

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**



**ROLE OF RURAL TO URBAN MIGRANTS AND SOCIO-CULTURAL
FACTORS INCLUDING FERTILITY INTENTIONS IN THE
SPREAD OF HIV RISKS AMONG RURAL AREAS OF
BURE WOREDA, NORTHWEST ETHIOPIA.**

Melesse Tamiru Semegne



PhD dissertation submitted as partial fulfillment of
the degree of Doctor of Philosophy (PhD) in Public Health,
Addis Ababa University, Ethiopia, March 2012



ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

**ROLE OF RURAL TO URBAN MIGRANTS AND SOCIO-CULTURAL
FACTORS INCLUDING FERTILITY INTENTIONS IN THE
SPREAD OF HIV RISKS AMONG RURAL AREAS OF
BURE WOREDA, NORTHWEST ETHIOPIA.**

By

Melesse Tamiru Semegne

A dissertation submitted to the School of Graduate Studies of
Addis Ababa University in partial fulfillment of the requirements
for the degree of Doctor of Philosophy (PhD) in Public Health.

Addis Ababa, Ethiopia

Supervisors:

Professor Damen Haile Mariam

and

Dr Getnet Mitikie

March 12, 2012

DEDICATION

This dissertation is dedicated to my wife, Zewditu Getaneh, and my children Biruek Melesse, Yeab Sera Melesse and Edelawite Melesse.

ORIGINAL PAPERS

This dissertation is mainly based on the following four papers:

- I.** Tamiru M, Haile Mariam D, Mitike G, Haidar J. HIV-related sexual behaviours among migrants and non-migrants in rural Ethiopia: Role of rural to urban migration in HIV transmission. *International journal of Biomedical Science* 2011; 7(4):100-108.

- II.** Tamiru M, Haile Mariam D, Mitikie G. HIV-Related Sexual Behaviours and Leisure Activities among Rural to Urban Migrants and Non-migrants in Bure *Woreda*, Amhara Region, Ethiopia. *Journal of Medicine and Medical Science Research* 2012; 1(1): 5-17.

- III.** Tamiru M, Haile Mariam D, Mitikie G. Fertility Intention in the Era of HIV/AIDS among Rural Women in Bure *Woreda*, Amhara Region, Ethiopia. *Educational Research* (Accepted).

- IV.** Tamiru M, Haile Mariam D, Mitikie G. Socio-cultural factors and HIV Risk in the Rural Areas of Bure *Woreda*, Amhara Region, Ethiopia.

ACRONYMS AND ABBREVIATIONS

AAU	Addis Ababa University
AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal Care
BCC	Behavioural Change Communication
BSS	Behavioural Surveillance Survey.
CI	Confidence Interval
CSA	Central Statistical Agency
CSW	Commercial Sex Workers.
ECX	Ethiopian Commodity Exchange
EDHS	Ethiopia Demographic and Health Survey
FDRE	Federal Democratic Republic of Ethiopia.
FGC	Female Genital Cutting.
FGD	Focus Group Discussion
GAMET	Global AIDS Monitoring & Evaluation Team
GBV	Gender Based Violence.
HAPCO	HIV/AIDS Prevention and Control Office.
HCT	HIV counseling and Testing
HIV	Human Immune-deficiency Virus.
HBM	Health Belief Model
HSDP	Health Sector Development Program
HTP	Harmful Traditional Practices.
IDI	In-depth Interview
IEC	Information Education and Communication.
MARPS	Most At Risk Populations.
MDGs	Millennium Development Goals
MOH	Ministry of Health
MSP	Multiple Sexual Partners
MTC	Mother- to -Child Transmission
NGO	Non-Governmental Organization
OR	Odds Ratio

PI	Principal investigator.
PLHA	People living with HIV/AIDS.
PMTCT	Prevention of Mother- to -Child Transmission
RH	Reproductive Health
SPSS	Statistical Package for Social Sciences
STI	Sexually Transmitted Infections.
UN	United Nations.
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund.
USA	United States of America
VAW	Violence Against Women.
VCT	Voluntary Counseling and Testing.
WHO	World Health Organization

TABLE OF CONTENTS

DEDICATION	I
ORIGINAL PAPERS	II
ACRONYMS AND ABBREVIATIONS	III
TABLE OF CONTENTS	V
LIST OF TABLES	VII
LIST OF FIGURES	VIII
ABSTRACT	IX
CHAPTER 1: INTRODUCTION	1
1.1. Background	1
1.2. Statement of the Problem	4
CHAPTER 2: LITERATURE REVIEW	9
2.1. The Urban Hinterland and Woreda Hotspots.	11
2.2. The Movement of the Rural Populations and HIV Risk Behaviours.	11
2.3. Leisure Activities and HIV Risk Behaviours	21
2.4. Socio-cultural Norms, Practices and HIV Risks.	22
2.5. Fertility Intentions and HIV Risks.	24
2.6. HIV Risk Sexual Behaviours	28
4.7. Conceptual Framework	33
CHAPTER 3: THE RESEARCH OBJECTIVES AND QUESTIONS	36
3.1. Research Objectives	36
3.2. Research Questions	36
CHAPTER 4: SUBJECTS AND METHODS	37
4.1. Quantitative Study	37
4.1.1 The Setting	37
4.1.2. Study Design	39
4.1.3. Source Population and Study Population	40
4.1.4. Eligibility Criteria	40
4.1.5. Sample Size and Sampling Methods	42
4.1.6. Data Collection	44
4.1.7. Measurement of Variables and Operational Definitions	46
4.1.8. Data management and Analysis	49
4.2. Qualitative Study	53
4.2.1. Sample Selection of Subjects	54
4.2.2. Data Collection	55
4.2.3. Data Analysis	60
4.3. Ethical Considerations	62

CHAPTER 5: RESULTS	65
5.1. HIV-related sexual risk behaviours among rural to urban migrants and non-migrants: Role of rural to urban migration in HIV transmission (Paper I).	65
5.2. Sexual Risk Behaviours and Leisure activities among rural to urban Migrants and Non-migrants (Paper II).	71
5.3. Fertility Intention in the Era of HIV/AIDS among the Rural Women (Paper III).	74
5.4. Socio-cultural and Sexual practices of the rural people in relation to HIV risk (Paper IV).	78
CHAPTER 6: DISCUSSION	101
6.1. HIV-related Sexual Risk Behaviours among Migrants and Non-migrants.	101
6.2. Sexual Risk Behaviours and Leisure activities among Rural to Urban Migrants and Non-migrants.	103
6.3. Fertility Intention in the Era of HIV/AIDS among the Rural Women	105
6.4. Validity, Generalizability and Limitations of the Study	108
CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS	111
7.1. Conclusions.	111
7.2. Recommendations.	115
ACKNOWLEDGEMENTS	118
REFERENCES	119
ANNEX-1: ORIGINAL PAPERS (I-IV)	128
ANNEX-2: SOME OF THE STUDY POPULATION AND DATA COLLECTORS	129
ANNEX-3: STUDY TOOLS	130
LETTER FOR DECLARATION	131

LIST OF TABLES

Table 1: Socio-demographic characteristics of rural to urban migrants and non-migrants in Bure Woreda, West Gojam, Amhara Region, Ethiopia, 2011.	67
Table 2: HIV/AIDS sexual risk behaviours among rural to urban migrants and non- migrants in Bure Woreda, West Gojam, Amhara Region, Ethiopia, 2011.	68
Table 3: Factors associated with having multiple sexual partners (MSP) and sexual transmitted infections (STIs), among rural to urban migrants in Bure Woreda, West Gojam, Amhara Region, Ethiopia, 2011.	70
Table 4: Types of leisure activities among rural to urban migrants and non- migrants in Bure Woreda, West Gojam, Amhara Region, Ethiopia, 2011.	72
Table 5: Association between leisure activities and HIV risk behaviours among rural to urban migrants and non-migrants in Bure Woreda, Amhara Region, Ethiopia.....	73
Table 6: Socio-demographic characteristics of the rural women by their fertility intention in Bure Woreda, Amhara Region, Ethiopia, 2011.....	75
Table 7: HIV/AIDS comprehensive knowledge and contraceptive use among married women in Bure Woreda, West Gojam, Amhara Region, Ethiopia, 2011.	76
Table 8: Fertility intention of the rural women in relation to HIV perceived risk and childhood mortality in Bure Woreda, West Gojam , Amhara Region, Ethiopia, 2011.....	77

LIST OF FIGURES

Figure 1: Conceptual frame work for rural to urban migrants and HIV/AIDS risk	35
Figure 2: Geographical location map of study area (Bure Woreda).....	39
Figure 3: Some of the data collectors in the field.....	46
Figure 4: Data editing process	50
Figure 5: Field supervision by the principal investigator	53
Figure 6: Some of the in-depth interview.	57
Figure 7: Some of the FGDs moderated by the principal investigator	60

ABSTRACT

Background: The AIDS epidemic is global in its span; a particularly heavy burden has fallen on Sub-Saharan Africa. The consequences of the African AIDS epidemic are growing—not only just in size—but in complexity. These consequences are no longer just biological; increasingly, they are also behavioural, social and cultural.

It is well-known that 84% of the population in Ethiopia lives in rural areas relying on the agricultural sector which plays the central role in the country's economy. However efforts to conduct HIV related studies in rural areas of the country remain extremely patchy. So far, there have been few studies concerning the nature of HIV infection in rural areas resulting in meagre information on how HIV spreads from urban to the rural areas and how local people perceive the epidemic and protect themselves from risk factors. The rural people in *Bure Woreda* are not an exception.

The negative influences of migration, fertility intentions and other socio-cultural factors in the spread of HIV in the Amhara region in general and in the present study area in particular are not known, moreover, overlooked social activities such as leisure activities which may be linked to HIV risk behaviours among the study population of the rural to urban migrants and non-migrants in *Bure Woreda*, North West Ethiopia require due attention and a thorough investigation. The way in which migration contributes to the spread of HIV risk is complex and not well understood. Previous studies have focused on the destinations of migrants, or, less often, on the areas from which migrants come. In this study exploring both ends of migration routes in atypical rural areas is fundamental for successful interventions

Although subsistence agriculture is the major economic activity in Ethiopia; parents want to have large numbers of children for assistance in farming activities as well as economic support during old age. In the rural areas, women's fertility and HIV infection are not independent of one another. Conditions and behaviours resulting in high levels of fertility are also likely to impact upon womens' likelihood of acquiring HIV.

Women and men desire children for their utilitarian-economic, social, and psychological values, whereas fertility is on the decline primarily due to changes in economic development. Different segments of the population are at different stages of this transition with different values attributed to children at each stage. The challenge is will women take measures to prevent HIV

infection in themselves and their babies if they perceive themselves at high risk of HIV infection, or will endeavour to fulfill the utilitarian–economic, social, or psychological dictates of childbearing.

Objectives: The general objective of this study was to assess and explore the role of rural to urban migrants (potential bridging population) and socio-cultural factors (including high fertility intentions) in the transmission and spread of HIV risk to the rural community of *Bure Woreda*.

Methods: In order to address this general objective, the study assessed factors that affect the sexual behaviours of rural to urban migrants and non-migrants (rural residents) by comparing the link between predisposing, and enabling factors with the sexual risk behaviours among rural to urban migrants and non-migrants and by investigating the leisure activities which are associated with different levels of likelihood to engage in HIV risk behaviours among rural to urban migrants and non-migrants. Moreover other sexual and cultural practices of the rural people in relation to HIV risks including the association of fertility intention (the desire to have children) with HIV risk were investigated. In this study, HIV-related sexual risk behaviours among rural to urban migrants and non-migrants is compared and the role of migration in HIV transmission and socio-cultural practice and norms for the spread of the virus in the rural areas of *Bure Woreda* is explored. The detailed methodology included two components: The first one was a quantitative cross-sectional study which involved 1,310 men (655 men rural to urban migrants, 655 non-migrants) and 1,380 married women aged 18 to 49 years. The second component was a qualitative study which consisted of 8 focus group discussions and 25 key informant interviews.

I) Quantitative study: Radom sampling technique was applied to select the required study units from the rural- urban migrants (road construction sites (Cobble stone), Ethiopian Commodity Exchange (ECX), commercial agricultural farm employees and rural residents from the rural *kebeles* of *Bure Woreda*.

A total of 2,751 participants, 667 rural men and 1,418 rural married women were drawn from the 23 rural *kebeles* of *Bure Woreda* while the remaining 666 rural to urban migrants were taken from *Bure* and around *Bure* town. Because the present study had a number of different outcome variables so it was necessary to calculate the respective sample sizes separately with different assumptions. Structured questionnaires were used to collect the quantitative data.

The questionnaires were tested prior to collecting the actual data in order to standardize the flow and content of the questions. Accordingly, amendments were made depending on the results of the pre-test that was conducted in the nearby similar areas. Data collection was carried out by twenty diploma holders who were given three-days of intensive training with practical exercises. Four health officers/sanitarians were assigned to supervise the data collection process and the data was analyzed using SPSS version 17 statistical software. The, chi-square test and binary logistic regression were used to see the association of variables.

II) Qualitative study: This part of the study was aimed at substantiating and complementing the quantitative study. The selection of participants and formation for focus group discussions (FGD) were facilitated by the community leaders of the respective *kebeles* under consideration. Four rural *kebeles* were identified for the 8 FGDs and 25 in-depth interviews.

The main data analysis took place on completion of each interview. In this regard, the usual principles guiding qualitative analysis were taken into account and sequences of interrelated steps (reading, coding, displaying, data reduction and interpreting) were employed while analyzing the data. In short, as can be noted from the above explanations, the procedure used to process the raw data for the purposes of classification, summarization and tabulation was thematic content analysis. The basic idea here was to identify the extracts of data that were informative in some way and to sort out the important messages hidden in the mass of each key informant interview and FGD.

Results: A total of 2,690 participants (response rate, 97.7 %) responded to the questionnaire on HIV risk behaviours, leisure activities and fertility intention. This study consisted of two groups 655 male rural to urban migrants working in Bure town and rural residents (655 male non-migrants and 1,380 married women).

When the two groups (rural to urban migrants and non-migrants) are compared in terms of practicing sexual risk behaviours i.e. having of multiple sexual partners, practicing sex with commercial sex workers, contracting sexual transmitted infections and practicing premarital sex there is a difference between them. The proportions of rural to urban migrants vs non- migrants who had multiple sexual partners (31.4 % vs 7.4 %), practiced sex with commercial sex workers (22.3% vs 13.3%), contracted sexual transmitted infections (11.7% vs 3.2%) and practiced premarital sex (20.8% vs 14.2 %) were significantly higher in rural to urban migrants than non-migrants. Among those who had multiple sexual partners, only 12.7 % of rural to urban migrants

and 9.8 % of non-migrants reported consistent condom use with sexual partners other than their spouse.

In addition, the findings of the study indicated that both migrants and non-migrants were engaged in different leisure activities when they did not have work. The first three leisure activities with the highest rates of participation among migrants were visiting entertainment installments (76.3%), chatting (64.9%), and listening to radio (31.5%). On the other hand, doing chores (71.6%), visiting entertainment installments (30.7%) and chatting (29.2%) were among the activities in which non- migrants were participating most often. The differences noted between the two groups in terms of the types of leisure activities were statistically significant ($P=0.001$). Multiple logistic regression analysis was also done to explore the association between the eleven leisure activities and each of the five HIV risk behaviours among migrants and non-migrants. Among migrants, watching TV, reading (including non migrants), chatting, watching videos, wandering on streets (including non-migrants), and visiting entertainment facilities were positively associated with most of the five HIV risk behaviours. Listening to radio for migrants and chatting and doing chores in non migrants were negatively associated with some of the HIV risk behaviours.

The association of rural married women to HIV perceived risk, child mortality and desire to have children and the link to HIV risk was assessed. Overall, 32.8 % of subjects expressed desire for future pregnancy, 8.8 % perceived themselves at high risk for HIV infection and 26.7% reported the death of at least one child in the past five years. In multiple logistic regression analysis, reporting at least one child's death ($OR=6.92$; 95% $CI=4.91$ to 9.47) was significantly associated with a higher desire higher to become pregnant. Furthermore perceived high risk for HIV infection ($OR=2.08$; 95% $CI= 1.35$ to 3.19) was found to be associated with the desire to get pregnant. Being currently married, having no education, being of low parity and having low household expenditure were significantly associated with having the desire for more children.

The qualitative part of this study identified a number of social factors and cultural norms and practices that impact on HIV/AIDS. The first category consists of factors that were said to promote the spread of HIV/AIDS such as alcohol drinking and drunkenness. To that effect, all social and cultural functions that involve large gatherings such as holidays and wedding ceremonies, alcohol drinking and dancing were seen to greatly contribute to the spread of HIV/AIDS.

The second category is of factors influencing the reduction in the risk of HIV transmission such as promotion of virginity and arranged marriages. Interestingly, some of the main social factors, cultural norms and practices that increase the risk of HIV transmission were seen to also play significant roles in risk reduction; church gatherings, weddings, and burials were singled out as major avenues for promoting positive sexual behaviours while some people use them to engage in risky behaviours.

HIV/AIDS and the social and cultural set-up of communities have impacted upon each other. In the context of HIV/AIDS, social and cultural practices play dual roles, on one side enhancing HIV transmission while on the other facilitating reduction in incidence. However, social factors, cultural norms and practices were seen more as facilitators than inhibitors of HIV transmission, while low awareness about HIV/AIDS and lack of supportive services such as VCT and knowledge of condoms remain major limitations to sustain behaviour change. Accessibility to these services is also limited to the majority in the rural areas

Conclusions: As both rural to urban migrants and non-migrants are at risk for HIV infection, intervention program targeting both groups are recommended. However, in order to contain the bridging effect on HIV transmission from urban to rural areas particular attention should be given for the rural to urban migrant population.

Effective HIV prevention programming must reach and serve populations at risk. This study shows that male migrants are at high risk of HIV due to risky sexual partnerships and low condom use. Additionally, their high mobility and multiple partnerships potentially contribute to the spread of HIV to the rural areas. Sero-prevalence data should be collected to complement behavioural data and enable tailored programming to reach this vulnerable group. Employers should be engaged in HIV prevention for this population.

Socially desirable and constructive leisure activities such as listening to the radios among migrants and doing chores and chatting among non-migrants may prevent them from being engaged in HIV risk behaviours while leisure activities such as visiting entertainment installments and watching videos may increase the odds for migrants to be engaged in HIV risk behaviours. However the evidence in this study strongly suggest that migrants who are detached from family and home environment may be exposed to leisure activities possibly associated with HIV risk behaviours. Therefore, given the high mobility of migrants, it is very important to strengthen work place intervention in their destination places

High perceived risk of HIV infection was associated with high desire for future pregnancy. Moreover women seem to have a higher desire for a future pregnancy to replacing a dead child that may have lost its life as a result of HIV infection. This finding indicated the crucial role of desire for fertility by a married woman irrespective of the risk for acquiring HIV infection. This implies that there should be further research to address the issue and the utilitarian-economic, social, and psychological values attributed to children by both women and their male sex partners. The involvement of men as partners in childbearing should be explored, as their desire for children may be the primary barrier to protective behavioural change among women. In order to change rural Ethiopian parents' perception of values of children, child education needs to be compulsory so the cost of raising children will increase and inhibit a further high desire for pregnancy.

In the area the prevailing cultural practices and norms encourage large families and discourage the use of condoms. In such settings, there is the need to find appropriate mechanisms that could help increase the use of all types of contraceptives. As contraceptive use increases, it is likely that the use of condoms for AIDS prevention and also for family planning purpose would increase..

According to the qualitative findings some striking characters were noted - these are the mobility of commercial sex workers from large town to small towns such as Bure or adjust rural villages in order to attract a wider or different client base, for adventure and to conceal illnesses which might be associated with HIV/AIDS, drinking alcohol while on ART drugs to pretend as HIV free and involve in sexual activity, desired to be considered as a HIV positive in order to get the support given to PLHI, underline the needs for further investigation due to their possible contribution for sustaining the HIV epidemic. Although there are some prevention activities to fight HIV/AIDS in the rural areas, most of them were inappropriate in terms of convenience in time, place and target groups. For instance, HIV educations are given only in weekends, holidays and around the church areas where most of the young people are not available. The finding has programmatic implications as it misses the young who are vulnerable to HIV infections. The needs and priorities in prevention of HIV/AIDS are two fold: to enable community members to be fully informed about the disease and reduce potentially risky behaviour; and to secure viable rural livelihoods which would reduce the need for people to move into potentially HIV-risky environments.

Keywords: Fertility Intention, HIV risks, Leisure activities, Migrants, Non-migrants, Sexual risk.

CHAPTER 1: INTRODUCTION

1.1. Background

Since the beginning of the pandemic, HIV/AIDS has been spreading at an alarming rate worldwide, and it has created enormous challenges on the survival of mankind. In 2010, about 2.7 million people are infected a fresh and around 34 million people are living with HIV all over the world (1, 2). Despite recent access to antiretroviral treatment and the growing awareness on the pandemic, in many regions of the world, HIV/AIDS claimed over 30 million lives since the first cases were identified in 1981(1)

It is in Africa, in some of the poorest countries of the world, that the impact of HIV/AIDS has been most severe. At the end of 2009, in 9 African countries more than one tenth of the adult population aged 15-49 was infected with HIV(3). In three countries, in the southern cone of the continent, at least one adult in five was living with the virus. In Botswana, 24.8% of adults are infected with HIV, while in South Africa, 17.8% are infected. With a total of around 5.6 million infected, South Africa has more people living with HIV than any other country *

Sub-Saharan Africa remains the region most heavily affected by HIV/AIDS. In 2008, Sub-Saharan Africa accounted for 68% of HIV infections worldwide, 68% of new adult HIV infections and 91% of new HIV infections among children. The region also accounted for 72% of the world's AIDS-related deaths(4).

An estimated 22.5 million people were living with HIV in sub-Saharan Africa at the end of 2009, including 2.3 million children (3). During 2009, an estimated 1.3 million Africans died from AIDS. Almost 90% of the 16.6 million children orphaned by AIDS live in sub-Saharan Africa (3).

Rates of HIV infection are still extremely high in Sub-Saharan Africa, and an estimated 1.9 million people in this region became newly infected in 2010 . This means that there are now an estimated 22.9 million people living with HIV in Sub-Saharan Africa. People living with HIV in that area where women are disproportionately at risk, accounting for 59% of all people living with HIV. As the number of people living with HIV in the general population rises, the same

patterns of sexual risk result in more new infections simply because the chances of encountering an infected partner become higher. During 2010 alone, an estimated 1.2 million adults and children died as a result of AIDS in sub-Saharan Africa . Since the beginning of the epidemic more than 15 million Africans have died from AIDS(3) .

In 2010, 22 countries in sub-Saharan Africa reported a decline in HIV incidence, however despite an increasing number of countries in the region achieving universal access to treatment, under half of those in need of antiretroviral treatment in this part of the world were receiving it at the end of 2009(5).

