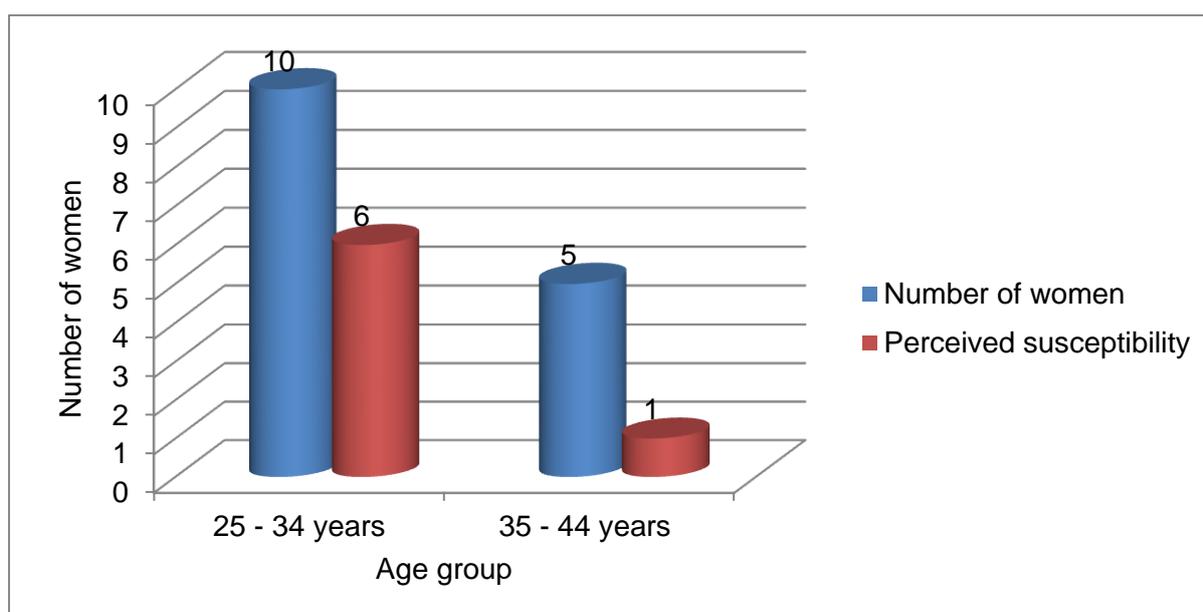
“Apart from sex, I think it also depends on your living style that will make you get this illness. At times it depends on your mode of dressing which makes you attracted to men. If you can't discipline yourself and going round looking for money from men, they will also want to sleep with you before they give food or the money” (IDI with tomato trader)

“What you said is true because some people still do the female genital cutting only that it is done in secrete and is also very rear these days. Also some women do engage in sex for money which is prostitution and a source of income for them, they don’t do it for people to see, but in this town I know women who sleep with men for money or for them to buy them mobile phones. All these things can make them get HIV if they don’t protect themselves well” (IDI with tomato trader in Navrongo).

4. 4 Perception on susceptibility to HIV

On the question as to whether rural women and young girls who engage in the cross border tomato trade are at risk to HIV infection. The respondents gave different opinions. Some of them were of the view that one’s level of susceptibility to HIV infection depends on her life style. Most of the respondents gave mixed responses. Some of them were of the opinion that they were at risk of infection because of the nature of the trade which makes them spend a number of days away from home. Others also reported that they were not at risk of infection because they were married and therefore, unattractive to the men. However, some of the married women indicated that the place they sleep when they travel to buy the tomatoes was not safe and therefore one could be rape. They indicated that when you are raped by a HIV positive person, you are also at risk of contracting the virus. Below are some selected quotes and graphs showing the age group, marital status and religion of the rural women and their perceived susceptibility to HIV infection.