Prevention campaigns and the number of AIDS related deaths also have a notable impact on a country's HIV prevalence. In Uganda the estimated prevalence fell to around 7% in 2001 from a peak of about 15% in the early 1990s, by 2009 prevalence was 6.5% (3). The decrease in HIV prevalence in the 1990s is thought in part to have resulted from strong prevention campaigns although it could also have been associated with a vast number of people dying from AIDS (6). Although access to antiretroviral treatment is starting to lessen the toll of AIDS, fewer than half of Africans who need treatment are receiving it(6).

Although access to antiretroviral treatment is starting to lessen the toll of AIDS, fewer than half of Africans who need treatment are receiving it (5). The pandemic continues to have an enormous impact on households, communities, businesses, public services and national economies in the region (4). A range of socio-cultural, political and economic factors is thought to favor HIV transmission in many African societies to a much greater extent than elsewhere in the world (7). In most African countries south of the Sahara, it is assumed that the majority of the infected population live in rural areas (8). Yet, HIV/AIDS is paradoxically perceived as an "urban" problem., Currently, the prevalence level has been seen to rise in rural areas (4). While the urban HIV prevalence rates among certain population sub-groups may be declining in some countries like Uganda, the HIV prevalence rate continues to rise in rural areas of most countries due to the frequent contact between urban and rural dwellers through migration and triggered by socio-cultural factors. Moreover the HIV infection rates in rural areas remain difficult to measure as a result of poor infrastructure, restricted access to health facilities and inadequate surveillance mechanisms. They are prone to under-reporting or misdiagnosis which makes the

situation even worse until the virus affects a considerable proportion of the population with potentially far-reaching implications for the rural economy (9).

In Ethiopia, the majority of studies on HIV/AIDS are carried out in urban settings and only few studies are available from in the rural population. Although reports indicate that the HIV epidemic is leveling off in Ethiopia, a significant number of people live with the virus and many families are affected. The low prevalence of HIV, the expanding and heterogeneous nature of the epidemic in rural areas sustains the concern. This is because the majority of the Ethiopian population lives in rural areas with limited access to HIV services and challenged by prevailing socio-cultural factors and poor socio-economic status (10, 11)

According to the study targeted in some rural areas of North Shewa, Tigray, Arsi, Bale, and South Omo, the prevalence of the infection ranged from 0% to 7% (11). This fact suggests the urgency of the situation which equally requires immediate and continuous assessments, and measures to identify the possible routes of entry and spread of HIV to the rural communities. Apparently, such systematic and uninterrupted measures will have paramount importance in putting the spread of the infection under control before it reaches at a very high level of magnitude(12).

There have been many factors threatening the spread of HIV/AIDS; the immediate contributing factors are socio cultural factors such as high fertility intention, early marriage, women genital cutting, abduction, and mobility aggravated by alcoholism and commercial sex, the latter are concentrated in the nearest hot spot small towns that have grown rapidly along the roadsides. Nevertheless, most towns such as Bure are rapidly growing roadside settlements frequented by many HIV high-risk outsiders; the prevalence rates indicate that there are significantly higher levels of HIV infection in towns than in rural communities. However, the disease may be concentrated in sub-populations within the rural community but not well established within the general population. In this case, the source of risk for the majority of rural residents is through bridging populations, people who are at higher risk and provide substantial links with other sub-populations who have lower risk behaviour. These links may provide fertile ground for the virus to move into the general population(13).

This dissertation research made rigorous assessments on the role of rural to urban migrants (bridging population) and migration related factors contributing to the spread of HIV risks in rural *Bure Woreda* in Amhara Region. It also attempts to explore the possible role of socio-cultural factors including fertility intention which put the community at an increasing risk of contracting HIV infection. The outcome of this study may provide baseline information to the prevailing ways of HIV risk spreading to rural communities with recommendations that might be of assistance to policy-makers and planners who are engaged in designing appropriate HIV/AIDS prevention and control programmes in the area in particular and at national level in general.

1.2. Statement of the Problem

In Ethiopia, 84% of the population lives in rural areas and the agricultural sector plays a central role in the country's economy. Hence, this sector and its main actors, the rural population, deserve a considerable attention in the government's development agenda. However, the attention given on the nature of HIV infection in rural areas is still meager. According to calibrated single point estimates (2007), the national adult prevalence is reported to be 2.1% (7.7% in urban and 0.9 % in rural areas). Around 977,394 Ethiopians are living with HIV/AIDS and among them, 59% are women. An estimated 75,420 HIV positive pregnant women are anticipated nationally(14). The results indicated that the national and rural HIV prevalence for Ethiopia has stabilized while the urban prevalence is declining(15).

In the Amhara Region the HIV prevalence rate in urban and rural areas is about 9.9 % and 1.5 %, respectively. Compared with other regions of Ethiopia, the Amhara Region continues to have the highest rate of rural HIV infection and adult incidence, with 0.36% of the adult rural population becoming infected each year(15). The Ethiopian Demographic and Health Surveys (DHS) found that rural residents had more stigmatizing attitudes and less knowledge about the disease than urban residents(16, 17). Furthermore, the survey showed that 3% of women and 15% of men in rural areas had sexual intercourse with a non- marital, non-cohabiting partner in the preceding 12 months and the majority of the rural respondents answered that they have a very minimal level of condom use. This presents a window of opportunity for addressing the epidemic in rural areas before it takes debilitating grip on the livelihoods of the population.

The Behavioural Surveillance Survey (BSS) conducted in 2002 and 2005 amongst different occupational groups including farmers revealed that rural dwellers are least-informed about the methods of prevention and transmission of HIV/AIDS. Nearly all respondents included in the survey had a stigmatizing attitude towards people living with the virus, the vast majority of farmers perceived themselves to be at no or low risk of infection because they trusted their partners, a very few felt that they were at moderate or high risk because they had unprotected sex. Focus group participant farmers mentioned that although HIV/AIDS was a disease of urban areas and it is only reputedly to have started to affect rural people as individuals are observed to come from town, after becoming sick with HIV/AIDS.

According to the 2005 Ethiopian Demographic Health Survey (EDHS), the small towns including *Bure* town were identified as HIV hot spots and exhibited higher prevalence of HIV as compared to the bigger towns in Ethiopia. The proximity and surrounding of this small towns to the adjacent rural *kebeles* could pose a greater risk to the unaffected rural populations (9, 10). The people from the study area (*rural kebeles*) have frequent contact with the town for temporary jobs (9) creating an opportunity to explore mechanisms of urban to rural spread of HIV risk. This type of seasonal migration is most often undertaken by farmers during the slack season and return home during agricultural activities. This population is described as ‘bridge populations’ for the HIV epidemic in rural areas (9, 18) and considered as one of the various social factors that have contributed to the HIV epidemic. Several studies have shown that people who are more mobile or who have recently changed residence tend to be at higher risk for HIV and other sexually transmitted infections (STIs) than people in more stable living arrangements(19).

The evidence from urban areas appears to indicate a generalized epidemic that is probably stabilizing or even declining in the major urban centers but increasing in the smaller towns (18). The progression of the HIV epidemic in rural Ethiopia cannot be fully described due to a lack of data, but the limited data available provides conflicting findings. In line with However, the available studies indicated the fact that HIV is more prevalent in rural villages closer to urban areas and those located along the main roads (9, 18, 20).

A sub-national study was conducted in HIV hotspots of Amhara Regional State to determine most locally relevant Most At Risk Population (MARPs) and their magnitude to determine prevalence of HIV and syphilis, and to identify risk factors for HIV infection. The ten hot spot districts including *Bure* were identified based on the antenatal care (ANC)-based HIV prevalence and facility based HIV data from the region. The study focused on five groups: sex workers, long distance truck drivers, mobile merchants, daily laborers and students. HIV prevalence among these groups, ranging from 11.6% to 37%, was considerably higher (1.5 to 5 fold) than the national urban adult population (7.7%) (18). Higher prevalence was linked with high sexual partner change, concurrent sexual partnership, high exposure to sexually transmitted infections (STIs), and low and inconsistent condom use(18, 21)

Even though some efforts are underway to expand HIV information and voluntary counseling and testing (VCT) centers throughout the country, coverage remains extremely patchy in rural areas. As a consequence, the level of knowledge about the prevention and transmission of HIV, socio-cultural and behavioural risk factors in most of the rural areas including the rural areas of *Bure Woreda* is very limited. If left unexplored and unchecked, the pandemic will force our resources to be diverted from development activities to caring for the sick which includes the key productive household members. The aftermath of the deadly virus considerably reduces the availability and quality of household labour, changes the composition of rural communities and alters the priorities of farming households thereby turning many of the traditional production oriented extension messages irrelevant.

In Ethiopia, local and long distance population movements have been significant in the diffusion of HIV as is the case elsewhere in Africa. In this country the frequent visits of male farmers to towns and the demobilization of soldiers appear to be major factors in the spread of HIV from towns to rural areas(22).

Available data suggested that HIV prevalence may be increasing in small market towns compared to big towns, which is worrisome as the former can serve as bridging sites for urban to rural spread of HIV (9, 23) Furthermore patterns of migration observed over a decade in *Butajira* indicate a very high mobility, with 48% of ever registered people in the surveillance system migrating and 34% of the total person-years observed being associated with migrants.

Extensive net migration of women aged 15-24 and men aged 25-44 from rural into the urban areas is also observed indicating the very high degree of HIV vulnerability associated with migration (23).

There is some evidence that cultural factors influence risk behaviours and HIV infections in Ethiopian society. HIV infection and condom utilization rates were reported to vary among various ethnic and religious groups in different parts of the country (24). Culturally sanctioned gender roles that circumscribe women's sexual rights in and outside of marriage and sexual violence (abduction, rape and domestic violence), casual sex and abortion, and child marriage render them vulnerable to HIV and STIs (25). A culture of silence prevents women and adolescents from discussing HIV risk and sexuality within their families and communities (25)

Most of the literature on HIV /AIDS relates to urban areas, and very little is known about rural areas, especially on how people understand the pandemic and protect themselves from risk factors (behaviours) (9, 10). There is no sufficient data for the prevalence of HIV in different rural areas in general and among the rural people in *Bure woreda* in particular. Besides there are fewer institutions operating in and delivering HIV/AIDS information, education and communication (IEC) program, providing testing and counseling for and making condom accessible in rural areas such services are both less accessible for remote rural communities and less tailored to the local realities (socio-cultural practices, illiteracy and gender differences, etc.). Hence, information related to the level of knowledge on the transmission and prevention of HIV/AIDS among rural population of several countries is likely to be low. Responses to HIV in rural areas have largely been based on assumptions made and experiences drawn from urban environments. Moreover, 'risk behaviours' has not, for most part been defined from perspective of local population sub-groups in the spectrum of socio-cultural attitudes (9, 10, 26, 27).

As mentioned earlier little is known about the routes of HIV risk in rural areas of the country in general and in *Bure Woreda* rural people in particular. Therefore this study examined the role of bridging population (temporary migrants) in the spread of HIV risks from urban to rural areas of *Bure* and to identify and explore the socio-cultural factors such as high fertility intention, holiday ceremonies, premarital sex, abduction, extra marital relationship, rape and *Kemete* (having of parallel wife) in the spread of HIV risks in the study area. The findings will be used

to provide new insights in to the HIV pandemic, which may enable to design more targeted message and interventions to control the transmission of HIV/AIDS from the high risk group (migrants) to the general rural population (study area).

CHAPTER 2: LITERATURE REVIEW

HIV/AIDS has evolved from a mysterious illness to a global pandemic infecting millions in less than three decades. It is now prevalent in virtually all parts of the world. The spectrum of the epidemic over the last decades has grown from a localized health concern to a global issue that now looms in national and international agenda(28).

All over the world efforts to address the AIDS epidemic have brought about promising developments, including increased access to effective treatment and prevention programmes, hence many countries of the world including Sub-Saharan Africa which bears a greater burden of the disease, have seen substantial reductions in HIV infection rates. In spite of the significant gains achieved through treatment scale-up and prevention initiatives, Sub-Saharan Africa's epidemic continues to increase and outpace the response HIV remains a critical health issue after almost three decades of the pandemic. According to surveillance data the pandemic is slowing in some countries but continues to surge in others (29, 30). Several studies showed that population groups engage in high risk behaviours and are known to have elevated rates of STI and HIV. Knowledge about HIV, STIs and condom use remain low among these population sub groups while a majority engage in multiple sexual relationship and transactional sex(31).

In Sub-Saharan Africa, the main risk factors for high HIV transmission are: population movement, trade contact, broad sexual mixing of partners including commercial sex workers (CSW),the high level of unprotected sex and reproductive tract infections, relatively low condom use, poverty and unequal distribution of wealth, gender inequality and several other cultural factors such as low rate of male circumcision and lack of social cohesion in some areas (20).

In Ethiopia, the first documented case of HIV infection was reported in 1984 at *Yekatit 12* Hospital in Addis Ababa(32). The first AIDS case was also reported in 1986 in the same city, Addis Ababa (33). Nevertheless, it is suspected that HIV had started to spread in the country in early 1980s. It is estimated that about 1.3 million people in Ethiopia are infected with the virus, of that total, 634,000 are from rural areas and 686,000 are urban communities(19). Though Ethiopia constitutes only 1% of the world's population, it contributes about 9% of the world's HIV/AIDS cases, it has the third highest number of infected people in Africa, which also makes

it occupy the third position in the world(34). The estimated percentage of infected people aged 15 to 49 was 10.6%. This again shows the country to be the sixteenth in HIV prevalence among the productive generation in the world.

The growth of the epidemic in Ethiopia has been and continues to be rapid. For instance, the national HIV prevalence was estimated to be 3.2% in 1995, 4.1% in 2001, 4.2% in 2002, and the figure has increased to 4.4 % in 2003 and is projected to be 4.5% in 2004. However recently the prevalence rate is declining. When age is taken as a variable, the highest prevalence of recent infection is observed between 15 and 49 years old. This clearly shows that the deadly virus is seriously and disproportionately affecting the young and adult population whose social and economic roles are vital . It is therefore, undeniable that the epidemic has a negative impact on labour productivity. Work time is lost through frequent absenteeism as a result of the inability to do normal work as the disease progresses. The social consequences of the epidemic are also grave as caregivers and income generating members of the family die leaving behind orphans and other dependents. This further leads to an aggravation of the problem of poverty and social instability (35).

As mentioned earlier, Ethiopian's economy is primarily based on agriculture where small-scale farmers occupy 96% of the cultivatable land. Periodic drought, soil degradation and poor infrastructure have been causing formidable challenges to bringing about sustainable development and poverty eradication(36). An estimated 60-80% of health problems are due to infections and communicable diseases and the health sector is potentially only able to provide basic health service to about 61% of the population. HIV/AIDS adds and compounds the development problems in the country(37) .

However, measures taken against the pandemic were delayed due to the denial and ignorance of the scale of damage the epidemic has caused. Due to socio-cultural and economic constraints coupled with lack of experience and inadequate infrastructure especially in rural areas, the capacity of the HIV/AIDS services delivery has been hampered and has curtailed the progress of prevention and control activities (35). The situation in the rural communities is aggravated by the fact that some farmers have had sexual relationships with commercial sex workers in the nearby small towns (9, 27, 38) and remains bad because of the markedly lower knowledge and

awareness among the rural populations(39). As a result, the current surveillance report indicates a steady rise in the HIV prevalence rate in the rural settings; whereas the trend in the urban areas seems to be stabilizing.

To identify the extent to which rural communities are at risk from HIV infection because of the status of the epidemic in the urban hinterland, the movement or the presence of temporary rural to urban migrants (bridging populations), the exposing factors of rural to urban migrants to sexual risk behaviours (predisposing and enabling factors), leisure activities and socio-cultural factors including fertility intention within the rural community, how/why these link to sexual risk behaviours such as the experience of pre-marital sex, having multiple sexual partners, the use of condoms, experience of sexual transmitted infections (STI) and/or sex with commercial sex workers needs to be assessed.

2.1. The Urban Hinterland and Woreda Hotspots.

In order to examine the dynamics of HIV/AIDS in rural areas, it is essential to place rural communities in the context of their urban hinterland. The disease is well established in many of the principal regional towns throughout the country, where prevalence rates typically range from 10 percent to 20 percent (15). The extent to which the farming community interacts with this high-risk environment (and engages in unprotected sex with infected people) will have a major bearing on the development of the rural epidemic. The high urban HIV prevalence rate in Amhara towns is mirrored in the high rural prevalence rate of over 5 per cent; whereas the more moderate urban rates of 12.4 percent in Tigray and 10.3 per cent in Oromia are reflected in lower rural rates of 2.8 percent and 1.8 percent, respectively(40)

2.2. The Movement of the Rural Populations and HIV Risk Behaviours.

Migration is defined as the process in which one or more family members leave resident households for different reasons and varying periods of time and by so doing are able to contribute to their household welfare (41). Circular migration is not necessarily tied to seasonal factors or other social related factors such as education, migrants routinely return to the resident household and do not set up permanent living arrangements in the temporary workplace. Seasonal migration is characterized by the temporary movement of persons

between either rural and urban or rural and rural areas timing their movements to coincide with the slack farming season at home and the peak labour demanding time at destination (42).

Migration, particularly the relocation of individuals and families from rural areas to cities for economic opportunity, has been viewed as a strong co-factor in accelerating HIV prevalence (43).

Temporary or cyclical seasonal labor migrants in Sub-Saharan Africa have been described as 'bridge populations' for the HIV epidemic in rural areas (44). The frequent hypothesis is that the movement of migrant populations increases sexual network opportunities for having an infected partner. As migrants return home to their rural communities and partners, they spread the disease to previously low endemic areas. In short, migration in and of itself is widely considered to be a factor that increases risk of HIV infection.

One of the focus areas of this study is internal migration, particularly seasonal or temporary migration of labour that is undertaken by farmers for wage-earning employment. This type of migration is most often undertaken by peasants during the slack season and they return for the peak periods of agricultural activities at home. Labour migration is, and has been for generations, an important component of livelihood diversification and coping strategies for many households who continue to base their lives in the villages and to consider themselves primarily farmers(45). It occurs at certain times of the year with migrants retaining strong links with their rural family and usually remains at destination from one to six months. This type of migration is undertaken as a coping strategy to reduce their household food consumption and to earn and remit money home from the income they have obtained (45).

When men leave their families for distant places in search of better job opportunities, they leave their wives behind and their behaviour is ascribed to feelings of isolation from family and moral constraints of community (46). The perception of isolation brought about by their temporary dislocation creates an urge for consolation and short-term companionship and drives them to engage in risky sexual behaviour in the locations where they find work(47). Therefore, people move from one place to another are more vulnerable to HIV/AIDS than those who stay put.

Population movements, mostly in response to rural poverty, environmental degradation, and war, have been significant in the diffusion of HIV in Ethiopia and elsewhere in Africa. The frequent visits of farmers to towns and markets, the demobilization of soldiers, and increasing motorized long-distance transportation have been identified as major factors in the spread of HIV from the towns to the rural areas (48).

Bridging populations are those who link the low prevalence rural areas with the high prevalence urban communities, those who link their rural communities with higher-risk urban hinterlands for employment, education, business or other social reasons and those people who are attending administrative matters e.g. when the rural administrator visits the main *woreda* town or elders mediating conflicts. Farmers are susceptible to female commercial sex workers while visiting towns especially after they bring their products to market or distribution points for sale. This indicates that this group could include carriers of HIV into rural areas (9, 10, 27).

There are three types of bridging population (26), who may link low- HIV prevalence rural areas with higher-HIV prevalence communities. The first are those who may carry the virus from outside into rural communities, this includes professionals working in rural communities such as agricultural development agents, teachers, and health workers, These groups are often unaccompanied by their families; politicians visiting rural areas for sensitization and mobilization purposes for extended periods; the military posted to rural camps; commercial sex workers who follow the seasonal migration of people, seasonal income flows,; long-distance truck drivers and their assistants on overnight stops.

The second bridging populations relates to those moving within and between neighboring rural communities. Such movement is associated with daily living (such as fetching wood, water, milling, public meetings, and community development works), attending to administrative matters (for example, rural administrators visiting the main *woreda* town or elders mediating in conflicts), and social affairs (visiting relatives, attending wedding and burial ceremonies, special church meetings or holidays). With the exception of social events and overnight stays in administrative centres, the risk of sex that is associated with daily aspects of rural living is considered to be minimal.

The third group is the adults and youths who link their rural communities to higher-risk urban hinterlands for employment (seasonal migrants), education, or other social reasons. These activities take place away from home and away from the confines of community norms, so the lack of social cohesion and anonymity may be a contributory factor encouraging them to engage in activities outside their social norm. The group includes seasonal rural to urban migrants who seek alternative employment during the quiet months in farming, for example, working as labourers in the construction industry, on road construction and on large commercial farms as well as students attending further education in the towns or big cities. Ad hoc movements include visits to relatives; school dropouts and military returnees moving between small towns and their rural community, administrators and government employees attending meetings or training outside the *woreda*, and people who usually stay with relatives or friends. Many men leave their wives in the villages and take on a new “wife” (*kemete*) in their new residence.

HIV infections in rural areas originate most often from urban areas and migration has often been found to be one of the main risk factors for HIV infection in studies conducted among rural populations. Mobility enables the virus to shift from urban centres to the countryside, populations living in interfaces such as trading centres were found to be more infected than those living in isolated villages. However, going back and forth between villages and cities is not sufficient to act as a potential vector for HIV. The behaviours of migrants are indeed one of the key issues; previous studies conducted in Africa found that migrants have more risky behaviours than non-migrants (49). Two non-exclusive explanations are firstly that travelling exposes migrants to new behaviours, previous observations showed that risky behaviour was more frequent in town than in nearby rural areas (50, 51) and secondly, migration disrupts traditional social constraints and control on sexual behaviours. Married people often travel without their spouse, increasing the risk of extramarital sex, sometimes, sexual partnership with local people in the migration area are very difficult, orientating migrants to have sex with commercial sex workers with much higher rates of HIV infections than the general adult population. Studies have found that male migrants who are settled with their families engage in less risky sexual behavior than their counterparts who migrate without their families (52, 53)

Studies conducted in other countries show that economic mobility and migration can make people more vulnerable to HIV/STI infections(51). Young migrant workers away from their

friends, spouse, families, and communities often experience feelings of isolation and loneliness that can lead to drug abuse and sexual activity putting them at increased risk of HIV/AIDS (54). Studies conducted in Nepal and in the region demonstrate that rural to urban migrants often initiate pre-marital or extra-marital sexual relationships that would probably not have occurred in the absence of migration. Most of these studies also demonstrated that, despite pre-marital and extra-marital sexual relationships and low use of condoms, the majority of these young migrant workers did not consider themselves at risk, partly because of widespread misinformation about the risk of AIDS(55).

The relationship between population migration and the spread of HIV is well documented (56). However, to date, the reasons for this relationship have not been well explored. Some researchers have found no difference in sexual behaviours between migrants and non-migrants(57), while other studies have documented a correlation between the migration experience and increased sexual risk behaviours(58). It is generally believed that migrant men acquire infections while they are away from home and subsequently transmit the virus to their sexual partners upon returning home (59). A study conducted in South Africa found that HIV infection among rural women was not associated with their migrant sexual partners but, instead, was associated with the number of their sexual partners in the rural area (54). Based on their data, the authors argued that the direction of transmission of HIV was not only from return male migrants to women in rural areas, but could also be from women in rural areas to returning migrants (57).

There is a great deal of speculation concerning a number of social and cultural conditions that could potentially contribute to the link between rural to urban migration and sexual risk (60). Still, the precise way in which migration contributes to the spread of STIs and HIV infection is complex and not well understood. Previous studies have focused on the destinations of migrants, or, less often, on the areas from which migrants come. Few other studies have considered both ends of the migration process of those who leave home as well as those who remain behind.

Despite the prevailing views in the literature and among policymakers, the link between migration and HIV vulnerability may be more an assumption than an empirically validated

finding. Many research and intervention programs proceed to target migrant population groups to the questionable exclusion of non-migrants in the same locales. A study in India has shown that it is non-migrants who are involved in greater risk behavior (61) and found a rate of 27% HIV positivity among non-migrants compared to only 9% among migrant populations (62).

Migration influences risk through exposure to differential prevalence's of HIV, disruption of social control, and alteration of risk behaviours (63). Moreover, evidence exists to show that some people living with HIV do move to rural areas close to their families to obtain care in a community with shared needs and interests (17). Since the majority of them are sexually active, they may play a major role in HIV-1 transmission in rural communities.

The role of 'circular' or 'oscillating' migration in the spread of HIV infection in Africa has been described in many studies (63-65). These studies have largely focused on rural to urban migration where men leave their rural partners to work in urban areas and return home periodically acting as a bridging group in HIV transmission. Most of these studies that have included only men, have not considered the rural end of migratory routes, and have not explored the HIV magnitude and sexual risk behaviours among permanent rural in-migrants. Evidence of increasing HIV prevalence in rural Sub-Saharan Africa is mounting (65, 66).

Rural urban migrants have periodical returning to the rural area for marriage, celebration, visit, heritage, or care in the case of illness, (26). It is already documented that the initial incidence of HIV infection is high in this population (67).

Short-term mobility was a risk factor for HIV infection among migrants in Senegal and Guinea-Bissau (68). The research consistently shows that migrants are more likely to have engaged in HIV risk behaviours and/or be HIV positive than non-migrants. Several reasons are offered for why migrants are more at risk of HIV infection. Research often focuses on HIV risk for migrants to urban locations, where HIV prevalence is higher than in rural areas throughout sub-Saharan Africa (69). With higher HIV prevalence, urban residents are exposed to greater risk of HIV infection than rural residents, even if the number of sexual partners does not differ between rural and urban residents. However, some suggest that the number of sexual partners increases after migration to an urban area. The link between urban migration and HIV risk has become less clear of late (63) show that rural to urban migration is no longer associated with increased

risk of HIV infection in some areas of Sub-Saharan Africa, some migrants are aware of the higher HIV prevalence in urban areas and change their behaviours in response to the increased risk (70).

People tend to focus on more visible and immediate issues such as entrance into the labor market, providing for families, and other daily survival issues (71). In conditions of poverty, the risk of HIV infection assumes low priority among people with daily concerns. Poor people in rural areas move to towns in search of work, leaving their families and entering an environment where sexual risk-taking is more common than in their rural homes. Mobility has a critical factor in the spread of HIV in many regions. Key population groups that are highly mobile and high at risk of HIV transmission are sex worker, mobile employees of large industries and traders. Occupational travel is associated with high rates of partner change and unsafe sex. Travelers thus play a part in bridging epidemic between areas of high and lower HIV prevalence (72)

A study has shown that for many decades' mobile people in rural areas have been typically young men of age 15-30 years, especially in Africa. Mobile males may engage in high-risk behaviours with sex workers, thereby increasing the risk of infection to themselves and their partners. One study from central Ethiopia showed that the spread of HIV/AIDS into rural communities is occurring as a result of existence of high risk sexual behaviours in specific rural sub groups. These are known to be frequently traveling into urban communities in combination with a low background prevalence of high-risk practices among the general male farmer population(73).

In rural Ethiopia, the agricultural activity is seasonal in character in which the peak periods of harvesting and cultivation vary across time and location. These spatial and temporal variations in terms of agricultural peak periods between the source and destination areas not only create favorable situations for seasonal out-migration of labour but have remained an essential component of the livelihood strategies of many rural households(74).

Seasonal migration of labour is found to be an important component of the livelihood strategies of many rural households in the study area. It is carried out to diversify household incomes, save and invest in rural areas, and reduce risk and vulnerability. The earnings obtained from

seasonal migration of labour have served rural households to supplement their income from agriculture and alleviate the problem of farmland. In addition to the cash earnings, labour migrants bring back home items such as household utensils, consumable goods, clothes and educational materials (74). Economic reasons are not the only reason for internal migration, it is also closely tied to marital breakup, whether due to separation, divorce or widowhood, especially for the women (75).

Factors affecting risk of getting HIV infection in rural to urban migrants are described in line with the conceptual framework developed for this study. They are categorized as predisposing and enabling factors.

The predisposing factors talk about the factors which can increase or decrease the motivation of the individual to change behaviours, such as age, marital status, education and knowledge, information and beliefs about HIV/AIDS. In Ethiopia the young populations and women of reproductive age, face the greatest risk of HIV infection, with prevalence rates much higher than the average for both urban and rural areas. This is associated with an early age of sexual debut and sexual mixing with high-risk older men, on top of their biological and gender-related vulnerability (9).

People's knowledge can influence their actions towards adopting risk-reduction behaviours such as abstinence, reduction in premarital sex, reduction in number of sexual partners, avoidance of non-spousal sex, and condom use during non-spousal sex. Knowledge is also an important prerequisite for health-seeking behaviours, utilization of HIV prevention, care and support services as well as fighting stigma and discrimination against people living with HIV(76). Knowledge and practice of condom in preventing HIV/AIDS among commercial sex workers in three small towns of northwestern Ethiopia revealed that among the partners of commercial sex workers who did not like to use condoms, the majority (81%) were farmers who came to those small towns from the surrounding rural areas. High condom use rate was observed when the level of educational status of commercial sex worker increased from lower to higher grade (77).

Rural women found to be the least well informed about preventive methods that place them at risk both during sex and as carriers of PLHA. Farther more male resistance to condom use and women's inability to negotiate safer sex puts women's at greatest risk of HIV infection. For

male, the rationale for resisting the use of condom includes concern about reduced sensitivity, ignorance about how to use condom properly and fear that using it will permanently interfere with fertility(78).

Both of the Ethiopian behavioural surveillance surveys of 2002 and 2005 found farmers to be the least well informed about HIV preventive methods and had the highest level of misconception about how it could be transmitted; overall comprehensive knowledge about HIV/AIDS was very low.

Enabling Factors such as leisure activities, peer influence, alcohol and drug (*khat*) use and easy access to CSW are barriers for migrant to change sexual risk behaviours in the society. For example, Peer influence has an important role in sexual risk behaviours(79). According to the survey male peer groups are closely linked with both the initiation of and the continued participation in sexual activity involving commercial sex workers (47).The peer group context is important for commercial sex visitation among both single and married men. Unsafe sexual behaviours is often influenced by peer pressure (80).

Alcohol has several adverse effects on HIV/AIDS transmission. First, it is a pull factor for customers of both men and women. Drinking impairs judgment and the loss of control among individuals that leads to sexual relationships. Secondly, drinking places are breeding grounds for multiple sexual partner relationships and even commercial sex workers have been closely associated with the development of the alcohol trade. Thirdly, it is relatively common behaviour pattern for HIV positive young men to drink alcohol and then sexually seducing young girls(60).

In some areas, drinking alcohol is closely related to the highly mobile male population with social norms affecting the use of substances that lower sexual inhibition, and contact with commercial sex workers. In rural areas, problems they may be forced to go against their will to practice safe sex(81).

Drinking is especially noticeable at weddings, night parties and at last funeral rites. Where people live in overcrowded small houses sex is likely, sex with a stranger in such ceremonies while drinking alcohol is one of the more commonly described rural occasions associated with transmission of HIV/AIDS /STDs(82). In such areas, alcohol consumption has been shown to decrease inhibition and is associated with increased STIs, probably due to no or incorrect use of a condom. It also increases the amount of vaginal or anal abrasion that occurs in unprotected

sex with insufficient lubrications, abrasions are open portals for the transmission of HIV (83). Alcohol and drugs have been found to be a risk factor for ever having had sex, having more sexual partners over lifetime, and having more than one partner during the last three months (84). Alcohol not only fosters risk taking in sexual behaviours but also reduces the likelihood of condom use (85).

In Ethiopia, alcohol and drugs like *khat* are commonly consumed in both urban and rural areas. The 44% of the youth who reported having had risky sex in the previous 12 months used alcohol and *khat* regularly. A study conducted on casual sex-debuts among female adolescents in Addis Ababa showed that 'alcohol' and '*khat*' use have strong links with the incidence of 'rape' as a factor contributing to early sex initiation (86). As in many societies, there was a feeling of cultural clash between the society and youth that have been exposed to and influenced by modernization.

Khat chewing and alcohol consumption, often in combination provide fertile environment for the execution of pre-contemplated ideas on sex. These practices were reported to be common among groups of young people who call themselves 'modernized'(87).A study conducted on school anti-AIDS club members and non-members' youth in Ethiopia (*Jimma and Agaro*) showed that alcohol and *khat* consumption were shown to have great influence on risky sexual practice .

In the BSS Ethiopia report, 47 % of the respondents reported that they have tried drugs (*khat*), and about two third of the respondents consumed *khat* at least weekly and drunk alcohol once a week and have had recent un- protected sex with a non marital partner . Furthermore, another study showed that “Some men are more sexually excited when drunk and may be tempted to touch, hold or sleep with any women who consents to their sexual desire” (88).

Substance abuse (alcohol and *khat*) and Gender-based violence were considered as factors that exacerbate the spread of HIV among certain groups, widow inheritance, polygamy, high divorce rate and skin tattooing intensified the magnitude in some areas of the country . A national study 16 demonstrated that alcohol and *khat* use substantially and significantly increase the likelihood of having multiple sexual partnerships (MSPs); those who use alcohol and *khat* are about twice more likely to have MSPs than those who are not using these substances. Condom use is less by

at least 50% among alcohol and *khat* users than those who do not use these substances.

2.3. Leisure Activities and HIV Risk Behaviours

Leisure activities and leisure time make up an essential part of people's daily life (89, 90). In addition to such functions as recreation, leisure time allows an individual to connect with others in the society and to gain access to various needed resources (91, 92). A number of studies have reported factors associated with HIV risk behaviours among rural migrants, including socio-economic status (93), workplace and job type (94) and mobility across cities (95). However, little is known about whether and what types of leisure activities are associated with HIV risk behaviours. Although rural to urban migrants may enjoy little leisure time (due to the labour intensive work), such limited time may in fact serve as a window of opportunity for them to engage in HIV risk behaviours. Furthermore, some migrants reported watching videos, wondering the streets, visiting entertainment installments after work (96, 97). Engagement in this type of activities may increase the likelihood for migrants to engage in HIV risk behaviours by increasing the exposure to pro-risk resources and environment. Likewise most migrants reported watching TV programmes broadcast to the general public (educational, informational and recreational) or doing chores at home (92) after work. Engagement in such constructive leisure activities may prevent migrants from engaging in HIV risk behaviours. Therefore, understanding leisure activities as a potentially modifiable factor and their association with HIV risk behaviours will be of great significance for interventionists to devise effective prevention programmes. Moreover, understanding leisure time would help to plan appropriate interventions that focus on modifying behaviours in order to minimize exposures to high risk activities.

In this study, we focus on the association between leisure activities and HIV risk behaviours using cross-sectional survey data. We first describe the patterns and levels of a group of leisure activities, followed by the prevalence levels of HIV risk behaviours. We then examined the associations between the two among migrants and non-migrants. The purpose of the study was to identify the leisure activities that were associated with different levels of likelihood to engage in HIV risk behaviours and to fill in the data gap on factors that predict HIV risk behaviours among rural to urban migrants and non-migrants in *Bure woreda* as well as providing evidence to support future HIV prevention research. Based on the information from the previous studies, it can be hypothesized that certain leisure activities (e.g., watching videos, playing cards in

groups, and visiting entertainment installments) are associated with increased likelihood of HIV risk behaviour, because engaging in these activities during leisure time may lead to risky sexual behaviour (including commercial sex and unprotected sex); while other leisure activities (e.g., watching television and listening to radio which are freely available and contain programmes that are typically educational, informational and recreational) are associated with reduced likelihood of HIV risk behaviour, people who engage in these activities may obtain knowledge/skills from the mass media on HIV prevention while being entertained(98). Leisure activity was defined as those activities that migrants and non-migrants often engage in for relaxation, entertainment, socialization, information, and recovery carried out in the time free from work or other duties.

2.4. Socio-cultural Norms, Practices and HIV Risks.

As defined by Edward Taylor(99), culture is “ that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of the society”. It means that culture is the totality of living. Some basic characteristics of culture include the following: culture is shared; it is learned and not genetically transformed. Cultural traits, mode of behaviours are learned through the process of socialization in a society.

Cultural factors influence sexual norms and behaviour. Sexual behaviour as “shaped by a variety of social and cultural factors inherent in the society”(100). The argument is that local cultural belief systems need to be taken into account, including cultural beliefs as to how “sex” is defined and sex is practiced. It suggests that the tradition of family formation and the expectations that men and women have of one another and of society are the prime factors dictating the sexual behaviours that put people at risk of contracting HIV. Culturalists believe that there is a wide diversity of cultures in sub-Saharan Africa and in most of these societies, social relationships are dictated by a tightly-bound network of kinship and marriage which dominate, shape and constrain individuals' beliefs and sexual practices. Many aspects of African marriage systems strongly influence sexual behaviour. Polygamy, early marriage, post-partum sexual abstinence and long periods of spousal non-cohabitation tend to favour high rates of partner exchange (100).

Although reports indicate that the HIV epidemic is leveling off in Ethiopia, a significant number of people live with the virus and many families are affected. With the low prevalence of HIV, the expanding and heterogeneous nature of the epidemic in rural areas sustains the concern because the majority of the Ethiopian population lives in rural areas with limited access to HIV services and challenged by prevailing poor socio-economic status(10).

Once the virus is present in a rural community, the cultural and social practices such as early marriage, abduction, women violence polygamy, high fertility intentions (desire to have many children) and widow inheritance may contribute to the spread of the HIV virus. Some of the traditional mechanisms to ensure widows' access to land contribute to speed up AIDS, including the custom obliging a man to marry his brother's widow. Unfortunately, initiatives to stop these practices may leave widows without access to land and food and different studies have found that rural women whose husbands have died of AIDS were forced to engage in commercial sex for survival because they had no legal rights to their dead husbands' property(101).

Cultural shaping of young people's sexuality gives the privilege for males to be sexually active, to be in control of sexual relationships and to be less responsible for precautions to prevent HIV/AIDS or pregnancy. The youth, in general, sense their excessive vulnerability to HIV/AIDS and unintended pregnancy, but lack individual motivation and skills to practice safe sex behaviour (102).

In many Sub-Saharan cultures, early marriage is customary and a primary concern for the family, girls are often given to marriage at early ages to ensure respect and marriage alliance. One of the primary objectives for early marriage is to protect a young girl from pregnancy out of wedlock knowing that unwanted sexual contact is inevitable (103). Facing economic hardship, some parents expose their young daughters to early marriage in order to ease them of what they consider an economic liability by receiving a dowry or bride price. Child marriages are prevalent among extremely poor populations and are associated with lower levels of education. In part, these behaviours represent the continuation of traditional customs in a contemporary context.

2.5. Fertility Intentions and HIV Risks.

An emphasis on high fertility and the primacy of parenthood mitigates against widespread consistent use of condoms while strong ties to natal family groups may prevent the development of close and mutually exclusive emotional ties between husband and wife. This situation favors multiple partnerships and dissemination of HIV infection both in urban and rural settings.

Many sub-Saharan parents approach child marriage in terms of custom, duty, social alliance or economic benefit. According to UNICEF's reports, "For both boys and girls, early marriage has profound physical, intellectual, psychological and emotional consequences, cutting off educational opportunities and chances for personal growth"(87).

Sexual behaviours in some African countries is largely organized to ensure procreation (80). While motherhood is an important part of womanhood, fathering many children is a sign of manhood, success and virility (87). Infertility is stigmatized and it is mainly the women who are blamed for the condition. In the case of childlessness many men take another wife or a girlfriend and have children. In many African societies, the birth of the first child is considered an essential step in the marriage process, and an inability to have children may result in divorce or separation. Some women bear children before marriage in order to prove their fertility to future husbands (87). A study in Moshi shows that women who have spent less than a year in single motherhood are more likely to enter into a union than childless women. Similarly, women who have problems conceiving may seek multiple partners (104). It is predicted that both women and men have a higher risk for HIV due to women and their partners seeking multiple partnerships associated with childlessness.

It is generally believed that high infant and under-five mortality causes high fertility through the insurance and replacement effect. The "insurance effect" assumes the couples adjust their fertility because they expect some of their children will die. "Child replacement effect" involves a deliberate decision of couples to make up for the lost children and is based on the fact of their previous child bearing (105). Analysis using data from rural Ethiopia that supports child/infant mortality has a significant positive effect on the number of children ever born (106).

It is thought that an increase in the number of children who have died raises the probability of attaining higher fertility (106, 107). Similar results in South Africa were also found in the study (107), in which it was illustrated that under-five mortality had a significant positive effect on fertility status. That is, an increase in the under-five mortality rate increases fertility significantly. As the number of infant deaths increased, women were exposed to a higher risk of uncontrolled fertility (108)

With a background of a very high prevalence of HIV infection among women of childbearing age and the increasing demand for treatment to prevent mother to-child transmission, the desire for a future pregnancy among women is investigated in relation to (1) self-perceived risk of HIV infection and (2) Knowledge of HIV/AIDS, and (3) child mortality.

To date, studies have shown that HIV infection may affect fertility by influencing desires and intentions for having children. On the other hand studies of fertility intentions among HIV-positive individuals have found ambivalence and mixed results while some studies report a strong desire to have children, consistent with the high social value placed on children. The relative strength of these conflicting feelings varies according to the individual and contextual factors, for instance unmarried women express more confidence in their ability to stop childbearing than married women, who in many contexts report pressure from husbands to have children (109).

People who do not know their sero- status but suspect they are HIV-positive may, in turn, modify their desire to bear children in response to fears about the disease. The limited evidence about this topic has identified a relationship between the HIV perceived risk and fertility intentions, but the direction and magnitude of this effect remain unclear. Indeed, subjective assessments of HIV risk has been shown to be correlated with increased fertility intentions in some settings (110, 111), whereas other studies suggest that perceived HIV risk is not associated with desires for additional children (112, 113). Another possibility is that women who perceive a higher risk of death from HIV/AIDS may desire fewer children, possibly in the belief that no one would be able to take care of the children (113).

The behavioural mechanism in which women want to have more children in order to replace children who have died, or insure themselves against possible higher mortality of offspring in

the future, has been explored within the context of the HIV epidemic. Studies have found mixed results for a replacement or insurance response to HIV prevalence. Greiser and coauthors used qualitative methods in Zimbabwe to suggest a weak replacement response to childhood mortality (113), while Gyimah and Rajulton found a strong intentional replacement behaviours in Ghana and Kenya (114). Kalemli-Ozcan used cross-country regressions to suggest an insurance behaviours mechanism via a positive correlation between HIV and the total fertility rate (115).

The question is whether women will take measures to prevent HIV infection in themselves and their fetuses if they perceive themselves at high risk for HIV infection, or will they endeavor to fulfill the utilitarian–economic, social, or psychological dictates of childbearing.

Therefore, this study attempts to contribute to the existing literature on the subject by systematically identifying the relationship between perceived HIV risk and child mortality by fertility intentions among married women in rural Ethiopia. The hypotheses that the study attempted to test is that a high self-perceived risk for HIV infection is associated with a lower desire for a future pregnancy and a higher desire for a future pregnancy to replace childhood deaths that may result from HIV infection.

With the increase in child mortality primarily due to mother-to-child transmission of HIV, women may be under pressure from their spouses or sex partners not only to reproduce, but to also achieve a desired number of surviving children. The child replacement hypothesis postulates that women who experience high childhood mortality may hoard children in excess of the desired number and that “hoarding” of children has always been a rational response in environments of high infant mortality in order to maximize the chances of at least one surviving child. However, a different school of thought is that women who experience several childhood deaths or fetal losses may be so traumatized that they are motivated to stop childbearing.

Whether women know (or suspect) they are infected with HIV or fear becoming infected through unprotected sexual intercourse with their partners, a pregnancy can affirm a woman's own health, or at least her capacity to bear a healthy child. Women use pregnancy to demonstrate the absence of HIV infection and continuing good health and frequently cite fear of

abandonment as the underlying motivation for demonstrating good health and avoiding any suspicion of HIV infection.

The perceived effects of the HIV/AIDS epidemic on fertility desires from respondents in Kenya and South Africa were of the view that the impact was both negative and positive. Key informants in Kenya reported that although some couples who perceive themselves at high risk of HIV/AIDS may decide not to have children because of the “precarious future” that may be caused by them contracting the disease; others argued that they may as well want more children to help support them when sick. They also noted that having children can help HIV-infected women hide their status. These mixed feelings should be contrasted with the findings from the 1993 and 2003 Kenyan demographic survey (KDHS) data. From 1993 to 2003, the percentage of women who said they wanted to have children within the next two or more years increased from 38 percent to 45 percent(108). Some key informants interviewed in Kenya explained these findings by a desire from society to “replenish the population” in response to AIDS-related deaths and the rising infant mortality rate over the past decade. In South Africa, reasons for the positive/negative impact of HIV/AIDS on fertility desires were quite different to those evoked in Kenya. Some South African respondents believed that the desire to have children because of the availability of child-support grants might be over-riding any concerns about contracting HIV/AIDS. As one key informant said, “Married couples desire to have children regardless of their HIV/AIDS status they do it because they want the child grant.” Other respondents stated that the fear of HIV infection and leaving a trail of orphans might be diminishing the desire to have children.

Infertility is common in Africa, but virtually no data exists on HIV prevalence among infertile women. Mainly anthropological studies in Africa have shown that infertile women have higher risks of marital instability and possibly also have more sexual partners than fertile women. A study in Tanzania showed that there, the HIV prevalence was markedly higher among infertile women than among fertile women: 18.2% and 6.6% respectively. Data on past sexual behaviour showed that infertile women had more marital breakdowns more lifetime sexual partners and higher level of exposure to sexually transmitted infections (STI).