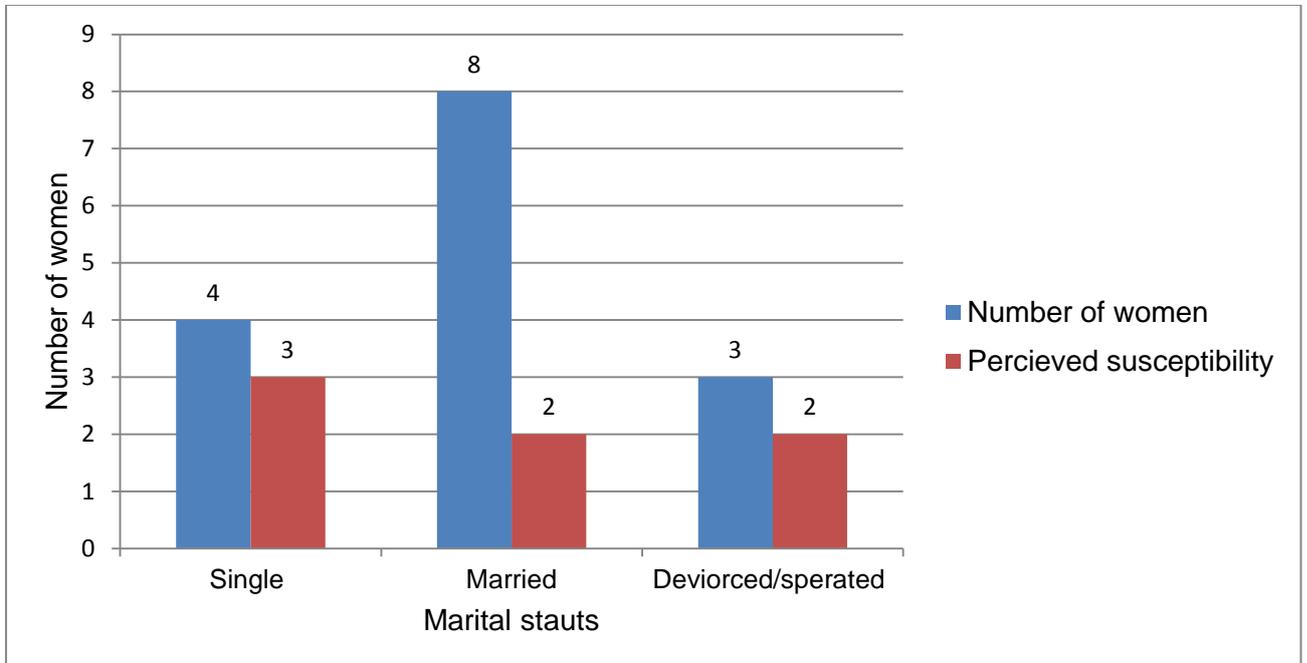
Figure 3: Age group and perception of HIV susceptibility among rural women in cross border tomato trade



R1: That depends on the type of woman you are. If you have some life that is not good then you can get it. Some of us go there because of poverty. If you go there and you don’t sleep with men then I don’t think that you can get it. But those who go there and they cannot control themselves and must have sex before the come back then they can get it. So those women who are “women dogs” and cannot resist temptation are those who do those things. To be frank there are people who are doing it and we are aware of it. Like I said it is those who even have that in their minds that are doing that. In our group we have two cars. So when we get to the farms (Quahigouya) the men sleep in one car and the women also sleep in other car. So how can they meet each other? But some of the women who want that will leave their car and join the one for the men. Usually what happens is that when we leave here we get there in the night and we start work the following morning. Sometimes when we get there and we

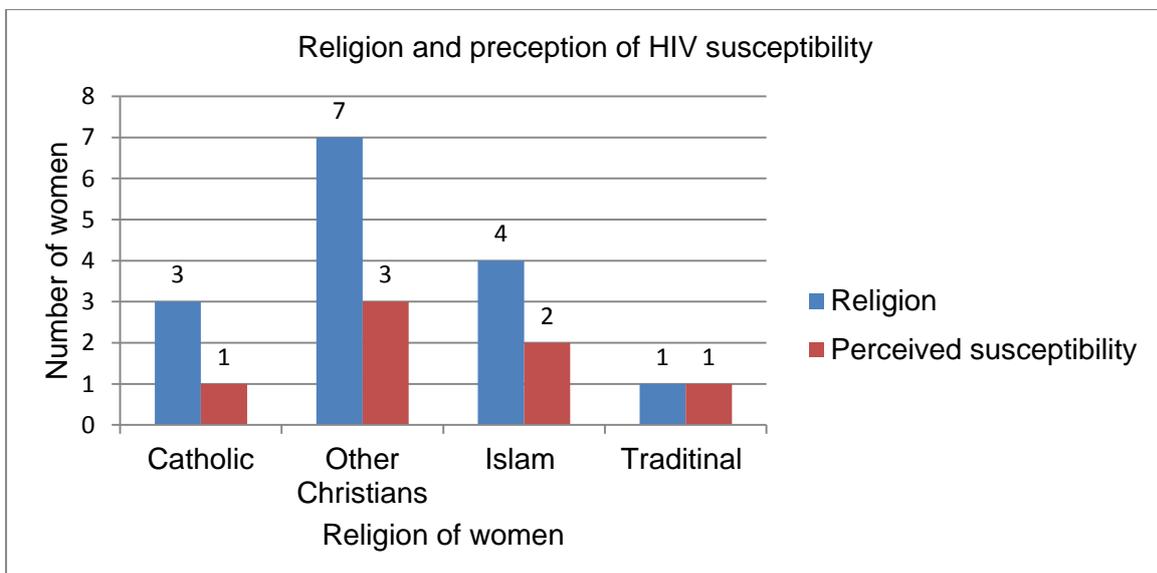
don't get tomatoes the following day we have to sleep there for two to four days to look for the tomatoes (IDI with a tomato sorter).