In Ethiopia the prevalence of primary and secondary infertility is 3.3% and 4.6% respectively. Women with infertility problems appear to have higher HIV prevalence, which justifies more attention for such women in the context of AIDS programmes.

Harmful Traditional Practices (HTPs)

Harmful traditional practices such as uvulectomy, milk-tooth extraction, female genital cutting, women's circumcision, and tonsillectomy are very common in the rural areas of Ethiopia(116). milk-tooth extraction, uvulectomy and female genital cutting (FGC) were cited as the most common harmful traditional practices, which may result in contact with infected blood(116). Moreover, Ethiopian health officials' fear that the use of unsterilized instruments to perform these practices aggravates the HIV/AIDS epidemic(39).

The traditional widespread ritual of circumcision slightly reduces the risk of HIV infection (117). However, there is a possibility of infection during performing the circumcision, as it is not uncommon in rural regions that boys are circumcised not by a surgeon in the hospital, but by the "legzi", a traditional master who performs the circumcision at home in non-sterile conditions. It is also not uncommon that circumcisions of dozens of boys are performed in orphanages at the same time, using the same cutting instrument.

2.6. HIV Risk Sexual Behaviours

Sexual behaviours, which remains the primary target of AIDS prevention efforts worldwide, is widely diverse and deeply embedded in individual desires, social and cultural relationships and environmental economic process(118).

One of the potential negative outcomes of young people's unsafe sexual practices is a high risk of contracting HIV through high incidence of unprotected sex with multiple partners (119). As the AIDS epidemic continues to spread across Africa, there is growing concern that the prevalence of risky sexual activity among young people may be rising. Such concerns are prominent in the continent as the whole, where the market reforms that were initiated during the late 1980s have introduced a variety of new media from abroad and encouraged the growth of a consumer culture and migration to urban areas among younger individuals(118).

Several studies have found that the perception of risk is strongly related to the self-protecting behaviour of individuals largely because of the adoption of protective behaviours, which are unlikely to occur unless the person is well aware of the risk of HIV infection. Studies show that people can judge their risk of HIV infection(119)

A study conducted in South Africa has revealed that the level of perceived HIV risk was fairly low among males, 58% perceived no risk and 31% small risk; the proportions among females were 60% and 29% respectively only 5% of males and females perceived their risk as great (120). The relationship between young people's assessments of their HIV risk with assessments based on current and past sexual behaviour, where more males than females who considered themselves to have no risk or a small risk of contracting HIV were actually at moderate or high risk in relation to unprotected sex (121).

In the context of HIV, "risk" is defined as the probability that a person may acquire HIV infection. Risk arises from individuals engaging in risk-taking behaviours for a variety of reasons. They may, for instance, lack information on HIV, being unable to negotiate safer sex, think that HIV/AIDS affects different social strata than their own, or may not have access to condoms(122).

The individuals' societies and nations are more or less susceptible to infection and the speed and extent of the spread of HIV is determined by this susceptibility (123). Some studies on HIV risk behaviour showed that, despite adequate knowledge about HIV/AIDS, a higher proportion of people, especially youth, continue to perceive themselves in high-risk behaviours. The risky behaviours known to place an individual at risk for HIV infection is having multiple sexual partners, which is probably the key concern in much of the Sub-Saharan Africa (124).

In the current study, sexual risk behaviours were measured by using the following variables: having of multiple sexual partners, use of condoms, sex with CSW, experiencing of sexually transmitted infections (STI), and pre-marital sex

Multiple Sex Partners

The practice of multiple sexual partnerships varies between regions, sex and marital status. Communities tend not to associate their customary sexual practices with the risk of HIV

infection since they are conducted within community norms, including inherent elements of trust(87). In a survey conducted among farmers in rural Ethiopia, despite the knowledge about AIDS, extra-marital sexual contact was reported by 13.5% of them and of these, 7% (1% of the total) had sexual contact with commercial sex workers. The rate was reported to be much higher (45%- 50%) among soldiers, merchants, and students residing in rural settings (27).

Use of condoms

Despite some recent increase; rates of condom use remain very low throughout Africa. A study in Tanzania has shown that only 20% of the men and 3% of the women ever used condom, again the use was not reported as regular. However, in Ethiopia a study conducted in Gambela showed that, among those who had casual sex in the last one year 39.6% did not use condoms (125).

The most common mode of transmission of HIV in the country is through unprotected sex with an infected person. To prevent HIV transmission, it is important that young people practice safer sex through the much advocated ABC method: according to EDHS 2005 young people (15-24) have engaged in higher risk sex in the 12 months period preceding the survey. One quarter of the women and just under half of the men reported condom use in their last higher risk encounter . In Kenya; Kisumu, 25% of sexually active young boys and 33% of young girls said they had not used a condom during their first and subsequent sexual intercourse(126, 127). Those young people who know something about HIV often do not protect themselves because they lack the skills, the support, or the means to adopt safe behaviours. Young girls and women are regularly and repeatedly denied information about and access to condoms. Often they do not have the power to negotiate the use of condoms .

The BSS conducted in Ethiopia tried to compare knowledge about preventive measures and practices exposing to HIV/ AIDS among in-school and out- of- school youths. It showed that although condoms were readily accessible, only 50% of sexually active in- school and out-of- school youths had ever used them with non-commercial partners. Consistent condom use in the past 12 months with non- commercial partners was 39% for out- of- school youth and 73.6% for the in- school youth . A similar study conducted in Addis Ababa revealed that 43.2% of the sexually active students knew about condoms on their first coital encounter. 82 % of those did

not use condoms on their first sexual encounter, only 27.7% of the sexually active students claimed that they had continuously used condoms(128). Another study conducted with college students revealed that only 217 (17.9%) of the sexually active respondents reported that they always used condoms (117), whereas the highest proportion 802 (66%) reported they did not use condoms at all (129). The DHS 2005found out those urban residents were much more likely to use a condom during potentially high risk sex than rural residents . This would appear mainly to be due to a general reluctance to use them rather than their availability.

Sex with commercial sex workers (CSW)

Populations such as adult female, male, as well as children victimized by the sex trade stand the highest risk of contracting HIV (29, 130). The nature of sex work makes those involved in sex work more susceptible to sexually transmitted infections, violence, unprotected sex, and alcohol and substance abuse, all of which potentially increase the risk of contracting HIV. A number of studies have established sexual behaviours and heightened risks among sex workers. Data reported from seven African countries demonstrate that more than 30% of all sex workers are living with HIV (29, 131). In addition, it is well recognized that sex workers and their clients are a potential bridge to other populations and are a priority population for HIV prevention programmes. Whereas the impact of sex work on the rate of new HIV infections varies widely in Sub-Saharan Africa, it impacts significantly on the HIV/AIDS epidemics of a number of countries in this region. In Ghana, for example, FSWs and their clients made up a third of new HIV infections in 2009, in the same year, in Uganda, 10% of all new HIV infections and 14% of HIV infections in Kenya occurred among similar population group (29, 131).

HIV prevalence is generally higher among sex workers than in the general population. Surveys of sex workers in some urban areas between 1998 and 2002 detected extraordinarily high rates of infection: 74% in Ethiopia, 50% in South Africa, 45% in Guyana and 36% in Nepal(127). Studies of sex workers' mobility in Ethiopia concluded they are highly mobile, which further complicates efforts to reduce HIV risk and vulnerability targeting this group

STI experience: There is already evidence that people, who have several concurrent infections, may develop AIDS more easily than others. A previous history of STIs could stimulate some interaction between various organisms and the HIV through genital breaks. Meanwhile, sex

partners get infection more easily when they have unsafe sex with an STIs patient. STIs, if left untreated, increase the risk of HIV infection by 300-400% (50). But STI control helps to slow its progression: Efforts in primary prevention of STIs, such as promoting safer sexual behaviours, and early diagnosis and treatment of STIs are a key strategy for preventing HIV infection. Early treatment of STIs was associated with a 42 percent low rate of new HIV infections, however in some areas both prevention and care services are not provided to migrants since budgets are calculated on the basis of the official resident population (23).

Premarital sex

A variety of factors make young people vulnerable to HIV infection. These include cultural, societal, legal and religious practices and beliefs, changes in the political or social environment, and factors such as war and poverty. Data also shows the youth engage in early sexual debut (often before their 15th birthday) and often have a low condom uptake (131, 132). Conflicting norms and values about sexuality, and increasing urbanization and poverty also encourage premarital sexual activity among adolescents. Studies showed that premarital sex tended to be higher among men (general population) who lived in urban areas. About 8 percent of the men had visited a commercial sex worker (CSW) at some time in their lives. Men in urban areas were more likely to have visited a CSW (132). Unprotected sexual relations taking place at earlier age give rise to increased risk of different reproductive health problems including HIV infection. Studies show that, people who begin sexual activity earlier are likely to have sex with more number of partners who have been at risk of HIV infection; and they are not likely to use condoms (120).

A study in South Africa has shown that, the age of sexual initiation is still early. 14% of both men and women aged 15–24 reported they had had sex before age 15, and 63% of women and 47% of young men had had sex before the age of 18. Even if young people 15-19 were the most likely age group to have used a condom at their last sexual act (27% of women and 47% of men), this percentage is still low. Their increased vulnerability to HIV infection is still compounded by the fact that most sexual encounters are without the benefit of consistent and correct condom use. Furthermore, among women who had sex in the last 12 months, 7.6% (15-19) and 3.8% (20-24) years had 2 or more sexual partners (120).

Young girls in Ethiopia are more vulnerable to HIV than boys because of an early age of sexual debut, early marriage, sexual abuse and violence such as rape and abduction(133). Sexual mixing patterns are more important than the age at sexual debut in putting girls at higher risk of HIV than boys.

According to UNICEF, UNAIDS and WHO 17 % of young women and 14 % of young men age 20-24, were sexually active by age 15. Among women aged 25-49, 32 percent had sexual intercourse before age 15, about 65% before age 18, and by age 25 most of the Ethiopian women have had sexual intercourse. The median age of first sexual intercourse for women ages 25-49 years is 16.1 years .The EDHS (2005) also indicates that, 16% of young women and 2% of young men had sex by age 15 while 35% of young women and 9% of young men had sex by age 18. Among the respondents of age 15-24, only 1% of women and 17% of men used condoms during their first sexual encounter. Higher educational attainment, greater wealth and urban residence are related to greater likelihood that condoms were used at first sex.

4.7. Conceptual Framework

Figure 1 presents a schematic illustration of a conceptual framework, which highlights the hypothesized social and behavioural mechanisms by which temporary migration increases migrants' HIV risk behaviours and cultural factors such as fertility intention, early marriage, women genital cutting, rape and having of *kemete* in the spread of the HIV risks. The post migration social and economic environments in which most temporary migrants find themselves in places of destination are particularly conducive to HIV risk behaviours'. Migration is conceptualized as one of the root causes of HIV risk behaviours, in so doing; it emphasizes the importance of predisposing and enabling factors in understanding migrants' HIV risk behaviours.

The predisposing factors refer those factors which can increase or decrease the motivation of the individual to change behaviours, such as age, marital status, education and knowledge, information and beliefs about HIV/AIDS. Enabling factors are barriers for people to change their risk behaviours. Barriers are originated in the society such as alcohol use; drug abuses as well as some leisure activities.

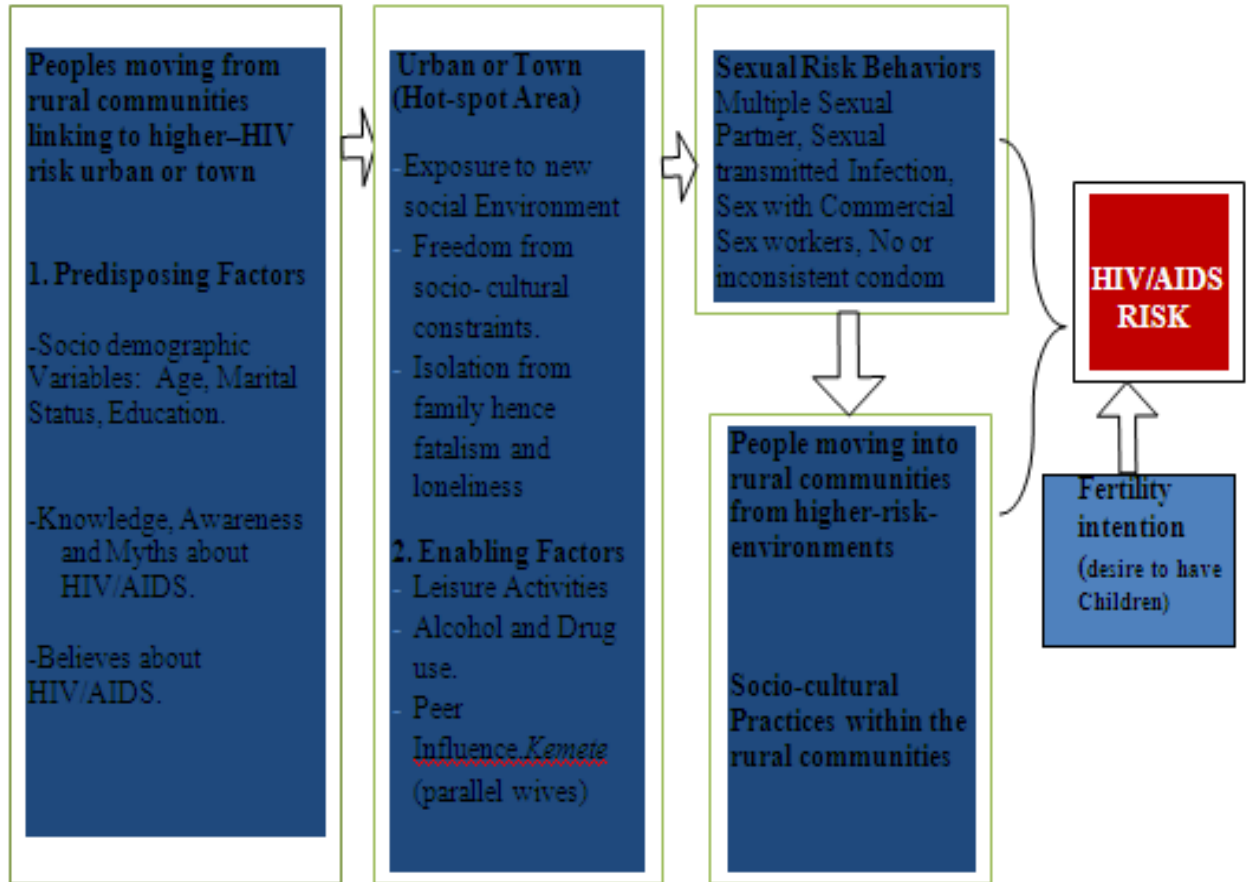
Therefore, riskier sexual behaviours among rural to urban migrant groups have been attributed to three factors: 1) predisposing individual characteristics; 2) changes in individual attributes due to migration, notably separation from a spouse or partner and freedom from social constraints 3) exposure to a new social environment, featuring different sexual norms, opportunities, and constraints that result in behavioural modification. They are closely related to the Health Belief Model (HBM), which assumes that an individual's characteristics, prior experiences, and current surroundings shape his perceptions concerning the risks and severity of behavioural outcomes such as contracting the HIV virus through sexual conduct and thereby influence behaviours.

Culture is broadly understood as a ways of life, traditions, and beliefs, representations of health and disease, perceptions of life and death, sexual norms and practices, power and gender relations, family structures, languages and means of communication; as well as arts and creativity (128). From this definition, it is clear that culture influences attitudes and behaviours related to the HIV/AIDS epidemic: in taking or not taking a risk of contracting HIV. The three major sources of risk of HIV infection in a rural community are: potentially HIV risky environments in and who provide substantial links with other sub populations who have lower risk behaviour (rural people), and 3, migration from rural (home) to urban area (for whatever reason) leads to isolation and psychosocial release from cultural constraints that govern sexual activity and relations as well as burdens that demand release through reckless sexual liaisons. The resultant use of this freedom to engage in risk sexual behaviours increases HIV transmission and infection among the community. The frequent mobility to home villages carries the virus to the remote areas and cultural practices or traditions which may hasten the spread of the disease once it is present in rural community (128).

In some cases, rural urban migrant men establish parallel families between urban and rural areas (134), in this way, migrant men form linked sexual partnerships, which become a critical bridge for transmitting HIV between rural and urban areas.

The inter-relationships between these two components are depicted graphically as in Figure 1.

Figure 1: Conceptual frame work for rural to urban migrants and HIV/AIDS risk.



CHAPTER 3: THE RESEARCH OBJECTIVES AND QUESTIONS

3.1. Research Objectives

This research examines the role of rural to urban migrants and socio-cultural factors including fertility intentions (the desire to have children) in the spread of HIV risks among the rural community in North West Ethiopia.

Specifically, it aims to:

1. Investigate and compare the sexual risk behaviours of rural to urban migrants (potential bridges to the spread of HIV-AIDS) and non-migrants (rural residents).
2. Examine the leisure activities which are associated with different levels of the likelihood to engage in HIV risk behaviour among rural to urban migrants and non-migrants (rural residents).
3. Determine the association between HIV perceived risk and fertility intentions of the rural married women.
4. Explore the association between sexual practices of the rural people in their socio-cultural contexts and HIV risk.

Towards meeting these objectives, the dissertation tries to answer the following research questions:

3.2. Research Questions

The key research questions which form the framework of the current study are:

1. Does the sexual behaviour of rural to urban migrants (potential bridging population) differ from rural residents (non-migrants)?
2. How does the sexual behaviour of rural to urban migrants differ from that of non-migrants (rural residents)?
3. What are the current cultural and sexual practices in the rural areas which expose people to HIV risk?

CHAPTER 4: SUBJECTS AND METHODS

4.1. Quantitative Study

4.1.1 The Setting

Ethiopia, with an estimated 74 million people in 2007(135), is the second most populous country, after Nigeria, in Africa. Currently, the country is governed by a parliamentary Federal Government composed of nine National Regional States and two city administrative councils (Addis Ababa and Dire Dawa). The regional states and city administrations are further subdivided into *woredas* (*districts*). A *woreda* is an area delineated as the basic unit of planning and political administration at the lower level, and further sub-divided into the lowest government administrative units known as *kebeles*.

The Amhara Region is located in the northwestern part of Ethiopia and is the second most densely populated region in the country. It has 11 zones and 106 *woredas*. The most prevalent diseases in the Region are malaria, HIV /AIDS and TB (136). According to FMOH single point estimate the adult HIV prevalence rate in the region is 9.9 in urban and 1.5 for rural and it is the most strongly hit region by the HIV epidemic. According to the report prepared by FMOH of Ethiopia, the Amhara Regional State capital, Bahir Dar town is the leading town in the prevalence of HIV (20.2 %) among the ANC service users compared to other selected towns of the country(9).

Bure is one of the 15 *woredas* in West Gojam Administrative Zone. It is the capital town of the *woreda* and is found 148km southwest of Bahir Dar and 400 km northwest of Addis Ababa. The *woreda* has 15 km asphalt road, 84km all weather gravel road and 103 km dry weather road. It is nearby and connected by all-weather road to East *Wollega* Zone of the *Oromia* Regional State and Metekel Zone of the *Benishangul Gumuz* Regional State. The road density in the *woreda* is 68.5km/1000km², which is relatively higher than the average road network in Amhara National Regional State which is 36.72 km/1000km². This is a good opportunity to easily transport agricultural inputs and products to and from the rural and market places(137).

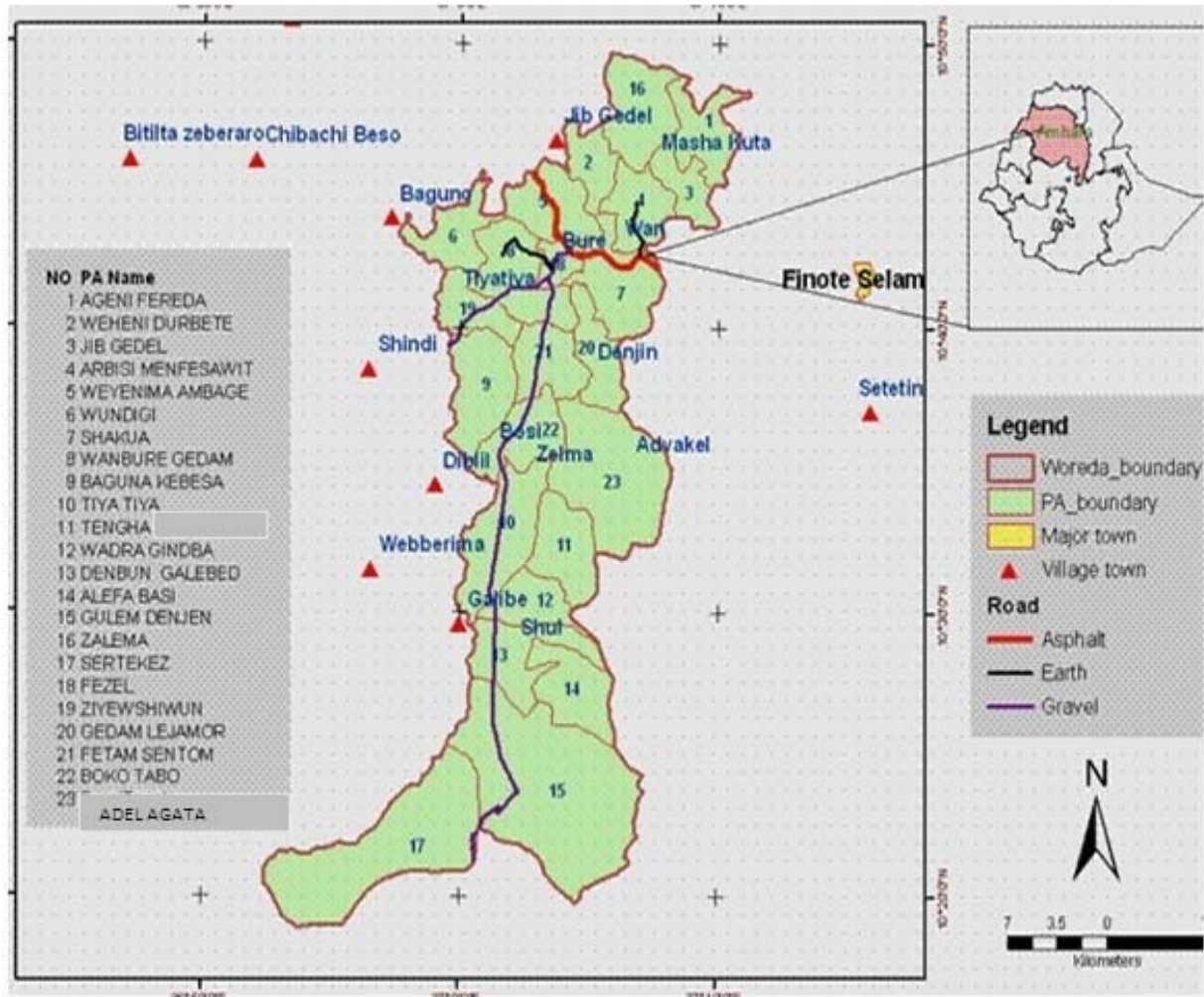
The study *wereda* has a total of 23 rural *kebeles* and an agricultural household size of 39,323 (6370 female and 32953 male) and the total human population was estimated to be 281,310 (141,683 males & 139,627 females). From the total human population, in the *woreda* 85 % were rural community and 15% were urban dwellers(138).