Figure 4: Marital status and perception of HIV susceptibility among rural women in cross border tomato trade



The results shows that unmarried women perceived themselves to be more susceptible to HIV infection compared to those are married. Married women are more likely to be older and have children and therefore, unattractive to men compared to those who are not married.

Figure 5: Respondent religion and perceived susceptibility to HIV



4. 5 Selection of women sorters and the influence of the loading boys

One of the hypotheses that this study seeks to test is that the men (loading boys) have influence in determining who is selected for the trip. The loading boys are more likely to take advantage of the competition among the rural women for the job to demand for sexual favors. In response to the question on the role and influence of the men in the selection process, different views were given regarding the role of the men in the selection of women for the trip. Some of the respondents were of the opinion that the loading boys have more influence on who to select to join a particular trip across the border. On the other hand, some were of the view that it was the market women who do the selection and are always looking for hardworking and experienced women. One of the women has this to say on the selection process.

“Everyone, the women and the men always meet at the border here in Paga to look for a truck to join. So when these Market women come, they select the strong men because the nature of the work require people who are strong enough to load the heavy boxes of tomatoes onto the trucks, as for the women too, they select the hard working ones. In some instance, where they have no idea as who is hard working and who is not. They allow a woman whom they have worked with before to select her colleagues who are also hard working like her. That is how they do the selection. I can say that the men alone don’t always do the selection” (IDI with a trader at Paga).

All the women interviewed reported that, they always meet at the station and wait for the market women and their driver’s to come and pick them and in some instance when they have no idea as who is hard working and who is not. They allow their loading boys or driver’s to select women for the trip.

“The number of women who always want to go there are many and the cars are few and they can’t also take everyone. So sometimes, the market women ask the loading boys to select the hard working ones and you know men, they take opportunity to include their girlfriends and leave those of us they considered as old or women with children. We hear that at times some of the women especially those that want to always be selected do give themselves to the boys. And at times too they select their sister’s and friend’s not only their girlfriend’s” (IDI with tomato trader at Quahigouya station in Navrongo).

“Yes, the loading boys always want to have sex with the young girls before they will select you and when you refuse they will remove you from the truck and say it is full when it is not, they want to pick those girls that will sleep with them over there” (IDI with tomato trader)

The results of the study revealed that in some instances women were selected for the trip because of sexual favors. The discussions show that, when the loading boys get the opportunity to recruit the women for the trip across the border, they prefer the young unmarried ones. They are not looking for hardworking and experienced women because most of them are married and have children. This practice was common when only few trucks were available and many of the women have to compete for selection. Opinions are that it is the young and unmarried women who were being favored compared to the old and married women. These findings were confirmed by the focus group discussion and the key informant interview with the tomato market queen. They indicated that there were high rates of unemployment in the district resulting in competition to join the trade.

“I also know that those women who after a good number of times have not been selected and still want to go at all cost in order to earn some money are likely to give themselves to the men who does the selection in order to win their favour. But those

who do this are not many and we normally don't know about it" (IDI with tomato market queen).

The tomato trade is highly regulated by the market women in order to acquire the product at lower prices as results of the perishable nature of the product. The numbers of trucks that are released in a day by the tomato market women association to cross the border to buy tomatoes are very few compared to the number of women and young girls who want to be engaged in the cross border trade. Therefore, it is possible that competition among the women for the limited number of space and trucks that are released by the market women may compel some of them to accept sexual offer in return for selection. This practice was common among the young girls (25 – 34 years group) and unmarried women.

4.6 Risky social behavior among tomato sorters in Quahigouya

Among the many issues explored in this study, one of them was to investigate tomato trader's social activities when they travel to Quahigouya to buy the tomatoes. The results showed that the women normally engage in other risk behavior with the men and farmers. It was obvious that in most situations the trader spend about three to four days in Quahigouya looking for tomatoes to buy. Therefore, in the evening they have to go to the towns to buy food and also entertain themselves in drinking bars. Even though none of the women interviewed admitted that she has multiple sexual partners, some of them indicated that, they know of their colleagues who are keeping more than one partner.

"When we get there today in the night we will sleep and the next morning we go to the farms to pick the tomato and then immediately they will load and we will come back that very day. If we sleep for another day or two then it means that we have not had tomatoes to buy" (IDI with tomato trader).

"Yes there are times a woman can have more than one sexual partner because at times you can have many problems to solve with money and one man cannot help you solve all your problems. I know of some women here who have been changing men any time we travel. Some of them also friend the tomato farmers in order to get some tomatoes to sell back home. I have never been with more than one partner in my life before and I will not do that because of money" (IDI with tomato trader).

When the women were asked whether out of surprise they have been involved in acts which predispose them to HIV susceptibility, they all gave negative responses. One young trader has this to say.

Yes' I am not married and why won't they try me? They have been trying me since I started going there but I will never give in. I prefer not to be selected than to give myself out to men some of whom are not even economically better than me" (IDI with unmarried trader).

The results from the study show that rural women engaged in the cross border tomato trade are susceptible to the HIV infection. This because most of the women are more likely to involve in risky sexual behavior with the men and the farmers from Burkina Faso in order to gain favors and make money.

CHAPTER FIVE

5. DISCUSSIONS OF FINDINGS

Introduction

This chapter of the thesis discusses the main findings by seeking to contribute to our understanding of the complex and dynamic linkages between poverty, food security, mobility, unequal power relations, and susceptibility to HIV infection among rural women and young girls. The chapter discussed the findings and relates it to the conceptual framework and existing literature on the topic. In this section, I also show how the current finding fill the literature gap on rural women susceptibility to HIV infection by increasing our understanding on the knowledge, attitudes and perceived susceptibility to HIV infection among rural women and girls who engage in cross -border tomato trade between Ghana and Burkina Faso.

5.1 Discussions

There are extensive and well documented literatures on the relationship between poverty and HIV/AIDS (World Bank, 1997, Wilton, 1997). Even though there is no reported direct causal association between the two intervening factors, in the context of HIV, poverty increases ones susceptibility to HIV in several ways. First of all, the need to generate income for the household through seasonal mobility and risky activities may increase the individual's susceptibility to HIV infection. Secondly, the impacts of HIV/AIDS such as the death of family head and increasing expenditure are all contributing factors that aggravate the situation of HIV. The study revealed that poverty and food security were the main reasons that causes rural women and young girls to engage in the cross border tomato trade. Poverty has been one of the driving factors responsible for the perpetuation of the high levels of mobility and susceptibility to HIV infection among women who engaged in itinerant trade in Ghana (Awusabo-Asare & Anarfi, 1997a). This is because women are poor and dependent on men; therefore, they are less likely to take control over their own sexuality.

Many poor rural households in the study are characterized by weak financial resources, low levels of education and few employable skills. Therefore, under these challenging circumstances, the women often adopted different coping mechanisms which inadvertently make them susceptible to HIV. One such coping mechanism that women employ to earn income has been seeking for selection into the cross border tomato trade. A recent report published in Ghana shows that over 1.2 million Ghanaians, representing five percent of the population, are faced with food insecurity and about 34 percent of this population can be found in the Upper West and 15 percent in the Upper East region of Ghana (Ministry of Food and Agriculture, 2011).

The high level of seasonal unemployment in rural Ghana couple with competition for job could force many women to engage in transactional sex out of necessity, as observed in the first chapter, very often with men on many different situations. Results from the study shows that, there are competition from the tomato sorters for selection to join the market women and loading boys to cross the border to Burkina Faso to buy tomatoes. The results of the study revealed that in some instances women were selected for the trip because of sexual favours. The discussions show that when the loading boys get the opportunity to recruit the women for the trip across the border, they prefer the young unmarried ones. They don't look for hardworking and experienced women because most of them are old, married and have children. Further analysis also show that the women in this study, have attained low

education and vocational skills acquired for the job market. Further illustration of this point could be explained in this quote from tomato trader.

“Yes there are times a woman can have more than one sexual partner because at times you can have many problems to solve with money and one man cannot help you solve all your problems. I know of some women here who have been changing men any time we travel. Some of the new women who join us (tomato trader) are the ones I am talking about; you know there is competition for job. The young girls also friend the tomato farmers in order to get money and some tomatoes to sell back home. I have never been with more than one partner in my life before and I will not do that because of money” (IDI with tomato trader).