Bure town is one of the Amhara towns which are identified as an HIV hot spot areas and the presence of most at risk population (18) It lies adjacent to *Shendi and Sekela* towns and along the main route to *Wollega zone of Oromia* region. As a result, the town is frequented by businessmen from the three localities. The town hosts several population groups such as farmers, rural migrant laborers, local businessmen, and youth having sex with female sex workers at increased risk of contracting HIV and there is a long-established tradition of married men having long-term sexual affairs with younger women (*kemete*) (136).

The livelihood of the farmers in the study area is based on selling their cereals and other agricultural products during market days and drink local beverages like *Tella and Arakie*. During these days it is not unusual to see large number of farmers presumably with low awareness level on HIV/AIDS and condom use to pass the night with home based female sex workers purchasing sex for money (136). Home-based commercial sex by local beverage sellers in small towns is one of the main means of rapid transmission of HIV/AIDS. Furthermore *Bure* is home for more than 230 migrant daily laborers, most from the neighboring rural districts/*woreda* (136). They are disadvantaged in getting HIV-related information and services as they spend long hours searching for jobs. They are the main clients for female sex workers based in local brew selling houses (*komarits*) and tea rooms and some of them strongly believe that condom use reduces sexual pleasure while others think its lubricant contains the HIV virus (136).

Furthermore *Bure* is home for more than 230 migrant daily laborers, most from the neighboring rural districts/*woreda* (136).They are disadvantaged in getting HIV-related information and services as they spend long hours searching for jobs. They are the main clients for female sex workers based in local brew selling houses (*komarits*) and tea rooms and some of them strongly believe that condom use reduces sexual pleasure while others think its lubricant contains the HIV virus (136).

Figure 2: Geographical location map of study area (*Bure Woreda*)



4.1.2. Study Design

This dissertation used both quantitative and qualitative (focus group discussion and key informant interviews) methods. The quantitative study which was cross-sectional survey was designed in such a way that it would answer different but interrelated research questions such as, investigation of HIV risk behaviours and making comparative analysis between rural -urban migrants and non-migrants. The qualitative study was conducted to complement the quantitative study and explore issues that emerged from the household and individual surveys.

The quantitative method employed in this investigation was the principal component designed to collect data useful to give empirical understanding of rural to urban migrants and non-

migrants HIV risk behaviours, leisure activities and fertility intentions and HIV risks of the rural women.

Information obtained from each approach was complementary to the other. The quantitative approach provides numerical results that can be used to see the pattern of risk behaviours among rural to urban migrants and non-migrants and to assess possible association between HIV perceived risk and child mortality with fertility intention of the rural women.

4.1.3. Source Population and Study Population

All rural to urban migrants 18 to 49 years of age from the rural kebeles of *Bure woreda* and working in and around *Bure* town, all women 18 to 49 years of age residing in the rural Kebeles of *Bure woreda* were eligible to be included in the present study. However, women and men who were not permanent residents of the given study areas (rural kebeles) were excluded. A woman or man was taken as a permanent dweller if she/he had been living in the given selected area for at least six months preceding the survey.

The study considered three populations. Male rural to urban temporary migrants who are working in Ethiopian Commodity Exchange (ECX), road construction sites (Cobblestone) in *Bure* town and *Birshelko* and *Leg Migra* commercial agricultural farms around *Bure* town, non-migrants and married women in *Bure* rural kebeles

4.1.4. Eligibility Criteria

Selection, inclusion and exclusion criteria for the study population (participants) were as follows

A. Rural to Urban Migrants

The rural to urban migrants were recruited from road construction sites (cobblestone), ECX and commercial agricultural farms based on the following eligibility criteria:

- Male rural to urban migrants who have families in rural kebeles of *Bure Woreda* and without a permanent town residence at the time of the interview.

- Having an identity card from one of the 23 rural kebeles of *Bure woreda* and who were working more than one month at the study sites (Cobblestone, ECX and agricultural farms);
- Aged 18-49 years.

B. Non-migrants (rural residents).

The non-migrant participants were drawn from the local residents (rural kebeles) based on the following eligibility criteria;

- Males who had permanent rural residency; (living in the area more than six months)
- Primarily engaged in agriculture or farming-related activities;
- Aged between 18 and 49 years and did not have a history of migration (return migrants).

C. Rural women

- Married and aged between 18 and 49 years.
- Living in the study area for six years.

Inclusion criteria

Rural residents and rural to urban male migrants from the rural areas of *Bure woreda*, who are working on road construction sites, ECX and in commercial agricultural farms in *Bure town* and the surrounding, who are 18- 49 years of age and agree to participate were included in the study.

Exclusion criteria

Rural residents and rural to urban migrants who are unable to hear, are mentally disabled, seriously ill and those who were not fulfilling the eligibility criteria (mentioned above) were excluded from the study. Exclusion was also for those who refused to give informed consent.

4.1.5. Sample Size and Sampling Methods

Because the present study had a number of different outcome variables (with varying proportions) it was necessary to calculate the respective sample sizes separately based on different assumptions. Accordingly, different approaches were used to arrive at the required sample sizes.

The required sample size for comparing rural to urban migrants and non-migrants in HIV related sexual risk behaviours and the association of leisure activities with HIV risk behaviours among migrants and non-migrants were determined using STATCALC program of the EPI INFO statistical package with 5% type I error and 90 % power and one to one allocation ratio of rural to urban migrants to non-migrant group ($n_1:n_2$) were assumed. With A prevalence of risk behaviours among non-migrants of 30 % taken from EDHS, 2005 (2) and prevalence of risk behaviours among rural to urban migrants 39 % [A difference of 9 percent was assumed to exist for lack of similar studies] and non response rate of 10%. A total of 1,333 study subjects (666 rural to urban migrants and 667 non- migrants) were estimated.

To assess the association of HIV/AIDS knowledge, perceived risk and child mortality with the fertility intentions of the rural women, the required sample size was determined using STATCALC program of the EPI INFO statistical package with a 95% confidence level ($Z=1.96$), 2 % margin of error, 16% of women assumed the desire to have children (EDHS, 2005) and 10 % non response rate. A total of 1,418 study subjects were estimated.

Sampling Methods

Simple random sampling method was used for both of the two study population- non- migrants (rural residents) and rural to urban migrants who are working in the road construction sites, ECX and in Commercial farms in and around *Bure* town.

Sampling procedure for rural residents (non-migrants and women)

First a census was conducted covering all 23 kebeles. All houses were freshly registered and sampling frames listing all house numbers by kebeles were produced. Then, simple random sampling technique was applied to choose equal number of households (62 houses) from each

of the rural kebeles. Hence, a total of around 1,418 houses were selected. From the selected houses based on the selection criteria, 1,380 women's (married) and 665 men without history of migration (non-migrants) 18-49 age groups were interviewed.

The training of the interviewers was conducted for three days by the principal investigator (PI). The training was given on how to explain the purpose of the study, how participants are selected to participate in the study and on how to explain to the candidates of the study about the benefit of the study and how to work in concert with the principal investigator, and community leaders to attain the maximum response rate.

A two-day sensitization workshop was held for community and religious leaders, participating in the study. During this workshop the main objectives of the study were discussed thoroughly with the principal investigator and strategies to increase maximum voluntary participation were designed. In addition, training was given for the interviewers.

Sampling procedure for rural to urban migrants

The rural household data was collected from the selected households in rural areas of *Bure Woreda* and for the rural-urban migrants data was collected from the employees (migrants) who are working in the road construction sites (cobblestone), Ethiopian Commodity Exchange (ECX) and commercial agricultural farms around *Bure* town. These places were selected because they employ large numbers of rural migrants. For selecting migrant workers, the working sites served as the sampling unit and owners or managers of the organizations were contacted for permission to conduct the study at their premises.

Before they start to work all employees completed the form with the desired information including where they came from so workers who are from the rural kebeles of *Bure Woreda* was generated through a list provided by the road construction site (cobble stone), ECX and by the commercial agricultural farms. The total sample 666 rural to urban migrants was equally selected from four working groups 167 road construction (cobble stone) rural to urban migrant workers, 166 Ethiopian Commodity Exchange (ECX), 167 *Birshelko* and the remaining 166 were *Leg Migra* rural to urban migrant farm workers selected randomly by lottery method from the list provided.

4.1.6. Data Collection

There are 23 rural *kebeles* in *Bure Woreda*. Experienced individuals, one from each *kebeles*, who had participated in previous census data collection, were selected according to the recommendation of the *woreda* administrative officials for census data collection. The data collectors were trained and oriented on standard operating procedures on how to conduct the census for this study. All of the trained data collectors were assigned in the 23 *kebeles* for house-to-house data collection.

Structured questionnaires were used to collect the quantitative data. The questions were first prepared in English and then translated into the local language, Amharic. There are three types questionnaire one for rural to urban migrants, the second for non-migrants and the third for women's. Most questions of the questionnaires for both the migrants and non-migrants in this study focused on factors related to sexual risk behaviours and added many new questions such as peer influence, and leisure activities for migrants and non migrants fertility intentions, for rural households in order to meet the objectives of the study in the rural areas and the setting of migrants in the town (139).

The questionnaires commonly encompassed 6 sections. The first section of the questionnaire was about the socio- demographic characteristics of the households and individual responding subjects, the second section was all about marriage and cohabitation, the third section about sexual risk behaviours including history of STIs, the fourth dealt with knowledge, attitude and opinions about HIV/AIDS, fifth section perceptions about risk to HIV/AIDS, the six section exposure to information, section seventh was about leisure activities for migrants and non-migrants and fertility intention with child mortality for rural women. In addition, section eight, included for migrants, was related to migration, migration history and other migration related questions such as migrant linkages with their local destination (rural) the number of times migrants visit their own family, the duration and frequency of migration.

The HIV questions were adopted from behavioural studies on HIV/STIs and used to assess the knowledge, perception and sexual practice of rural to urban migrants and non-migrants towards HIV/AIDS (140, 141). Questions related to fertility intentions and migrations were added for interviewing the rural women and rural to urban migrants respectively. Data collection was

carried out by twenty diploma holders including nurses and environmental health technicians who were given a five-day intensive training with practical exercises. Three health officers were assigned to supervise the data collection process and the overall coordination was handled by the principal investigator. The data collators and supervisors had experiences in data collection.

The working sites served as the sampling unit, and owners or managers of the organizations were contacted for permission to conduct the study at their premises. Trained outreach interviewers approached individual migrant workers and invited them to participate in the survey after explaining the purposes, procedure, potential benefits and risks of the study. To get maximum responses data was collected in private through face-to-face interviews.

The questionnaire was pre-tested for comprehension prior to administration among male migrant workers in the factory and rural residents, the clarity and understanding and flow of each question and the time needed to complete the questionnaire was assessed and the necessary modifications were made. The pre-test was conducted in the nearby similar areas and among migrants that were not included in the sample.

To facilitate the process of data collection, a manual containing a detailed description of the questions and other administrative issues was used. This same manual was used during the training of data collectors and supervisors.

An individual was contacted three times before exclusion from the study due to refusal. Study participants were replaced if they have left the study area, if the person is in a condition that does not allow participation in the study, or if the person refused to participate after three consecutive home visits. Such individuals were replaced by those listed in the sampling frame next to them serially. When there were multiple eligible individuals within a single household who met the selection criteria, the first person or persons who was contacted by the interviewer and agreed to participate was recruited.



Figure 3: Some of the data collectors in the field.

4.1.7. Measurement of Variables and Operational Definitions

Dependant Variables

HIV Risk sexual behaviours: Pre-marital sex, Multiple sexual partner, Sexual transmitted infection, Sex with Commercial Sex workers, No or inconsistent condom use.

Independent variables

- **Migration History** (duration and frequency of migration) and freedom from cultural constraints, the tradition of having *kemete* (formation of parallel wife in rural and urban areas) and isolation from family.
- **Predisposing Factors:** Socio demographic variables (age, marital status and education), knowledge and awareness of HIV/AIDS (comprehensive HIV knowledge), beliefs about HIV/AIDS transmission and perceived HIV risk.
- **Enabling Factors:** leisure activities, alcohol and drug use, peer influence, watching television, watching videos, listening to radio programs, listening to audios (tape), reading (newspapers, books, magazines, etc), chatting (usually with friends, co-workers

and roommates), playing cards, doing chores, visiting entertainment installments, wandering the streets , and simply sleeping at home.

- **Socio-cultural practices within the rural communities:** fertility intention, early marriage, having of *Kemete*, wedding ceremonies, holidays, rape, abduction, circumcision, forced marriage and other traditional practices.

Operational Definitions

Rural to urban male migrants are temporary (seasonal) road construction site, ECX and farm workers who work far away from their permanent places of residence (rural area) for a minimum of 2 months and are usually unable to return home at the end of the work day. They, therefore, have temporary residences in the vicinity of their work sites (town) and return home at various intervals.

Bridging Populations are rural to urban male migrant who link their rural communities to higher-risk urban (town) hinterlands for temporary employment. They are seasonal or temporary migrants who seek alternative employment during the quiet months in farming, and engage in road construction sites or in commercial agricultural farms around Bure Town and usually remain at destination from one to six months.

Mobility can be defined as short-term commuting involving at least one regular overnight stay away from home in the course of meeting social requirements (e.g., visiting family) and marketing etc . While these groups are mobile, they are not seeking to change residence (and are therefore not migrating) and may spend long periods of time in their residential home between trips.

Non-migrants are rural residents' were asked whether they had a history of migration. Those who did not have a history of migration were coded as non-migrants.

Perceived vulnerability to HIV infection was measured by the following question: 1) 'People have different ideas about their risk of getting HIV/AIDS. What do you think the chances are that you will acquire HIV?' Response choices were: 1) No chance, 2) Low chance, 3) Moderate, 4) High chance.

Comprehensive HIV knowledge: this index was built based on the answers to the following six questions: three questions on Knowledge of Prevention and three questions on common misconceptions (beliefs). A Person was considered as having comprehensive knowledge if he knew all the three preventive methods and rejected the three misconceptions.

Knowledge of HIV Prevention Methods: Knowledge of Prevention included three questions measuring (abstinence, being faithful and condom use):

1. Can people protect themselves from HIV, the virus that causes AIDS by using condom correctly every time they have sex?
2. Can people protect themselves from HIV, by having one uninfected faithful sexual partner?
3. Can people protect themselves from HIV, by excluding other transmission routes (abstinence)?

Misconceptions to three: Knowledge on misconceptions was measured if a person had rejected three common misconceptions. These misconceptions were common in the country:

1. Can a person get the HIV virus from mosquito bites?
2. Can a person get the HIV virus from eating raw meat prepared by a person infected with HIV?
3. Do you think that a healthy-looking person can be infected with HIV, the virus that causes AIDS?

Sexual risk behaviours were assessed by questions regarding: 1) premarital sex (yes/no), 2) multiple sexual partners (yes/no; defined as having had more than one sexual partner), 3) consistent condom use with multiple sexual partners (yes/no) and having sexual intercourse with commercial sex workers (yes/no).

Kemete (parallel wife): Economically well-to-do *married* men establish long-term sexual relationships with young women whom they support financially.

Consistent condom use – use of condom during every sexual encounter.

Return migrants: Rural residents who had ever migrated to a city for a temporary job. Such as ex soldiers, truck drivers etc.

Commercial sex – a sexual relationship where there is an exchange of money for sex (paid sex).

Commercial sex partner – a partner with whom one has sex in exchange for money.

Peer influence: refers to rural to urban migrant visit female sex workers together with friends. It is measured by 3 questions: Do you go alone when you visit CSW? Does your friend have commercial sexual act? Did your friend ask you go to brothel? (Nominal).

Kebele: Is the smallest Administrative unit under governmental Administrative structure.

Woreda: Is governmental administrative unit that that includes different range of *kebeles*. For example Bure *woreda* divided in to 23 rural and 5 urban *kebeles*.

Araki, tej, tella: Strong local brewed alcoholic drinks (beverages).

Region: Regions together form the Federal Democratic State of Ethiopia. It is subdivided into zones and *woredas*.

Regular sexual partner – includes a spouse or sex partner who has cohabited (lived-in) for twelve months or longer.

Risky sex – any unprotected sex (condom non-use) with any partner other than a regular partner.

Zone: The second largest administrative unit, after regions. It is subdivided into *woredas*

4.1.8. Data management and Analysis

The quantitative data was entered into the computer using EPI-INFO version 6 and exported to SPSS version 17 for analysis. Prior to analysis, the whole data were cleaned and 15% of the data was double entered. The quality of the data was assessed and the age distribution of the respondents was compared with that of DHS 2000 and 2005 surveys. Frequency distributions

and cross tabulations was made for each of the variables. The major statistical tool used to identify risk factors is multivariate logistic regression. Odds ratio with 95% confidence intervals is used to assess the presence and degree of association of knowledge, perceived risk and child mortality with fertility intentions in rural women, predisposing and enabling factors of rural to urban migrants and non-migrants with HIV risk behaviours.

Chi-square test was employed to examine the association of sexual risk behaviours with factors of migration (migration history, predisposing and enabling factors including leisure activities) and fertility intention. Multiple linear regression analysis was performed to examine the association between factors of migration, fertility intentions and sexual risk behaviours, simultaneously controlling for age, education, marital status and family socioeconomic status.

In bivariate analysis, the chi-square test was used to compare the (1) self-perceived risk for HIV infection, (2) child less than 5 years mortality and socio-demographic characteristics of the participants by the desire for a future pregnancy. In multivariate analysis, a multiple logistic regression model was fitted to investigate the independent effects of self-perceived risk for HIV infection and child mortality through controlling the possible confounding effects of socio demographic and economic factors.

In the current study, sexual risk behaviours were measured by using the following variables: having of multiple sexual partners, having of sexual transmitted infections (STI), sex with commercial sex workers, consistent use of condom and pre-marital sex.



Figure 4: Data editing process

Assessment of Leisure Activities

The eleven leisure activities assessed in this analysis were: (1) watching television (free programmes broadcast through government-run stations that are typically informational, educational and entertaining), (2) watching videos (any available subjects, video CDs or VCD, and digital video CD or DVD), (3) listening to radio programmes (broadcast by various local and national government stations covering news, music, song), (4) listening to audios (tape cassettes and CDs containing music, songs), (5) reading (newspapers, books, magazines, etc); (6) chatting (usually with friends, co-workers and roommates), (7) playing cards (typically in groups with friends, co-workers, and roommates), (8) doing chores, (9) visiting entertainment installments (including bars, nightclubs, where commercial sex were available), (10) wandering on the street (a common practice among those who want to spend their free time alone or in small groups but have no money or are not willing to spend), and (11) simply sleeping at home. A checklist was used for the respondents to report their leisure activities. The selection of these activities was based on our focus-groups (using open-ended questions) and direct observation from site-visits where rural urban migrants and non-migrants live and work, including migrants employers self-made residential housing. These eleven activities were found to be common among rural migrants and non-migrants in urban and rural settings, other activities such as sports, going to movies, theatres, were less common, they were therefore excluded.

Assessment of Fertility Intention

Measures of intentions for childbearing in the short term have been shown to be stronger predictors of behaviours than non-time specific preferences (29). Two years is the standard measure for short-term used in the Demographic and Health Surveys of developing countries. The variable is constructed based on two questions. Women were first asked whether they wanted another child. Those who respond positively were asked how soon they wanted to have their next child; possible responses were immediately, within two years, more than two years from now, and a set of don't know responses (don't know, up to God). Women who responded immediately or within two years to this question were classified as wanting more children soon. Women who gave any other response to the question about timing or who did not want more children were classified as not wanting children soon.

In addition to socio-demographic and economic factors (used as control variables), the main independent variables investigated in relation to the outcome were self perceived risk of HIV infection (high, moderate, low, or that you have no risk at all) and child less than 5 years mortality (never had a child's death / had at least one child's death in the last 5 years). Given the relatively low level of testing in Ethiopia especially in the rural areas, HIV risk perception is unlikely to be primarily determined by medical knowledge of HIV status. Information on the respondents experience with HIV testing was asked almost all respondents responded they were not taking HIV test

Data quality assurance

Different appropriate measures were taken to ensure the quality of the quantitative data collected from the proposed study areas. In this regard, the following points were given high emphasis.

- The questionnaires were prepared by taking account of the culture, language, etc. of the study populations.
- The data collection tools were pre-tested and standardized.
- A training and data collection manual was prepared and given to each of the data collectors and supervisors.
- Operational definition of certain terms and variables were given as necessary.
- The data collectors were given a five- day's intensive training on how to collect the required data. Practical exercises were also given as part of the training.

The supervisors randomly selected 5% of the already surveyed households and re- interviewing took place. Whenever errors were found, corrections were made on the spot. Every day, the collected data was reviewed and checked for completeness and consistency by the supervisors and the principal investigator. Pre-testing and supervisions were made before and during the actual data collection respectively.



Figure 5: Field supervision by the principal investigator

As the process of cross-checking continued, no errors associated with the collected data were found. This cross-checking mechanism was intended to ensure the validity of the collected data. In fact, the data collectors were repeatedly informed at the time of training that there would be a strict supervision during data collection. Moreover, they were told about the cross-checking that would be undertaken on randomly selected households during the period of data collection. The whole data were cleaned and 15% of the data was double entered.

4.2. Qualitative Study

Because the purpose is to develop understanding of how the rural residents perceive their risk of HIV/AIDS, data to address such topics should be more nuanced and multidimensional than a set of structured survey items usually can offer. Qualitative approaches encourage discussion, allow for fuller responses than a structured questionnaire and accommodate the emergence of unanticipated issues.

The qualitative study (i.e., focus group discussions and in-depth interviews) was also a part of the cross-sectional survey that aimed at substantiating and complementing the quantitative study. In this regard, the necessary preparations were made during the design stage to undertake a qualitative study that would include other social groups such as, women and individuals working in the area of HIV/AIDS. The justification behind such an additional arrangement was to get a complete and comprehensive picture of the intended objectives. In fact, the need for the undertaking of a qualitative study became evident as a result of the emergence of new

phenomena requiring further inquiry into some of the issues which were not captured by the quantitative research methods.