The practice of taking men as partners for financial reasons and jobs opportunities have been reported in many studies (Ankomah, 1998). Ankomah argues that premarital sexual exchange is a recent phenomenon that represents an economic survival strategy for most poor and unsecured women. In another study to identify factors that influence the reproductive behaviour of adolescents in Ghana, Nabila and Fayorsey (1996) found that unemployment and lack of job opportunities contributes significantly to promiscuity and sexual relationships for economic gain among many young girls. They also found that marital disruption through separation, divorce and widowhood resulted in more single, female-headed households who have to struggle in order to provide for their households. The study also shows that children in female headed and broken households were subject to economic and social pressure to become sexually active before marriage (Nabila & Fayorsey, 1996).

Knowledge on HIV and risk factors for HIV transmission is very important to the individual in order to take precautionary actions against risky sexual behavior. This finding has been supported by the Ghana 2008 Demographic and Health Survey report, which shows that less than 30 percent of women from rural areas have comprehensive knowledge on AIDS. Unbalance power relations constitutes one important factor perpetuating the HIV epidemic in Ghana. Lack of knowledge on risk factors for HIV susceptibility couple with other cultural norms placed women in positions where, they face multiple HIV risk behaviors, including unprotected sex due to their weak position in negotiating for condom use with their intimate partners. According to Rodríguez-Madera and Toro-Alfonso (2005), traditional gender roles and unbalance power relations make women feel constrained about initiating discussions about safer sex practices, such as condom use and HIV testing with their intimate partners.

Due to their short stay of the tomato sorters in new environment, the sorters/ traders have limited access to health services and health information. This situation compounded by language barriers that prevent most of the women who are sick to access care in Burkina Faso. All these factors make the women susceptible to STIs including HIV. The IOM (2005) reports on HIV/AIDS and population mobility indicate that migrants often have limited access to health services, including health education on HIV prevention, and voluntary counseling and testing for migrant populations.

This is probable due to the lack of community based interventions directed at mobile populations in the region. For instances in Kassena-Nankana districts, there are no extensive community based HIV/AIDS interventions directed specifically at traders and other migrants between Ghana and Burkina Faso. Another possible reason that accounted for the low level of knowledge on the risk factors for HIV transmission is the low educational levels among the tomato sorters. These low levels of education suggest that only a small proportion of them are able to benefit from electronic educational materials on HIV/AIDS. This is because over 70 per cent of the women interviewed in this study had reported to attain either no education or primary school level education. The highest level of education reported was education up to the basic level.

It is widely recognised that gender inequality is one of the key socio-economic driver of the HIV epidemic. Gender inequality put women and girls at greater risk of being infected by HIV and increasing their susceptibility to HIV infection. For instance, in many areas in Ghana, HIV infection rates are higher in young women compared to young men, in part because of biological factors, and in great part because unequal power relations that prevail between men and women and out-of-date cultural practices. The study shows that cultural practices including female genital mutilation, lack of job opportunities for women as compared to men, were perceived by the traders to put women at risk of HIV infection. Harmful practices such as female genital mutilation, widow inheritance also contribute to higher rates of infection in women and young girls in the district.

The linkages between population and HIV/AIDS are related to the conditions and structures of the migration process, including sending communities, duration on transit and receiving communities. The study shows that the final destinations of the traders were not secured for habitation. Most of them reported spending the nights on the farms and sleeping on the trucks carrying the tomatoes. Secondly because of loneliness and separations from their family, some of the traders also spend the night with the men in drinking bars and night clubs. These social places have been observed in previous studies as attractive centres for mobile populations and therefore, promoting all sort of risk sexual behaviours. One study in Burkina Faso (Maria R. Khan et al. 2008) found that mobile women were more likely to report new sexual partnerships and transactional sex compared to non-mobile women. The study found that the associations between mobility and sexual partnership were particularly strong among women interviewed in commercial towns situated near international borders and these women were most likely to be interviewed at venues such as bars and night clubs. In rural Ghana, there are strong moral norms regulating sexual behaviour among married women. Women are expected to remain faithful to their partners all the time. Men are also not expected to intentionally pursue someone's wife. However, the marital statuses of strangers are normally not known and men normally take delight proposing love to them. For that matter female strangers tend to be targets for men until their marital status are known. In this study, most of the women confirm that they were approached on several occasions by the men (loading boys, drivers and farmers) for love making. Some reported that the men stopped approaching them only when they realized that they were married and have children. Separated from their familiar social structures and from shared norms, values, language and social support, one can speculate that, most of these women traders are more likely to engage in risky sexual behaviour.

There were mixed results on religious affiliation and susceptibility to HIV. It was not clear from the data whether any of the religious groups perceived themselves more susceptible to HIV compared to the other religious groups. However, studies conducted in Ghana using the DHS 1998 data results from the study suggest a possible link between religious affiliation and levels of knowledge about HIV/AIDS, especially regarding transmission and prevention. The study indicated that Christians were more likely to report higher levels of HIV/AIDS knowledge compared to their non-Christian counterparts.

The study also examines the relationship between marital status and susceptibility to HIV. The study demonstrated that there is a relationship between marital status and perceived susceptibility to HIV. Married women are less likely to be susceptible to HIV compared to their unmarried (single, divorced/separated) counterparts. In the traditional Ghanaian setting, married women are expected to remain faithful to their partners all the time. Men are also not expected to intentionally pursue someone's wife. Female strangers tend to be targets for men until their marital status are known. In this study, most of the unmarried women confirm that they were approached on several occasions by the men (loading boys, drivers and farmers) for love making. Some of the married women also reported that the men stopped approaching them only when they realized that they were married and have children. In the

focus-group discussions, the women confirmed that new women who join the trade have a special attraction for the men, first because they are new and desperate for the job, and secondly because they are not known to be attached unless they say otherwise. These findings were confirmed in other studies investigating the relationship between marital status and HIV infection. The study demonstrated that there is a relationship between marital and that married people were less likely than unmarried people to be infected with HIV (Gregson S et al, 1995).

In conclusion of this chapter, the study has contributed to the literature in Ghana and elsewhere which support the position that mobile populations and women migrants in particular are at greatest risk of being susceptible to HIV.

CHAPTER SIX

6. CONCLUSIONS AND RECOMMENDATIONS

In the final chapter I present the conclusions and recommendations for this qualitative study. The conclusions are drawn from the main finding and discussion presented in previous chapters. Also, the recommendations were selected from various responses from the IDIs, the FGDs and Key Informant interviews. These recommendations are critical in reversing and reducing susceptibility to HIV among rural women engaged in the cross border tomato trade.

6.1 CONCLUSIONS

Research into the socio-economic factors of HIV/AIDS that affects women and households in general is crucial in guiding current and future policies and intervention strategies intended to address the impact of the pandemic. The main motivation for this qualitative research work was to provide evidence-based data, to inform the design and implementation of a HIV/AIDS community intervention programme for (PACODEV) a local NGO in the Kassena-Nankana District for mobile populations, including women and young girls who engaged in the cross border tomato trade. It is expected that, the outcome of this study would serve as a policy guide for health intervention to address the socio-economic, cultural and behavioural factors for HIV susceptibility among rural women and young girls who are forced by economic circumstances to engage in tomato trade.

Poverty and household food insecurity were the main reasons that motivate rural women in the district to seek for recruitment into the tomato trade as sorter. Many of the respondents, especially among those who are married agreed that their husbands should be the sole provider's of food to feed the households. However, they indicated that it is also their responsibility to support their husbands to provide for the household. Other reported on the need for them to work to cater for their children and buy household assets. From the results, it was clear that rural women play an important role in providing livelihood for their households during period of economic difficulties.

On the knowledge and perception of the women on HIV and the socio-economic factors that make them susceptible to HIV. The studies reveal that all the respondents are aware of the signs and symptoms of HIV/AIDS. Almost all of them have heard of HIV/AIDS and that the main mode of transmissions is through heterosexual contact, mother- to- child transmission and blood contact. Poverty, gender inequality, low social status of women, poor access to resources and health services were the main factors which makes them susceptible to HIV. The indicated that, these factors put them in disadvantage position when it comes to negotiating for safe sexual, such as the uses of condoms with your partner.

Most of unmarried women perceive themselves to be more susceptible to HIV when compared to those who were married. The married women are more likely have children and are also older than those who are single.

The results of the study revealed that in some instances women were selected for the trip because of sexual favors. The discussions show that when the loading boys get the opportunity to recruit the women for the trip across the border, they prefer the young unmarried ones. They are not looking for hardworking and experienced women because most of them are married and have children. This practice was common when only few trucks were available and many of the women have to compete for selection. Opinions are that it is the young and unmarried women who were being favored compared to the old and married women. These findings were confirmed by the focus group discussion and the key informant interview with the tomato market queen. They indicated that there were high rates of unemployment in the district resulting in competition to join the trade. The results of the study revealed that in some instances women were selected for the trip because of sexual favors. The discussions show that when the loading boys get the opportunity to recruit the women for the trip across the border, they prefer the young unmarried ones

In conclusion, there are several important points to remember about women's health and the HIV epidemic in the Kassena-Nankana District. These include poverty, food security; unbalance power relations in the job market and low level of education. Women need to be empowered and to protect themselves against the influence of men. Women also deserve support from all stakeholders including men in standing up to male domination in society where that is the case. Empowerment of women is effective through developing and designing interventions that will encourage women to attend school and stay in school.