The qualitative approach was used to identify and describe the sexual and cultural practices of the rural people in relation to HIV risk using selective informants allowing the researcher to get more in-depth knowledge on sensitive issues like sexual practices as well as attitudes, values and beliefs that are difficult to obtain from a quantitative survey. The design of the qualitative part of this study was exploratory. The purpose was to gain insight into a situation, phenomenon, community or person. The research project focuses on the role of bridging population and the influence of cultural practices on HIV risk behaviours. The area of interest in this study is whether migrants' populations (temporary migrants) practiced sexual risk behaviours and contribute to spread HIV/AIDS risk (bridging) from urban to rural and the cultural practices play a role in the spread of the HIV virus in the rural population. The qualitative design is included primarily to address one of the objectives of this research which is to explore the contribution of socio-cultural factors in the spread of HIV related risk in the study area. Moreover it is designed to complement the findings of the quantitative study.

4.2.1. Sample Selection of Subjects

In this qualitative study, in order to understand the live experiences and attitudes of different social groups, a number of sampling methods which complement each other were used. In this regard, the sampling methods used were: homogeneous sampling (for the selection of the FGD participants), deviant sampling (for the selection of extreme cases in order to highlight and understand characteristics of more typical situations– health workers at lower and higher levels, ordinary religious fathers and scholars at the *woreda* level) and intensity sampling (experts rich in HIV related information and reproductive health). As expected, information representative of the range of experiences and attitudes relevant to the set research questions was collected; Purposive sampling was also used to identify co-operative and knowledgeable members of the rural community such as leaders, men and women for the in-depth interview. Snow-ball sampling technique was used, where the rural community leaders suggested names of individuals who had reliable sources of information for focus group discussion.

4.2.2. Data Collection

The qualitative data collection used in-depth interviews, focus group discussions and observation. In-depth interviews elicit information that people can consider as private to talk about in a group(142), while focus groups are a suitable approach for getting people to express a range of different opinion about an issue(143). For this study, the combination of both methods is particularly good because it allows the researcher to obtain information on the group's social value of fertility, norms as well as information about the more private aspects of sex, STDs and HIV/AIDS risk behaviours. Eight Focus group discussions and 25 in-depth interviews were conducted to generate more detailed information about the prevalent socio-cultural factors related to the awareness of the rural community about HIV/AIDS, fertility intentions, the attitude of the rural community towards rural -urban migrants and HIV risk behaviours.

The types of qualitative data collection tools used in this study were:

- A. One to one in-depth interview: community leaders, religious leaders, HIV focal person, local alcoholic drink sellers, adult male and female residents in the rural areas and *woreda* representatives working in the area of HIV/AIDS in the town were interviewed.
- B. Focus Group Discussion (FGDs): adult male, female and rural alcoholic drink sellers were participating in the FGD.

A. Individual in-depth interview (IDI)

The plan was to conduct 30 IDIs but ended up with 25 respondents because of saturations. 2 community leaders (representatives), 2 religious leaders, 3 local alcoholic drink sellers ,8 men informants, 6 women informants, 2 HIV focal persons and 2 *woreda* representatives working on HIV/AIDS were interviewed to generate detailed qualitative information for some sensitive issue on sexual behaviours and cultural factors including the social value of fertility and HIV risks. Anonymity is important when discussing personal and sensitive topics such as sexual behaviour of respondents, where they may have to admit to behaviours socially disapproved, such as extramarital or premarital sex. IDIs were held with 25 respondents drawn from the focus

group participants, using pre-designed question guides given in IDIs explored the more personal and sensitive issues of how people perceive and interpret their individual vulnerability to HIV at two stages of their sexual lives: during sexual initiation and at later sexual partnerships, rather than to obtain detailed sexual histories. IDIs provide opportunity for probing respondents for greater depth and further explanation or clarity on their answers. In-depth respondents were purposely drawn from FGD participants in order to understand how individual perceptions and opinions conformed or diverged from what was expressed in the group discussions.

Only individuals who reported ever having sexual intercourse were selected for IDIs because this group was most suited to address the research problem. The respondents for IDIs were identified after the FGDs by administering a short questionnaire that collected basic socio-demographic characteristics and sexual experience of participants. IDIs focused on the first and recent and/or current sexual partnerships were in order to minimize recall errors. It is assumed that the first sexual intercourse is a memorable event, the circumstances surrounding which are unlikely to be forgotten. Similarly, activities in a recent or current partnership can easily be remembered compared with events of intermediate partnerships. The investigator conducted the interview based on the prepared guidelines and notes were taken on the main ideas and also tape-recorded. The in-depth interviews took lasted from forty five minutes to one hour.



Figure 6: Some of the in-depth interview.

B. Focus Group discussion (FGD)

FGDs allow a small group of participants with similar characteristics to discuss subjects of common interest with the guidance of a facilitator or moderator, in which participants do not necessarily need to reveal personal information. FGDs are important in exploring common attitudes, norms and practices of social behaviours. The main objective of FGD is to substantiate the quantitative data and obtain in-depth information on knowledge of HIV/AIDS, cultural (traditional) practices including high fertility intentions and sexual behaviours related to risks of

HIV/AIDS in the area. It was planned to conduct 12 FGDs but because of saturation, 8 FGDs were conducted. The 8 FGDs conducted were distributed as follows: 3 for men, 3 for women and the remaining 2 for local alcoholic drink sellers with a minimum of eight and a maximum of twelve FGD participants. Each session had a time span of one and half hours and an effort was made to make the group homogenous in terms of age and sex. Settings were arranged with privacy and comfortable locations. The investigator was moderate, the FGD and the IDI and non-probability purposeful sampling was employed to select potential participants; this was made possible by snowball sampling techniques. The community leaders and health extension workers suggested names of the individuals with relevant sources of information. The investigator moderated the FGDs.

The focus group discussions consisted of males and females even though the groups were conducted separately. There were 42 females including local alcoholic drink sellers and 29 males. It was easier to recruit men through availability sampling than women as the focus groups were conducted in the morning before noon . Usually men are the ones who get very involved in community issues and are therefore available on the streets where many community matters are dealt with . Women during this time of the day are involved with household duties.

All the respondents in the focus group discussions have lived in the rural area for more than 5 years. The researcher asked this question as part of the recruitment as purposive sampling was used in conjunction with the availability sampling. The number of years in rural area has an influence on the person's knowledge of the rural culture.

The focus groups had more females than males which did not affect the way culture was perceived. They are united by emotional bonds and concerned with preservation of their type. They speak the same language and share a common cultural heritage and believe they are of common descent. The respondents' number of years living in the study area qualified them to be knowledgeable about the culture and cultural practices and possible personal experiences of the practices.

This however did not affect the way culture was perceived. They are united by emotional bonds and concerned with preservation of their type. They speak the same language and

share a common cultural heritage and they believe that they are common descent. The respondents' number of years they have lived in the study area qualified them to be knowledgeable about the culture and cultural practices and may have experienced the practices themselves.

A popular format -"funnel structure" was used for the focus group interview. The beginning section was broad and less structured. The goal is to hear participants' (interviewee's) general perspectives. The middle section was more structured, and the goal is to lead into, or begin to cover, the topics of most interest to the researcher. The ending section was narrow and the most structured. The goal is to obtain answers to the specific needs assessment questions. The final question in the focus group was a return to a broader, more general wrap-up.

The focus group discussions had a mix of general and more specific questions in order to elicit detailed responses from the participants and to address and receive information on the "bigger picture." Each question had a variety of follow-up "probes" to clarify questions or have participants elaborate on their responses. In regards to the flow, probing questions and transition approach was arranged to introduce new ideas starting from general non-threatening to specific topics of interest. Tape was used to record the discussion and an experienced recorder recorded the discussion.

The researcher wrote on-site summaries with a question-by-question format immediately following the sessions to capture what the group had to say regarding each topic. These on-site summaries were enhanced using field notes taken by an assistant during the focus group session.

The process of the qualitative data collection was continued until more or less saturation or redundancy was reached. This actually took a number of cycles of inquiry based on the leads that were generated during the discussions and interviews. Most of the discussions and interviews were recorded on tape. After the collection of the required data by tape recorder and by taking notes, the task of transcribing was performed in Amharic and later was translated into English.

Six research assistants of the same sex (three as a moderator and the other three as a note-taker) conducted the FGDs and IDIs. Eight research assistants, four females and four males, well acquainted with the local languages, in addition to being fluent in English were recruited.

Experience in conducting qualitative research, and the ability to transcribe and translate interviews from a local language to English was another criterion for recruiting research assistants.

Understanding the subject matter was also crucial. Two of the research assistants had Masters degree in Public Health (MPH) and 2 had Masters degree in Anthropology. Research assistants underwent intensive training for three days to familiarize themselves with the research questions, ways of conducting focus group discussions and in-depth interviews, the roles of the moderators and note takers, transcription and translation techniques, and the contents of the question routes. The training included role-play and a pilot testing in a location in rural areas of Bure.



Figure 7: Some of the FGDs moderated by the principal investigator

4.2.3. Data Analysis

Qualitative research generates large amounts of textual data requiring a systematic method of segmenting the data into meaningful units or themes. The five guiding principles of qualitative data analysis were strictly followed. These principles can be briefly stated as (144):

- People differ in their experiences and understandings of reality
- A social phenomenon cannot be understood outside its own context
- Theory guides both qualitative research and results from it
- Exceptional cases may yield insight into a problem or new leads for further inquiry
- Understanding of human behaviours emerges slowly and non-linearly, accordingly, the analysis began as data was collected and preliminary working hypotheses were generated. This led to more focused data collection activities.

The main data analysis took place immediately following the completion of each interview. In this regard, the usual principles that guide qualitative analysis were taken into account and a sequence of interrelated steps (reading, coding, displaying, data reduction and interpreting) were employed while analyzing the data (144). ‘Descriptive thematic analyses’ is aimed primarily at identifying and describing the themes that are contained in the transcripts. These include:

1. Transcription; 2. Developing and applying codes; 3. Selective text retrieval; 4. Constructing an overview grid to summarize points; 5. Re-organizing points into more general themes; 6. Re-reading relevant segments and memos; and 7. Reporting (describing findings, selecting quotes/describing illustrative cases), interpreting and discussing results

The procedure that was used to process the raw data for the purposes of classification, summarization and tabulation was thematic analysis. The basic idea here was to identify the extracts of data that were informative in some way and to sort out the important messages hidden in the mass of each key informant interview and focus group discussion. Themes that emerged during the discussions rather than the confines of formal health behaviour models, guided the analysis. Analysis involved developing a system of indexing the data into sets of categories or codes that provided structure to the data based on the research objectives and the topics included in the question guides. Thus, each code represented a core topic or theme. Different levels of codes were developed to enrich the analysis process. For example, a parent code (e.g. sexual behaviour) was developed and then sub-categories (e.g. premarital, extramarital and commercial) were used to represent different types of sexual behaviour.

The key statements, ideas, and attitudes expressed by the participants were listed for each topic. This was done using the participants own words. Categorization of statements for each topic

was undertaken and a sort of comparison of responses of different subgroups was carried out. The most useful quotations that emerged from the focus group discussions and key informant interviews were selected to illustrate the main ideas.

Tape-recorded discussions were transcribed and translated verbatim to English. Both the moderators and note takers did the transcriptions and compared notes to ensure quality and consistency. The transcripts were then typed and thematic or content analysis was undertaken. The work was translated into English and illustrative quotations were selected and included in the report.

Trustworthiness

In order to enhance the credibility of the data, the technique of triangulation which took place in data sources and data collection methods was used (144, 145). Triangulation in data sources entailed collecting data from local residents, religious leaders, HIV focal persons and *woreda* representatives. Triangulation in data collection methods included the combination of in-depth interviews and focus group discussions. The quantitative research method employed earlier in the same study areas could also be taken as the other important method of ensuring triangulation.

4.3. Ethical Considerations

Ethical clearance was obtained from the School of Public Health and Institutional Review Board of the School of Medicine at Addis Ababa University .Written consent was obtained from the responsible Zone and *Woreda* government organizations by explaining the objectives of the study. The interviews were conducted in a safe and quiet place where no-one listened or interrupted the interview. Since the study deals with personal issues like sexuality, the selected participant is asked to provide informed verbal consent. The respondents were given an opportunity to ask any questions about the survey that may help them decide whether or not they want to participate. The interviewer records the respondent's decision on the questionnaire and signs it affirming that he or she has read or understands the statement and the decision recorded given by the respondent.

To protect the confidentiality of the participants, the data is "anonymized" by scrambling the cluster and household numbers associated with each participant in such a way as to make it impossible to associate an individual data record with a particular place and household.

Anonymity of informants and confidentiality of the information they provide is a prime ethical issue. All informants were assured that their names were not used; only pseudonyms or a code number will identify informants on interview, FGDs transcripts and on data sheets. The writer observed other field staff interviewing for quality control of this process. Participants in FGDs were asked to sign a pledge of confidentiality that they are not to reveal the information disclosed in the FGD, since much of it may be of a highly personal nature. Written informed consent was obtained from every interviewee and FGD participant prior to any participation.

All interviews were coded and no-one will ever be identified in any document or publication. All data was stored in locked filing cabinets with access by the PI only. Study information was coded, and kept in locked files at all times. Only study personnel had access to the files. After the study has been completed and all data transcribed from the tapes, the tapes will be destroyed. Study participants' name will not be used in any published reports. All participants were volunteers, and will be assured of their right to refuse or withdraw without jeopardy.

Since HIV/AIDS is primarily a sexually transmitted disease in Ethiopia, it is associated with promiscuity with much stigma connected to it. Many of the questions that were asked, both in the structured and semi-structured interviews, could therefore be regarded as sensitive. The selected respondents are briefed on the purpose and procedure of the interviews and also on the objectives of the research, and thereby give informed consent to participation. To minimize chances of respondents recognition, the information has been anonymise, the names identifying people, places or organizations have been altered. For the structured interviews, the respondents are never asked to identify their names, since this information has no relevance for the analysis. This will be secured confidentiality. The respondents to the semi-structured interviews are not confronted with direct personal questions to the same extent.

Appropriately conducted qualitative methods are highly invasive of intimate aspects of peoples' lives, therefore, great care was taken in the protection of research participants as follows:

- First, the purposes of the research and potential risks to the subjects were made explicit to the research participants in addition; people are given the right to choose whether or not to participate.
- Second, the researcher determined that no harm can come to the individual study subjects as a result of their participation in the research.
- Third, the researcher ensured that the resulting research and publications could not be used in such a way that might bring harm to the participants as a group. In the study, all the three above guidelines are adhered to and the research carried out after obtaining consent from the participants.

Each piece of information given by each responding subject was strictly confidential. A statement that addressed this issue was shown on the first page of each questionnaire. It was only when the respondent gave his/her verbal consent that the interviews or discussions took place. In fact, there was no individual subject who refused to participate in the study after receiving the necessary information about the purposes of the investigation.

Anticipated benefits: The benefit for individual study participants is the opportunity to assess one's risk for HIV infection, and receive risk prevention information. The results from this study will potentially benefit the community and society through increased knowledge of this special population and, therefore, better planning and delivery of health care education and services. If asked, participants were provided with informative pamphlets about HIV prevention.

CHAPTER 5: RESULTS

The results of the quantitative and qualitative designs are presented separately in order to manage the information generated from the two approaches. The entire presentation is organized and presented under four themes:

The first part focuses on and compares HIV-related sexual behaviours among rural to urban migrants and non-migrants. The second part investigates the association of leisure activities and sexual risk behaviours among rural to urban migrants and non-migrants. The third part examines fertility intentions and HIV risks among the rural women. The fourth part explores socio-cultural factors and HIV risk in the rural areas of *Bure Woreda*. The themes mostly refer to the papers (I, II, III and IV).

A total of 2,690 participants (response rate, 97.7 %) responded to the questionnaire on HIV risk behaviours, leisure activities and fertility intention. Their non-availability however was not related to this particular study. This study which consisted of three groups' 655 male rural to urban migrants working in Bure town and around, 655 male non-migrants (rural) and 1,380 married rural women aged 18 to 49 groups.

5.1. HIV-related sexual risk behaviours among rural to urban migrants and non-migrants: Role of rural to urban migration in HIV transmission (Paper I).

A total of 1,333 participants (666 rural to urban migrants and 667 non-migrants) were invited to participate in the study, of whom 23 (1.7 %, 23/1,333) were not available at the time of the survey despite repeated revisits. Their non availability however was not related to this particular study. Thus, 1,310 participants (655 each from rural to urban migrants and non-migrants) were interviewed. Table 1 presents the socio-demographic characteristics of the rural to urban migrants and non-migrants. As shown, half (50 %) of the migrants were young (18-24years), had no formal education (48.7%) and most (54.4%) were wage laborers and service providers. Over half of the migrants were married (54.4 %), and the rest were single (30.0 %) or divorced (16.3%). The level of comprehensive HIV knowledge among the migrants was 22.9 % while it was only 9.5% among the non-migrants and the difference noted was significant ($p=0.001$). The proportion of migrants who had *kemete* (parallel wife) were 5.0 % and 4.0% for

non-migrants. The difference noted was not significant ($p=0.2$). Compared with the non-migrants, more migrants were younger (50 %), single (29.6 %) and completed secondary schooling (16.3%) than the non-migrant (12.7 %, 2.9 % and 8.5% respectively). The differences noted were statistically significant for all the variables ($P=0.001$).

Table 1: Socio-demographic characteristics of rural to urban migrants and non-migrants in *Bure Woreda*, West Gojam, Amhara Region, Ethiopia, 2011.

Variables	Rural to urban migrants (n=655)		Non- migrants (n=655)		Chi-square value	P-Value
	frequency	%	frequency	%		
Age						
18-24	325	49.6	83	12.7	213.43	0.001
25-34	189	28.9	240	36.6		
35-44	110	16.8	202	30.8		
45-49	31	4.7	130	19.8		
Education						
No education	319	48.7	358	54.7	18.68	0.001
Read and write	30	4.6	33	5.0		
Primary School	199	30.4	208	31.8		
Secondary school and above	107	16.3	56	8.5		
Marital Status						
Married	356	54.4	591	90.2	244.86	0.001
Divorced	105	16.3	36	5.5		
Widowed	-	-	9	1.4		
Single	194	29.6	19	2.9		
Monthly household expenditure						
≤ 320 Eth Birr	227	34.6	412	62.9	56.27	0.001
321-500 Eth Birr	363	55.4	193	29.4		
501-999 Eth Birr	56	8.5	22	3.3		
≥1000 Eth Birr	19	2.9	28	4.2		
Comprehensive knowledge of HIV/AIDS						
Yes	150	22.9	62	9.5	43.58	0.001
No	505	77.1	593	90.5		
Kemete (Having parallel wife)						
Yes	34	5	27	4.0	0.84	0.21
No	621	95	628	96.0		
Occupation						
Agriculture					65.8	0.001
Student	258	39.3	645	98		
others	21	3.2	10	1.5		
(Wage labourer and service provider)	376	54.4	-	-		

The HIV/AIDS risk behaviours among rural to urban migrants and non-migrants are depicted in Table 2. The proportions of rural to urban migrants and non- migrants who had sex in the last 12 months were (57 %) and (84%) respectively. Among those who had multiple sexual partners (MSP) migrants were (31.40%) which is higher than those of non-migrants (7.4%). And only 12.7% of migrants and 9.8% of non-migrants reported consistent condom use with their sexual partners. Having of premarital sex among migrants were (20.8%) whereas (14.2%) for non migrants.

Sexually transmitted infection was higher in migrants (11.7%) than non migrants (3.2%). In the crude analysis except condom use MSP, STIs and pre-marital sex were significantly higher in the migrants than the non-migrants; nevertheless, when adjusted for other confounding effects, only MSP and STIs remained significant. The likelihood of having multiple sexual partners was 4.89 times higher in migrants than non-migrants (AOR=4.89; 95% CI=3.13-7.66). Similarly, the likelihood of having sexual transmitted infection was 5.03 times higher in migrants than non-migrants (AOR=5.03; 95% CI=2.72- 9.30).

Table 2: HIV/AIDS sexual risk behaviours among rural to urban migrants and non- migrants in *Bure Woreda*, West Gojam, Amhara Region, Ethiopia, 2011.

Variables	Rural to urban Migrants.		Non- migrants		Crudeodds ratio (COR) (95%CI)	Adjustedodds ratio(AOR) (95% CI)
	frequency	%	frequenc y	%		
Having sex in the last 12 months (n ¹ = 655 Vs n ² =655)	376	57	556	84		
Multiple sexual partners (MSP) (n ¹ =376 Vs n ² = 556)						
Yes	118	31.4	41	7.4	3.74(2.26-4.78)*	4.89 (3.13-7.66)*
No	258	68.6	515	92.6		
Consistent Condom use with MSP (n ¹ =118 Vs n ² = 41)						
Yes	15	12.7	4	9.8	1.34(0.42-4.31)	1.32(0 .28- 6.08)
No	103	87.3	37	90.2		
Sex with commercial sex workers (n ¹ =376 Vs n ² = 556)						
Yes	84	22.3	74	13.3	1.87(1.32-2.64) *	0.84(0.50-1.42)
No	292	77.7	482	86.7		

Sexual transmitted infections (n=376) (n ¹ =376 Vs n ² = 556)						
Yes	76	11.7	18	3.2	3.95 (2.25-6.96) *	5.03 (2.72-9.30) *
No	300	88.3	538	96.8		
Premarital Sex (n ¹ = 655 Vs n ² =655)						
Yes	136	20.8	93	14.2	1.58(1.18-2.11)*	0.99 (0.34-2.86)
No	519	79.2	562	85.8		

* Statistically significant at $P < 0.05$. n¹ = rural to urban migrants; n² = non-migrants

Table 3 depicts results from multiple logistic regression analysis on sexual risk behaviours among migrants adjusted for other factors (age, education, marital status, months spent in migratory town and frequency of migration and comprehensive knowledge). Having MSP and STI were significantly associated with being single and agricultural job. The divorced were 65% less likely to report having had multiple sexual partners and the married 45% less likely to have STIs than singles (AOR=0.35; 95% CI=0.13-0.92) and (AOR= 0.55; 95% CI= 0.40-0.91) respectively. The likelihood of infecting with STIs was higher in migrants who are younger and responded as have no chance to be infected by HIV.

The likelihood of having MSP was 3.26 time higher in migrants who had agricultural job than being wage labourer (AOR=3.26; 95%CI=1.79-5.93). Furthermore the likelihood of having MSP was 6.04 times higher in rural to urban migrants and who responded that they had no chance of getting HIV than those who responded high chance (AOR= 6.04, 95%CI=3.74-10.84).

Table 3: Factors associated with having multiple sexual partners (MSP) and sexual transmitted infections (STIs), among rural to urban migrants in *Bure Woreda*, West Gojam, Amhara Region, Ethiopia, 2011.