6.2 Recommendations

This study has highlighted the risk HIV susceptibility among cross border tomato traders in rural Ghana. The objectives is to provide evidence based recommendation for government and not-for-profit organisations to responses to the HIV/AIDS epidemic, it is important to address the HIV epidemic in a multi disciplinary approach, involving poverty, food insecurity, gender inequality and mobility. This is particularly important in rural Ghana where improving the knowledge and livelihood opportunities of women and young girls can reduce their level of mobility and susceptibility to HIV susceptibility.

1. One of Ghana's important policy interventions on women and young girls is to strengthen their economic activities by improving their access to financial resources through provision of micro loans facilities to small business enterprises and women groups. Despite the set policies of economic empowerment many rural women and young girls in this part of the country still lacked the financial resources and entrepreneurial skills required to be fully integrated into the formal sectors of the economy. They are not getting access to the financial resources as most of them are illiterate and do not have collaterals such as land and house ownerships. Therefore, it is recommended that rural women should be given entrepreneurial skills and support to enable them access micro finances from the banking sector to improve on their economic activities.
2. There is the need for the tomato sorters to form an association or union in order to be able to address issues confronting among them and other people from harming them. For instance the divide and rule tactics employed by the loading boys will not be entertained.
3. The challenges that women face in protecting themselves from contracting HIV, it is amazing that reasonable prevention strategies are still unavailable to the millions of rural women for whom abstinence, mutual faithfulness with their partners and male condom use are simply not possible. Therefore, it is recommended that condoms and the female condom in particular be made widely available at all venues where cross

border activities are undertaken. Interventions aimed at the tomato sorters should occur both at the workplaces (stations and farms) and also at home.

4. It is recommended that comprehensive community based educational campaigns, targeted at rural women, especially mobile women who engaged in the cross border tomato trade be intensified in the study area. The objective must be to take the women beyond mere awareness to ensure the realization of the necessity to use the ABC (Abstinence, Faithfulness and Condoms) methods for example, to prevent HIV infection. More education is also required on some of the socio-cultural practices including; female genital mutilation, widowhood rights and other gender-based related violence against women and young girls in the district. These programmers would empower women and make them more independent, knowledgeable and resilient against the influence of men.
5. Based on the findings, it is also recommended that, Ghana AIDS Commission and PACODEV, will intensify sensitization programmes on behaviour change communication (BCC) strategies and the development of health services closer to the farmers. The main objective is to increase awareness and demand for HIV information and services among the targeted population.
6. It is also recommended that future activities include an extended research component, to verify and compare the significant findings of this assessment and to obtain further information on HIV susceptibilities confronting all key players in the cross border tomato trade between Ghana and Burkina Faso. These players are the farmers, truck drivers, loading boys, tomato market women and queens and the tomato sorters to increase our understanding on the whole transactional sex associated with cross border traders. This will help both governments and other development partners to initiate programmes that will reduce HIV infection among its people.

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Annexes

Van Hall Larentien University of Applied Sciences Cross Boarder Tomato Trade and Susceptibility to HIV Infection among Rural Women in the Kassena-Nankana District of Northern Ghana. In-depth Interview Questionnaire July – August 2011

INFORMED CONSENT

Hello, my name is Koxwell Kaba Tiire, I am a student of Van Hall Larenstien University in the Netherlands. I am conducting a survey to find out about women and young girls engage in the tomato trade about their various development and health issues. I would very much appreciate your full participation in this study. The information from this survey is expected to inform the district authorities to improve the conditions and health of tomato traders in the district.

The survey usually takes about 45 minutes to complete and whatever information you provide will be kept strictly confidential and will not be disclose to anyone. Participation in this survey is voluntary and if you are not comfortable with any question I ask you, you may choose not to respond or stop the interview completely. However, I hope that you will participate in this survey because your views are important..

My contact mobile numbers: 0244072535; +31(0)683862057.

Signature of interviewer..... Date.....

A. Background Information

1. Age of respondent
2. Level of education
3. Can you read a newspaper or letter?
4. Ethnic group?
5. Religion?
6. Marital status of respondent
7. Do you have children? **Probe:** How many in total.
8. Respondent's main occupation
9. Do you have a functional cell phone? If no do you have access to any cell phone?
Probe: what are the things that you use your phone to do?