Variables	n= (655) %		MSP	STIs
			AOR (95%CI)	AOR 95%CI
AGE				
18-24	325	49.6	0.77 (0.21-2.78)	1.34 (1.22-2.56)*
25-34	189	28.9	0.67 (0.40-3.45)	1.15 (0.53-2.12)
35-44	110	16.8	0.53 (0.33-4.22)	1.21 (0.79-3.11)
45-49	31	4.7	1	1
EDUCATION				
No education	319	48.7	0.46 (0.12-2.71)	1.18 (0.88-2.20)
Read and write	30	4.6	0.25 (0.42-1.51)	0.37 (0.251.34)
Primary school	199	30.4	0.50(0.14-1.83)	0.92 (0.48-2.10)
Secondary school and above	107	16.3	1	1
MARITAL STATUS				
Married	356	54.4	1.8(0.84-3.85)	0.55 (0.40-0.91)*
Divorced	105	16.0	0.35 (0.13-0.92) *	0.66 (0.41-1.87)
Single	194	29.6	1	1
OCCUPATION				
Agriculture	258	39.4	3.26 (1.79-5.93)*	1.56 (1.12-3.82)*
Student	21	3.2	0.26 (0.37-1.83)	0.68 (0.52-1.87)
Service provider	14	2.1	0.19 (0.02-1.44)	0.60(0.47-1.89)
Wage labourer	362	55.3	1	1
Frequency of migratory town visits.				
1 time	107	16.3	1.08 (0.47-2.51)	0.98 (0.44-1.62)
2 times	149	22.7	1.37 (0.65-2.88)	0.97 (0.82-1.86)
3 times	153	23.4	2.01 (0.98-4.10)	1.01 (0.98-3.11)
> 4 times	246	37.6	1	1
Perceived risk for HIV infection.				
No chance	462	70.5	6.04 (3.74-10.84)*	1.24 (1.56-2.67)*
Low chance	101	15.4	0.82(0.26-2.61)	0.65(0.49-1.61)
Do not know	68	10.4	0.44 (0.39-8.67)	0.88 (0.58 -2.66)
High chance	24	3.7	1	1
Comprehensive knowledge of HIV/AIDS				
Yes	150	22.9	0.64 (0.45-1.87)	0.36 (0.27-1.84)
No	505	77.1	1	1

* Statistically significant at $P < 0.05$.

5.2. Sexual Risk Behaviours and Leisure activities among rural to urban Migrants and Non-migrants (Paper II).

A total of 1,310 participants (655 each from rural to urban migrants and non-migrants) were interviewed for assessment and comparison of their leisure activities to HIV related sexual risk behaviours in the study area. The socio-demographic characteristics of the rural to urban migrants and non-migrants were shown in table 1.

Table 4 shows the number of rural to urban migrants and non-migrants engaged in the eleven leisure activities. The first three leisure activities with the highest rates of participation among migrants were visiting entertainment installments (76.3%), chatting (64.9%), and listening to the radio (31.5%); while doing chores (71.6%), visiting entertainment installments (30.7%) and chatting (29.2%) were among the highest rates of participation in non-migrants. The differences noted were statistically significant in the entire variable ($P=0.001$). The leisure activities with the lowest rates of participation by both migrants and non-migrants were playing cards and reading. The difference noted between the two groups in participating in these least rated activities was not statistically significant ($P= 0.30, 0.07$).

Table 4: Types of leisure activities among rural to urban migrants and non- migrants in *Bure Woreda*, West Gojam, Amhara Region, Ethiopia, 2011.

Leisure activities	Rural to urban Migrants		Non-migrants		Overall (N= 1,310)	Chi-square value	P-value
	Frequency(n=655) %		Frequency (n=655) %				
Watching TV							
Yes	117	17.9	23	3.5	10.7	70.66	0.001
No	538	82.1	632	96.5	89.3		
Watching Video							
Yes	37	5.6	3	0.5	3.1	29.81	0.001
No	618	94.4	652	99.5	96.9		
Listening to radio							
Yes	206	31.5	175	26.7	29.1	3.55	0.034
No	449	68.5	480	73.3	70.9		
Listening to audio							
Yes	136	20.8	41	6.3	13.5	58.95	0.001
No	519	79.2	614	93.7	86.5		
Reading							
Yes	45	6.9	32	4.9	5.9	2.33	0.079
No	610	93.1	623	95.1	94.1		
Chatting							
Yes	425	64.9	191	29.2	47.0	167.78	0.001
No	230	35.1	464	70.8	53.0		
Playing cards							
Yes	9	1.4	6	0.9	1.1	0.60	0.303
No	646	98.6	649	99.1	98.9		
Visiting entertainment installments							
Yes	500	76.3	201	30.7	53.5	274.33	0.001
No	155	23.7	454	69.3	46.5		
Wandering in the street							
Yes	115	17.6	66	10.1	13.8	15.39	0.001
No	540	82.4	589	89.9	86.2		
Sleeping							
Yes	89	13.6	154	23.5	18.5	21.34	0.001
No	566	86.4	501	76.5	81.5		
Doing chores							
Yes	93	14.2	469	71.6	42.9	440.5	0.001
No	562	85.8	186	28.4	57.1	6	

Multiple logistic regression analysis was done to explore the association between the eleven leisure activities and each of the five sexual risk behaviours among migrants and non-migrants adjusted for other factors (age, education, marital status and HIV knowledge). In rural to urban migrants watching TV, reading, chatting, watching videos, wandering on the street, and visiting entertainment installments were positively associated with most of the five HIV risk behaviours with the AOR varying from 1.79 (95% CI: 1.00 to 3.18, $p < .05$) between the activity “wandering in the street” and commercial sex to 3.11 (95% CI: 1.36 to 7.13, $p < .05$) between the activity “watching video” and commercial sex involvement among migrants while only reading and

wandering in the street are positively associated with some of HIV risk behaviours in non-migrants with the AOR 3.19 (95% CI: 1.40 to 7.30, $p < .05$) and 3.78 (95% CI: 1.60 to 8.91, $p < .05$) respectively. Listening to radio AOR=0.17 (95% CI: 0.03 -0.80, $p < .05$) in migrants, chatting AOR=0.16 (95% CI: 0.04 to 0.55, $p < .05$) and doing chores AOR=0.57 (95% CI: 0.33 to 0.98, $p < .05$) in non-migrants were negatively associated with some of the HIV risk behaviours (Table 5).

Table 5. Association between leisure activities and HIV risk behaviours among rural to urban migrants and non-migrants in *Bure Woreda*, Amhara Region, Ethiopia.

Leisure activities	Pre-marital sex	Multiple Sexual Partners	Commercial Sex	Consistent Condom use	STIs
	AOR 95%CI	AOR 95% CI	AOR 95% CI	AOR 95%CI	AOR 95% CI
Migrants					
Watching TV	0.81 (0.45-1.45)	1.81 (1.04-3.16)*	2.29 (1.28-4.09)*	1.5 (0.13-7.72)	1.84 (0.90-3.73)
Watching video	0.97 (0.33-2.85)	0.64 (0.24-1.74)	3.11 (1.36-7.13)*	2.74 (0.04- 1.02)	1.24 (0.47-3.25)
Listening to radio	1.26 (0.80-1.99)	0.91 (0.55-1.50)	0.77 (0.43-1.37)	0.17 (0.03 -0.80)*	0.71 (0.39-1.32)
Listening to audio	0.85 (0.49-1.46)	1.66 (0.96-2.89)	1.26 (0.69-2.32)	0.29 (0.06-1.25)	1.53 (0.80-2.92)
Reading	2.12(1.03-4.37)*	0.20 (0.29-2.21)	0.16 (0.02-1.22)	0.90 (0.00-3.02)	1.27 (0.33-4.88)
Chatting	1.95(1.22-3.14)*	1.8 (1.12-3.05)*	0.65 (0.39-1.09)	1.10 (0.25-4.80)	0.57 (0.33-1.00)
Playing cards	1.97 (0.46-8.38)	0.05 (0.07-1.18)	0.00 (0.00-6.70)	0.89 (0.00-4.58)	0.02 (0.00-1.57)
Visiting entertainment	0.86 (0.53-1.40)	1.67 (0.93-2.98)	1.11 (0.60-3.18)	0.28 (0.00-5.40)	2.87 (1.22-6.73)*
Wandering	1.10 (0.66-1.81)	1.13 (0.66-1.93)	1.79 (1.00-3.18)*	0.10 (0.00-3.30)	1.94 (1.04-3.60)*
Sleeping	1.19 (0.66-2.15)	1.49 (0.82-2.71)	1.64 (0.89-3.02)	1.79 (0.20-5.55)	0.71 (0.34-1.48)
Doing chores	1.49 (0.82-2.70)	0.85 (0.41-1.76)	0.87 (0.40-1.88)	0.51 (0.45-5.82)	0.80 (0.33-1.92)
Non-migrants					
Watching TV	1.53 (0.51-4.61)	1.00 (0.16-6.03)	0.31 (0.03-2.51)	0.82 (0.00-2.39)	0.01 (0.00-3.51)
Watching Video	0.00 (0.00-6.20)	7.91 (0.54-4.76)	0.03 (0.00-1.50)	0.40 (0.00-4.19)	0.03 (0.00-4.10)
Listening to radio	0.98 (0.55-1.74)	0.79 (0.37-1.71)	1.39 (0.77-2.50)	0.00 (0.00-3.30)	0.14 (0.01-1.31)
Listening to audio	0.93 (0.37-2.33)	0.32 (0.00-3.10)	1.22(0.46-3.22)	0.00 (0.60-1.16)	1.50 (0.16-1.02)
Reading	3.19 (1.40-7.30)*	1.51 (0.39-5.87)	0.49 (0.10-2.26)	3.80 (0.00-1.82)	2.81 (0.29-27.35)
Chatting	1.03 (0.61-1.73)	0.16 (0.04-0.55)*	1.22 (0.69-2.16)	0.01 (0.08-2.34)	0.95 (0.28-3.26)
Playing cards	0.81 (0.08-7.57)	1.29 (0.13-1.43)	4.29 (0.67-2.26)	4.68 (0.00-4.84)	4.32 (0.38-4.74)
Visiting entertainment	0.47 (0.25-1.86)	1.68 (0.08-3.49)	1.03 (0.58-1.83)	0.01 (0.28-6.31)	1.98 (0.60-6.51)
Wandering	1.14 (0.56-2.31)	3.78 (1.60-8.91)*	1.89 0.94-3.77)	0.01 (0.00-2.06)	4.81 (1.45-5.96)*
Sleeping	1.26 (0.75-2.13)	0.92 (0.43-1.95)	1.53 (0.88-2.67)	0.01 (0.00-1.52)	2.66 (0.85-8.35)
Doing chores	0.97 (0.58-1.61)	0.74 (0.36-1.52)	-0.57 (0.33-0.98)*	1.23 (0.41-7.29)	0.95 (0.27-3.35)

Note: One logistic regression model was used for each of the seven HIV risk behaviours respectively, the 11 leisure activities were all included in each model. AOR: Adjusted odds ratio after controlling for age, education, marital status, years of migration to urban areas, and work locations. * Statistically significant at $P < 0.05$.

5.3. Fertility Intention in the Era of HIV/AIDS among the Rural Women (Paper III).

A total of 1,418 participants were invited to participate in the study, of whom 38 (2.7 %, 38 /1,418) were not available as the time of the survey despite repeated revisits. Their non-availability, however was not related to this particular study. Thus, 1,380 participants were interviewed. The socio-demographic characteristics of the rural married women by their fertility intention are shown. Of the total married women assessed in the present study, only 32.0% had a desire to have children in the future, the difference noted was significant ($p=0.001$). The proportion of currently married women ($p=0.010$) who had no education ($p=0.001$), involved in wage labor ($p=0.002$), and monthly expenditure below 500 Ethiopian birr (ETB) ($p=0.015$) had significant association with the desire to have more children. In addition, the desire for a future pregnancy was highly associated with lower mean age group ($p=0.001$), low parity ($p=0.001$), lower mean number of surviving children ($p=0.001$), lower mean desired number of children ($p=0.001$) and lower mean ideal number of children ($p=0.001$) (Table 6).

Table 6: Socio-demographic characteristics of the rural women by their fertility intention in Bure Woreda, Amhara Region, Ethiopia, 2011.

Variable			Fertility intention				p-value
			No		Yes		
	N	Percents	N	Percents	N	percent	
Total	1,380	100	939	68.0	441	32	
Marital Status							
Currently Married	1,171	84.9	785	67.0	386	33.0	0.010
Widowed	24	1.7	23	95.8	3	4.2	
Divorced	185	13.4	129	69.7	56	30.3	
Education							
No education	896	64.9	609	68.0	287	32.8	0.001
Read and write	344	24.9	209	60.8	135	39.2	
Primary School	83	6.0	67	80.7	16	19.3	
Secondary school and above	57	4.1	54	94.7	3	5.3	
Occupation							
Agriculture	1,301	95.7	899	69.1	402	30.9	0.002
Service Provider	30	1.8	17	56.7	13	43.3	
Wage Laborer	49	2.4	23	46.9	26	53.1	
Monthly household expenditure in Ethiopian Birr							0.015
≤ 320	709	51	486	68.5	223	31.5	
321-500	601	43	394	65.6	207	34.4	
501-999	32	2.3	26	81.3	6	18.8	
≥ 1000	38	2.8	33	86.8	5	13.2	
Mean Age in Years	32.86		33.06		32.44		0.001
Mean Parity	4.08		4.12		3.9		0.001
Mean number of Surviving children	3.41		3.51		3.18		0.001
Mean desired number of Children	3.48		3.53		3.36		0.001
Mean Ideal number of Children	4.24		4.11		4.50		0.001
Childhood Mortality							
Under 5 death in last 5 years	368	26.7	134	36.4	234	63.6	0.001
Never had child death	1,012	73.3	805	79.5	207	0.5	
Perceived risk for HIV infection.							
High chance							0.018
Moderate	121	8.8	93	76.9	28	3.1	
Low chance	265	19.2	189	71.3	76	8.7	
No Chance	37	2.7	29	78.4	8	1.6	
	957	69.3	628	65.6	329	4.4	
Comprehensive Knowledge of HIV/ AIDS							
Yes	83	6	65	78.3	18	1.6	0.956
No	1,297	94	642	49.4.	655	0.5	

Table 7 shows the HIV/AIDS comprehensive knowledge and contraceptive use measures employed in the study. In general, HIV/AIDS knowledge is quite very low only 6 % of respondents had comprehensive knowledge of HIV/AIDS and 23 % of those sampled said they were using any form of contraception. Regarding the use of condoms the number is quite disappointing as only 0.6 % of the married women indicated that they were using condoms in their encounters.

Table 7. HIV/AIDS comprehensive knowledge and contraceptive use among married women in *Bure Woreda*, West Gojam, Amhara Region, Ethiopia, 2011.

Variables	Frequency N= 1,380	%
Comprehensive HIV/AIDS Knowledge	83	6
Currently using contraceptive	317	23
Currently using Condoms	8	0.6

The multivariate logistic output explaining the major independent factors identified earlier in the bivariate analysis for desire of future pregnancy. Almost all the previously associated factors that included women who had at least one under-five child death, with in a marital union, of age group below 35 years, parity level below 5, ideal number of children below 6, desired number of children below 3, education level below primary school, and monthly expenditure less than 500 ETB retained their significant association with the desire to have future pregnancy. Furthermore high HIV perceived risk was also significantly associated with the intention to have future pregnancy (AOR=2.08; 95% CI=1.35 to 3.19) (Table, 8).

Table 8: Fertility intention of the rural women in relation to HIV perceived risk and childhood mortality in Bure Woreda, West Gojam , Amhara Region, Ethiopia, 2011.

Variables	Adjusted Odds ratio (95%CL)	P. value
Perceived risk for HIV infection.		
High chance	2.08 (1.35-3.19)	0.001
Moderate	0.56 (0.31-1.02)	0.567
Low chance	1.02 (0.41- 2.63)	0.954
No Chance	1	
Childhood Mortality		
Under 5 death in last 5 years	6.92 (4.91-9.47)	0 .000
Never had child death	1	
Comprehensive Knowledge of HIV/ AIDS		
Yes	0.90 (0.53- 1.52)	0.700
No	1	
Marital Status		
Currently Married	2.6 (1.66-4.25)	0.001
Widowed	14.0 (0.17-1.27)	0.082
Divorced	1	
Education		
No education	3.8 (1.07-13.71)	0.040
Read and write	6.6 (1.86-13.39)	0.004
Primary School	5.6(1.41-12.27)	0.014
Secondary school and above	1	
Monthly household expenditure in Ethiopian Birr (ETB)		
≤ 320	4.42 (1.52-13.11)	0.007
321-500	4.91 (1.67-14.62)	0.004
501-999	2.14 (0.44-10..41)	0.356
≥ 1000	1	
Age		
≤ 24	2.0 (1.26-3.97)	0.006
25-34	5.07 (3.32-7.76)	0.001
35-44	4.5 (0.84-5.89)	0.061
≥ 45	1	
Parity		
5	7.0 (3.67- 13.55)	0.001
4	8.2 (5.00-13.65)	0.001
3	3.0 (1.89-5.07)	0.003
2	3.9 (2.31-6.69)	0.000
1	1	
Ideal number of children		
5	0.08 (0.04-0.14)	0.001
4	0,45 (0.28-0.73)	0.001
3	0.25 (0.17- 0.37)	0.001
2	0.35 (0.23-0.47)	
	1	
Desired number of children		
≤ 3	1.55 (1.09-2.22)	0.014
>4	1	

5.4. Socio-cultural and Sexual practices of the rural people in relation to HIV risk (Paper IV).

This section explores both the negative and positive influences of the existing community's cultural norms and practices on HIV-related sexual behaviours. HIV/AIDS and the socio-cultural set-up of communities have impacted on each other. In the context of HIV/AIDS, social and cultural practices play dual roles, on one side enhancing HIV transmission while on the other facilitating reduction in incidence. However, social factors, cultural norms and practices were seen to be more of facilitators than inhibitors of HIV transmission.

The focus group and in-depth-interviewee guide were used and consisted of 5 sections namely: knowledge about HIV/AIDS, cultural practices related to (fertility intention, leisure (recreation) activities, holidays and wedding ceremonies, sexual risk practices) HIV/AIDS prevention and care strategies and voluntary counseling and testing. Each section was discussed according to the different questions

Factors related to HIV/AIDS Knowledge, awareness and risk practices

A. Knowledge and transmission of HIV/AIDS.

In this section, the respondent's knowledge about HIV/AIDS, the difference between HIV and AIDS and modes of transmitting HIV as well as any myths related to HIV and AIDS were explored. The name of HIV in the study area is given as "*Kemekem, or Akecheche*" (FGD participant, Male) which is mostly related to the deterioration of the physical characteristics of a person.

The respondents have also described the modes of transmission, the majority agreeing that HIV was transmitted through sexual intercourse with HIV infected people and blood contacts. However, a few of them believe using condoms transmits HIV.

During sexual intercourse, sharp materials like razor blades and instruments like needles used by infected people, blood passing through open cuts and when you have open cuts and when

you are assisting an HIV positive person and using condoms transmit HIV/AIDS (FGD participant, Male).

B. Myths about HIV/AIDS in the rural areas

Various responses were given regarding the myths. FGD discussants associated HIV/AIDS with a combination of unexplained diseases and believe the government has medicine for HIV/AIDS. Another common myth was that *“AIDS is punishment from God, as God's vengeance on those who lead unnatural and promiscuous lives (FGD participants, Males).*

The participants mentioned that “people believe that the use of condoms causes AIDS, people with TB are definitely said to have AIDS and Is it real? that the Government doesn't have a medicine for HIV, I don't think, (FGD participants, Males).

Any illness that takes a long to heal is HIV/AIDS, I can get HIV by being around people who are HIV-positive, drinking from a water fountain, hugging, or shaking hands with someone who is HIV-positive and sharing eating utensils with an HIV-positive person(FGD participants, Males).

HIV/AIDS prevention in the study area.

There was general agreement amongst the respondents that a large number of people are dying because of *kemekeme (HIV/AIDS)* as culture is not taken into consideration and they think that the people need to go back to their culture, which taught people morals. Culture teaches people morals about sexual behaviour. Culture is also articulated in the rules and norms that govern such basic activities and social relations as how, where, when and with whom one makes love or has sexual relations.

The religious leaders attribute the high prevalence of HIV/AIDS as punishment from God as principles of abstinence and faithfulness have been disregarded by society (FGD participants, Males).

In the study area most of the HIV related education is given when there is a church program especially on Sundays and rarely in holidays in which most of vulnerable group the youth are not available.

Almost all of the HIV/AIDS related education is given around the churches places on Sundays and during holidays. However most of the time youngsters who are most vulnerable to kemekem are not available in this place (church) and they are not participating in the session (FGD participants, Males).

The FGD discussants said that there was no discussion about HIV/AIDS among married or cohabiting partners, and that no-one provoked mention HIV within such relationships. Most said that the reasons for not talking directly included mistrust, shyness, fear of being thought unfaithful and actually being unfaithful.

Condoms use

FGD participants mentioned that condoms were associated with prostitution and commercial sex workers rather than with prevention of HIV and pregnancy. The suggestion of using condoms at the same time as other methods of modern contraception in response to the twin risks of pregnancy and HIV infection was rejected by FGD participants as they believed the use of condoms within marriage is a sign of mistrust.

Condom is like Akomada (leather sack used to transport grains in the rural areas) how we put this in our body (FGD participant, Male).

Some parents feel shy to talk about sex with their children, let alone give condoms to them. It was also reported that talking about sex with their children was teaching them “bad manners” including ‘playing sex’. Some parents strongly oppose the use of condoms by their adolescent children, thinking that condoms simply promote sexual immorality and make children promiscuous.

Interventions are likely to address specific issues relevant to condom use resistance within a particular context. Culture is a valuable resource in this setting for health educators to tailor the right message to target misinformation apparent each area.

C. Opinions about Voluntary Counselling and Testing (VCT)

Most of the groups were aware of VCT. It was not surprising that some of them don’t know the VCT programme. A few of the respondents have visited the centres as their contributions

to the discussions were based on what really happens there, for example the videos which are shown while waiting to be tested was observed in the following ways:

VCT's centres should not show HIV/AIDS videos whilst waiting to be counseled and tested (IDI respondent, Male).

Some of the FGD participants believe videos frighten people and therefore make them not want to be tested (FGD participant, Male).

VCT seems to be supported by a few of the respondents and some feel that it really demoralizes a person once the positive status is known. Some participants felt that VCT was useless for the following reasons:

“There is no medicine available once you know your status (IDI respondent, Male).

Getting tested for HIV is pointless; People need to live positively whether they are positive or not (FGD participant, Male).

Knowing your status changes one's life as you get depressed and frightened and therefore can easily commit suicide or want to infect others (FGD participant, Male).

Both FGDs and IDIs indicated that there was a lot of stigma surrounding HIV testing and this deterred people from being tested. Most of the FGD participants made it clear that they would not like to be tested because they might be rejected by their partners, family, and friends if found to be positive. The issue of confidentiality seemed to be an overriding factor in the participants' fears and was related to misconceptions and the silence surrounding the disease.

Some said:

Have you ever had HIV/AIDS test? No. I have not felt the need for AIDS test. The impact of the result can be difficult for the family (IDI respondent, Male).