B. Household Food security

10. Can you explain to me the food security situation within your household? **Probe:**
 - a) Were there some months within the past one year your household did not have enough food to eat?
 - b) Could you explain to me what your role is when there is no food in your household?
 - c) Whose responsibility is it to provide for the up keep of your household?
11. What is the size of your household and who is the household head?

B. Knowledge and susceptibility to HIV

12. What do you know about HIV?
13. What do you think are the risk factors for HIV infection? **Probe** for cultural and socio-economic factors.

14. Do you think the rural women and young girls who engaged in cross boarder tamato trade are at risk to HIV infection? **Probe:**
- a) Can you explain why?
 - b) Are you at risk? Why do you say so?
15. Now I want to find out whether you have heard of women who need to render sexual services in turn for getting recruited to go to Burkina Faso? **If yes, Probe** whether this is a common practice or whether it just happens only once.
16. Have you ever out of surprise been involved in such a situation? **Probe:**
- a) How many times,
 - b) Did you protect yourself, if yes Probe what did you do?
17. Now I want to ask you whether you sometimes found yourself having more than one sexual partner. **Probe:** is this because of peer influence, nature of the tomato trade which staying outside home?

C. Unequal power relation in the tomato trade

18. Could you explain to me the processes involved in the selection of women/girls to go on a particular trip across the border to buy tomato? **Probe:**
- a) Do you thing this process is fair and why?
 - b) Who does the selection and what do they take in return for the offer?
19. What are the main roles of the men accompanying the tomato queens across the border to buy tomato? **Probe for:**
- a) The influence of those men in the selection process.
 - b) Do they select their favorites?
 - c) What do those selected/favorites do for them in return during and after the trip?
20. What other activities do you people normally engage yourselves with in the evening after the day's work when you go on these trips? **Probe:** for entertainments, going out with the men for drinks.
21. What do you have to say concerning the places that you sleep during these trips? **Probe** whether it is safe for the women/girls and what are the risks involved?

D. Mobility

22. Can you explain to me the number of trips you made outside the district since from the beginning to the end of this year tomato season?
23. How long does one trip normally take before you come back? **Probe** for average number of days that respondent spend away from home.

E. Knowledge of HIV prevention

24. In your opinion what can be done to reduce the risk of HIV infection among rural women engage in the tomato trade.
25. What can be done to empower rural women in this district who participate in the tomato trade?.

Van Hall Larentien University of Applied Sciences
Cross Boarder Tomato Trade and Susceptibility to HIV Infection among Rural Women
in the Kassena-Nankana District of Northern Ghana. Key informant Interview Guide

1. Department and occupation of key informant
2. Key informant main responsibilities
3. What is the HIV situation in the district?
4. What do you think are the risk factors for HIV infection in the district? Probe for cultural and socio-economic risk factors.
5. In your opinion, what are the main reasons why some women in the district travel across the border to trade in tomatoes?
6. Do you think rural women and young girls who engaged in this cross boarder tomato trade are at risk to HIV infection? Probe:
 - c) Can you explain why?
7. (Ask Driver) Could you explain to me the processes involved in the selection of women/girls to go on a particular trip across the border to buy tomatoes? Probe:
 - c) Do you think this process is fair and why?
8. (Ask Driver) Now I want to find out whether you have heard of women who need to render sexual services in return for getting recruited to go to Burkina Faso? If yes, Probe whether this is a common practice or whether it just happens only once.
9. (Ask Driver) What do you have to say concerning the places that you sleep during these trips? Probe whether it is safe for the women/girls and what are the risks involved?
10. What is the role of your office/department in the tomato trade
11. What is the role of you/your department in the fight against HIV in the district?
12. In your opinion what can be done to reduce (if any) the risk of HIV infection among rural women engage in the tomato trade?
13. What can be done to empower rural women in this district who participate in the tomato trade?

Thank you for your participation

Time Table

Week	July 18 - 23	July 25 - 30	Aug 1 - 6	Aug 8 - 13	Aug 15 - 20	Aug 22 - 27	Aug 29 - Sep 3	Sep 5 - 9	Sep 13 - 21
Pre-test and finalize tool	xx								
Lit review	x	x	x						
Fieldwork		x	x						
Write introduction		x	x						
Write methods			x	x					
Data analysis				x					
Write results				x	x				
Write discussion					x	x			
Write conclusion						x	x		
Submission								x	
Power point preparation and Presentation									xx