Although some of the FGD participants stated they were unwilling to be tested for HIV, 5 of the IDI respondents admitted to having tested, whereas those who had not, were willing to do so. The difference in FGD and IDI results support the importance of using IDIs in studying

sensitive and personal issues. Participants may have chosen not to discuss HIV testing in FGDs because of the need to avoid being stigmatized. But some of the FGD participants were in favour of the VCT programme for the following reasons:

Knowing your status results in behaviour change that reduces HIV transmission and encourages positive living. Negative people also know how they must take care of themselves; VCT encourages positive living and advise people what to do to live positively (FGD participant, Male).

A few FGD respondents said that *there were treatments available in the country therefore it was good to get tested and know your status as you will have access to medical care* (FGD participant, Male).

A few FGD participants appeared to concur that anyone is at risk of getting AIDS and so it is difficult knowing “...*who has it and who does not*” (FGD participant, female). There was evidence that some infected people were not aware of their HIV status and so continued to spread the disease unknowingly, making many people vulnerable. Yet most groups maintained that some people spread the disease deliberately in order not to die alone. The issue of deliberate transmission of HIV was a recurrent theme in most groups.

“HIV has really spread, unfortunately...we do not know who has it but it spreads fast. Again those who live here are not aware...Those who have it continue to have sex because they are not aware and this really spreads it” (FGD participant, Male).

“Another way it spreads is that infected people say that they will not die alone so they deliberately move around to spread it”(FGD participant, female).

A few of the FGD participants aware of VCT reported that VCT services were said to be confined to urban areas, most FGD participants reported the centres were faraway. The participants considered the availability of services, especially for adolescents, to be important so they could take advantage and utilize them.

To mask their HIV positive status, some people drink alcohol to show as if they are not HIV positive to their friends and to the society. If they drink alcohol regularly their friends and the

society believe that they are not HIV positive. The ultimate goal of this masking their status is to get chance of making sex freely with whom they want to do it. This may be sometimes as a revenge on others. HIV prevention program should consider such cases to bring behavioural changes.

We lessoned that those HIV positive patients who are taking the antiretroviral drugs drink alcohol regularly to pertain that as if they are not HIV positive and win the local alcoholic drink sellers or bar maids to practice sexual intercourse (IDI, Male representative, IDI, Female Representative).

D. Stigma and discrimination

Deliberate discrimination of people and families affected by HIV/AIDS spreads the virus. It was reported that some people who know or suspect that they are sick usually want revenge so maliciously spread HIV/AIDS by enticing others with money, particularly young girls. The spread of HIV/AIDS is carried out through rape, abduction and cross-generation sexual relations.

“In my personal experience, many people, after getting infected, they don’t keep it with themselves as they say they cannot die alone.” (IDI respondent, Male).

Discrimination of the sick was also reported to be taking place in some families and communities. It was reported that the moment an individual begins showing signs of HIV/AIDS, people, especially those she/he has been close to isolate, him/her and join with others to malign him/her.

“There is discrimination of people with HIV/AIDS, people point fingers at those who are infected. They isolate them and sit with those who appear to be still negative. When people learn that you have AIDS, all friends disappear from you” (FGD participant, Male).

Those who have HIV did not completely see other peoples and bending of a neck to the ground and when they talk to other person if they have open sores (FGD participant, Females).

E. Attitude of People to Different Types of Helps Given to HIV Positive People

According to the views of some IDI respondents, the different help given to HIV positive persons especially in Bure town is sometimes encouraging neighbours of HIV positive people to prefer to be HIV positive in order to get this help.

“...they learned that there are people who wanted to acquire the virus (wants to be HIV positive) for the sake of getting help (food and financial support) for HIV positive persons” (IDI respondents, HIV Focal persons and women representatives).

The lesson we can learn from this situation is that HIV/AIDS prevention program should consider how to change such outlook of non-HIV positive peoples in a given community, it should not only aim at prevention of the disease but should also aim at how to change the outlook of non-HIV positive people towards the help given to the HIV positive people by showing and teaching how to be self-sufficient economically. Otherwise, the ultimate end of such people may be deliberately contracting HIV/AIDS because of their wrong perception towards getting the help. Hence, breaking such wrong perception should be part of HIV/AIDS prevention programme. The lesson to be drawn at this juncture is as much as possible the type of help to be given to HIV positive should also consider the poor people.

The other interesting finding noted is the HIV positive patients take the anti-retroviral drug with alcohol to pretend they are not HIV positive and win the local alcoholic drink sellers' interest to have sexual intercourse.

Unlike those people who wish they were HIV/AIDS positive for the sole purpose of help which is provided to HIV/AIDS positive people, there are people who pretend that they have not caught HIV/AIDS. To mask their HIV positive status, these people drink alcohol to show they are not HIV positive to their friends and to the society. If they drink alcohol regularly their friends and the society believe that they are not HIV positive. The ultimate goal of masking their status is to get the chance of having sex with whom they wish, which may sometimes be as a revenge on others. HIV prevention programmes should be aware of such cases to bring clear behavioural change to such people.

Cultural norms, practices and HIV risk in the rural community

Once the HIV virus is present within a rural community, cultural and social practices may contribute to its spread between people. Such practices that potentially place people at risk for HIV infection in the study area are as follows

Marriage and the spread of HIV/AIDS.

In this section, the researcher explored the cultural practices of the rural people in relation to marriage and the influence of these cultural practices to the spread of HIV/AIDS. During the focus group discussions, Most participants emphasized that polygamy or having of *Kemete* (parallel wife) is accepted in the rural community although most of them believe that marrying just one partner was part of the culture.

Only married people discuss marriage arrangements, (FGD participant, Male).

Arranged marriage is not supported in today's practices, however, it was thought a better arrangement as partners were known and chosen within the family (FGD participant, Female).

There were participants who were not in favour of polygamy or having *kemete* and said that

“This was a practice of the past it is not common now” (IDI respondent, Male).

Culture says that married partners should stick to one partner,). (FGD participant, Female).

A married woman, who does not live with her husband may be because of migrant labour, must not have any sexual relationship with any men other than her husband (FGD participant, Female).

There are rumors that a women can have sexual intercourse when she goes out for market and also with the neighbours or with Kenja (person employed by the rural family to assist agricultural and other related activities in the home). (IDI respondent, Male).

The other participants had also believed that *polygamy or having an additional wife to get children may contribute to the spread of HIV/AIDS. However it is a culture for couples must have children or additional children (FGD participant, Male).*

Nowadays it is not only wealthy people having *kemete* in urban areas, those who have the Administration position in rural kebeles, for instance the chairman, secretary etc had *kemete* in urban areas and the rural peoples labeled it is like having “professional Degree” for them “*laugh* (FGD participant, Female).

Based on the information collected from the study area there are three types of *Kemete* (Parallel wife).

1. *Kemete* (Polygamy) within the rural village (*Guilete*). Most of the time the wife knows there is another wife for her husband and the *kemete* serves only for this person.
2. Having of *kemete* with the traditional alcohol sellers within the rural area(*Mekoia*); and
3. Having of *kemete* with commercials sex workers in the nearest town (*Marefia*).

All three types of *kemete* show the presence of extra marital relationships. There is a difference among the three groups- number 2 and 3 serving for the man only when he is available, at other times she serves other clients but in the case of number 1 she is only for the husband. But, as during the FGD, the discussants raised polygamous families are exposed to HIV risks.

Weddings and Alcohol Consumption

Nowadays, alcohol consumption is a serious problem, as people use alcohol to show respect for their ancestors in wedding ceremony. It is used for leisure in large quantities especially in rural areas putting people at risk of HIV transmission, as people cannot think clearly when they are under the influence of alcohol. This seems to be a very important issue at all-social events, alcohol use seems to be extending to other social events, which have nothing to do with ancestor worship.

In wedding ceremonies people eat and drink a lot, and traditionally dance (*eskesta*). To many adolescents and youths, wedding parties are perceived as opportunities for meeting friends and having sex.

“Youngsters who go for marriage ceremonies and holidays especially in” *timket*”(epiphany) are supposed to come back with girls; so youngsters try to get girls and girls are also aware of that.” (FGD participant, Male).

In most rural areas, it was reported that most people get married without being tested for HIV putting most couples at risk of marrying someone who may be HIV positive. There were various anecdotal stories told of newly married couples falling sick and dying either with one child or even before producing a child.

“In most cases, marriage here is always influenced by we mothers, dragging our daughters into marriage without a blood test. At the end of the day when they start falling sick, then we start regretting when it can no longer help.” (FGD participant, Female).

On the other hand, marriage was reported to play a significant role in influencing and sustaining sexual behaviours change. Marriage ceremonies were seen to be impacting on people’s sexual lives in a number of ways. They were reported as moments where people are advised, counselled, show admiration and respect for the couples who help them to be faithful and avoid risky behaviours. During wedding functions, faithfulness is greatly emphasized, for this reason serves as a motivation to boys and girls to take precautions against HIV/AIDS. Apart from spiritual counselling, churches insist that couples receive VCT before they are united in marriage. However, not all newly couples bind to this.

In most of the FGDs, it was reported that culturally arranged marriages have assisted in curbing pre-marital sex and play a big role in investigating the character of girls and boys before they marry. Arranged marriages have also helped reduce HIV transmission by keeping couples together and preventing of illness. In testimony, the communities said that most of the older generation had their parents choose partners for them. The arranged marriage ensures the person you are going to be given is someone, whose background is known by the parents, but nowadays the practice of pre-arranged marriages is reported to have been eroded by modernization, youths reported significant difficulties in finding reliable partners.

“The issue of finding ourselves marriage partners also puts us at risk because you don’t get to know the behaviour of the girl you intend to marry. Parents of long ago would get you a girl they knew well from childhood. Now you go and get a girl from far away, who may be infected. Because there are no testing facilities here, she infects you.” (FGD participant, Male).

In addition, young girls are counselled to carefully guard their virginity until marriage because

culturally, girls are expected to be virgins at marriage. In general, engagement in pre-marital sex was strongly discouraged, especially among girls. Previously, girls who engaged in pre-marital sex were usually looked upon as prostitutes so not good marriage partners. However, the tradition of girls remaining virgins until marriage is nowadays declining.

Students are following “Askuala temert” (formal education) so they might have boy friends from their schools and loose the tradition of remaining virgins until marriage” (FGD participant, Male).

Alcohol is strongly embedded in the cultural and social set-up of the communities and is used in the study area to promote unity and togetherness. Most of the Focus Group Discussions recorded alcohol drinking and alcoholism to be the major social factors influencing the spread of HIV/AIDS, when people get drunk, their judgment is impaired and they are likely to engage in unintended and unprotected sex. In particular, some men become wild and lose rationality, sometimes raping other peoples’ wives or traditional alcoholic drink sellers. The men may also buy a lot of alcohol for women ostensibly to entertain them but eventually to rape them when they are drunk and lose control. On the other hand, some women may also abuse alcohol, being taken advantage of by men who perceive them as easy and free ‘goods’. In addition, small alcoholic drink sellers’ houses act as meeting places for potential sex partners to meet.

Extramarital Sexual Relations

This section explored the cultural practices of the rural areas with regard to sex and the influence of these practices in relation to HIV transmission.

“Extra-marital liaisons are rampant in festivals – one cannot avoid it due to temptation and sexually incompatible spouses. They are unavoidable because either the woman does not get satisfaction from her husband, or the man does not get satisfaction from his wife, or wives. It happens too much during festivals” (FGD participant, Male).

“Extra-marital affairs occur and are caused by greed, poverty and sexual dissatisfaction by either partner” (FGD participant, Female).

“Extra-marital affairs occur due to sexual dissatisfaction and revenge by women in polygamous

homes, and HIV spreads as a result” (FGD participant, Male).

With reference to market days *“People who attend festivals and ceremonies are more disposed to extra-marital affairs, because there is nobody to control them at these locations”* (FGD participant, Male).

The FGDs with women and men were asked about their opinions on extra-marital sexual relations. All married participants in the study sites were unanimous that extra-marital sex is common though not acceptable. Further discussions suggested that the men more than women, perpetuate extramarital relations.

Interestingly, the IDIs with women and men did not suggest that extra-marital relations are common. None of the IDI participants admitted being in an extramarital relationship. The reason for the discrepancy in FGD and IDI results could be related to the small number of participants of IDIs or the reticence of people to talk about individual sexual experiences particularly if it is not the behaviour.

Participants said *extra-marital sexual relations are frowned upon and it is something that the community strongly condemns...* (IDI respondent, Female).

Alternatively, it might just be that none of the IDI respondents had engaged in extra-marital sexual activities. When asked why women and men have partners outside marriage, men ascribed their extra-marital affairs to their wives’ behaviour, whereas women linked them with poverty, economic motives and lust. Some men and women said:

Lack of sexual satisfaction from the wife. Hostility from the wife can also result to a man having an extramarital affair (IDI respondent, Male).

Some of the FGD participant men attributed extra-marital sexual relations to the special care and personal attention given to them by non-regular sex partners. Such care is reported to be lacking at home because wives are always nagging and cruel.

A group of FGD participants concurred that *some women are “cold because they have used contraceptives”* (FGD participant, Male).

The theme of unfaithful partners was strongly exemplified by women and men, though it was also recurrent among unmarried participants. The main cause of worry was that individuals may remain faithful in their relationship, but the behaviour of their partners could put them at risk of HIV.

“ I don’ t know whether my wife can cheat on me or not. I am sure that I can’ t cheat on her but I don’ t know about her since I can’ t judge her”(IDI respondent, Male).

“ You can be faithful as a woman but your husband is unfaithful. He can make you get AIDS (IDI respondent, Female).

“For us women, we have tried to be faithful but we don’ t know about our husbands.” (FGD participant, Female).

One group of FGD participants purported that a woman could engage in extramarital sexual relations in retaliation to her husband’ s infidelity that could make both partners vulnerable to HIV infection.” (FGD participant, Female).

Flourishing of traditional Alcoholic drink sellers in the rural villages.

The FGD participants state they are observing married men seeking extra-marital partners from among the pool of divorced or widowed women in nearby villages, paying for these liaisons with cash and/or beer, or both.

Local women who are selling traditional alcoholic drinks in the rural village do not define their sex-for-money exchanges as sex work because they want to avoid the stigma attached to prostitution. They define themselves as being “*kemete*” in intimate relationships with their clients and because condoms are associated with prostitution, they do not use condoms with these and other clients.

Mixed views were expressed about local alcoholic drink sellers in the rural villages:

“Sex workers are so engaged due to poverty, broken marriages when the husband died (widowed) , but they help to reduce the rate of rape cases in our society. They should be rehabilitated” (IDI respondent, Female).

Those in need of sex will vigorously penetrate homes and who knows what might happen. Let us be positive to local drink sellers. They may be motivated by money, but their roles are certainly very important” (IDI respondent, Female).

“In the old days, people would go to drink and dance in the nearest town “Bure” or from a person’s home. These days drinking is done in small alcoholic drink sellers’ houses in the same villages, they do what they want including sex which leads to HIV/AIDS.” (FGD participant, Male).

Traditional Dances (*Eskesta* or *Deleka*)

Traditional dancing is another social activity widely reported as having an impact on the spread of HIV/AIDS. While dancing is a social event used to depict happiness and togetherness, some people, especially the youth, take it as a precursor to sex.

“In traditional dances people don’t dance with their legs and chest only but with their mouth too and when drunk, one may not know what will happen next (FGD participant, Male).

Traditional dances were reported to promote the spread of HIV/AIDS. In this trans-night dance, men and women, boys and girls mix up, the dance is always accompanied with drinking and as people get drunk, sexual intercourse was usually the result. The cultural dance called ‘*eskesta*’ was reported to bring together all sorts of people who drank, danced, and began loving each other and having sex. The songs they sing are very obscene and intended to arouse sexual desire.

The risk of HIV infection during traditional dances arises because in most cases, those who have sex don’t use condoms (if condom is known and accepted) because it is not planned. The dance also takes place during the night with a lot of alcohol, putting people into sexy-moods that provoke sexual behaviours.

Many times when we have these dances, you find many people having sex in the nearby bushes or behind huts. They don’t use condoms because most of them they did not want to use and it is not planned for”. (FGD participant, Male).

Peer influence and Sexual Pressure.

Peer influence was reported to be very significant in the villages where children perform domestic chores such as collecting firewood and water in a communal manner. In the process they learn from each other many things including about sex and drinking. Peer groups make it hard for some adolescents to change behaviour.

When you abstain from sex, other adolescents start saying, “are you a male”- or are you castrated.” (FGD participant, Male).

On the other hand, peer relations are critical ingredients of human behaviour formation. Although they are often portrayed as sources of dysfunctional behaviour; they were also reported, to be sources of mutual support and protection. Some of the FGD discussants said that

“We have decided to inform other men about women we suspect to be HIV positive. We also move around teaching fellow men about protection. We make sure each one in our group has only one wife. If he gets more than one, we isolate him.” (FGD participant, Male).

Conformity to accepted behaviour plays a significant role in young people’s sexual behaviour. Individuals want to do what others do so as to feel a sense of belonging in their circle of friends.

“Friends also have that habit (have sex)... And if you want to fit with them, you have to do what they do” (FGD participant, Male).

“I had sex because of the influence from my friends. They kept on saying stories about their girlfriends. It was also because of my age, I just started feeling like I wanted to have sex” (IDI respondent, Male).

Festivals and Ceremonies

Many people are attracted to social events, including traditional ceremonies, initiation rites, weddings, home-coming events and market days, some of which last for days. Most focus groups, especially the male groups, considered such ceremonies to be necessary cultural components of social identity, which reinforced relationships, kinship bonds and promoted social cohesion, as reflected in following remark:

“These feasts are both religious and cultural. They bring individuals, groups and villages

together – creating and cementing family bonds and new relationships. They are our culture and should not be abandoned” (FGD participant, Male).

“During festivals, you always get presents like money, food and alcoholic drinks. Such events foster closer relationship and understanding between individuals and villages. It is the time for fun, enjoyment and remembering your culture” (IDI respondent, Male).

While appreciating the positive output of village ceremonies, a few groups, however, pointed to various negative aspects of these festivals and market days, which provide opportunities for sexual liaison. This came out vividly during the FGD discussions. *“The manner in which these ceremonies take place makes it easy for people to engage in indecent behaviours”*

“Initiation rites and other ceremonies bring high levels of intercourse among youths, married and unmarried men/women. People do what they like – old man follow young girls, much sexual liaison occurs and infections spread like fire!” (FGD participant, Male).

“A lot of things happen during these occasions, as both men and women mix together, and many temporary ghettos are formed where much of sexual acts take place and nobody minds whoever you have sex with. Normally, condoms are not used, (FGD participant, Male).

Leisure activities (Recreation)

Focus group discussions indicate that *involvement in non-vaginal sex is not derived from traditional cultural practices, but from urban and sex film videos* (FGD, Alcoholic Drink Sellers).

The IDI respondent reported *video shows in Bure town. In the places showing the sex video’s where adolescents and youths and sometimes rural men are customers; there is neither control over the type of videos shown nor the target audience* (IDI responadants, Male)

“Sex films, which shows a lot of tactics and styles. When you see them in films, you want to try them (IDI respondents, Male).

Now-a-days it is very common to have “Sex films sent through the mobiles telephone (FGD participant, Male).

We have a chance to watch “TV in alcoholic drink selling houses when we go to the town for marketing or recreation, it has increased casual sex. People come on TV and kiss. There are programmes on Saturdays (market days) and Sundays (recreation), which show men putting women in their legs and dances. It has increased sex desires.” (FGD participant, Male).

You could be watching TV in drinking houses or bar with her and you are tempted to have sex (IDI respondent, Male).

Radio was mentioned as the most prominent avenue through which HIV/AIDS information is disseminated to communities to raise awareness and increase knowledge. However, access to radio is still limited, especially in rural areas, due to low incomes (inability to buy radios or even batteries). There are also critical problems with regard to targeting of information to ensure that the right messages reach the right audience.

Fertility intentions and HIV link

Given the value of family size, men marry several women to have many children. ‘Conversely, childlessness remains the main cause of divorce, as a

Childless marriage is considered to be equivalent to no marriage at all (FGD participant, Male).

As there is no social insurance system, people traditionally have a large family to ensure an adequate workforce within the family, and to care for them when they are older.

Children are said to be very important and therefore it is possible for women to become desperate if she cannot bear children. *Before you marry you have to prove whether the woman is fertile (bear children) (IDI respondent, Male).*

Children mean a lot, the woman must be able to bear children (FGD participant, Male).

Following from this view, even a man who wants to remain monogamous would likely change to polygamy if his first spouse does not give birth in the years following marriage or do not have the number of children expected. In the same way, a man whose wife gives birth to daughters only will likely consider marrying another woman in order to have sons.

Some of the FGD discussants mentioned “*Sometimes the wife can allow the husband to have sexual intercourse with other women to get child if she is infertile or don’t have the expected number (6 to 7) of children* (FGD participant, Female).

The last important reason that fosters polygamy is *the man’s need to show their financial and rural administrative power. Some of this men attempt glory and celebrity by marrying or engaging in relationships with many women* (IDI respondent, Female).

The question raised for focus group discussants was “‘is the fear of having HIV/AIDS lower the desire to have additional children in the family’”? Economic costs of children have long been recognized and acknowledged as a valid reason for curtailing reproduction in the rural areas. Essentially the point is made implicitly by focus group participants:

If we have money (wealth) we like to have many children (FGD participant, Male).

Women FGD discussants alleged that cases of infertility in marriage might indirectly increase a woman’s and man’s vulnerability to AIDS because

The culture also prescribes that children should be born; therefore sex without a condom in marriage is practiced. Condom use was not acceptable, as people should have children.

Parents who are suffering for the deaths of children should have many children to replace (FGD participant, Female).

Pre-marital Sex

Pre-marital sex was condemned: “*Pre-marital sex is now rampant in our area especially with school girls with early pregnancies and baby dumping taking place. These practices spread HIV/AIDS* (IDI respondent, Female representative).

The opinions expressed in FGDs and IDIs concurred that pre-marital sex is a pervasive sexual culture in the study communities; most unmarried women and men were sexually active. All except two male FGD groups suggested more men than women were sexually active. However, the IDIs suggested that unmarried women and men had similar incidence of engaging in premarital sexual intercourse, as all married participants interviewed in-depth were not in

unions with their first sexual partner.

When FGD participants were asked if pre-marital sex is acceptable in the communities, all discussants acknowledged that it was unacceptable, although not sanctioned, pre-marital sexual activity is implicitly tolerated and accepted. The increase in pre-marital sexual activity was attributed to the collapse of traditional restrictions and sanctions.

“ In the past, virginity was highly valued than now adays. Now a day’s almost all girls are not virgins when they get married” The reasons for pre-marital sex were: peer influence, to get money, Television (TV) and Video show in the town (FGD participant, Female).

All participants, regardless of age and marital status, acknowledged that pre-marital sex was common and believed to heighten young people’s vulnerability to HIV.

The results described above suggest that pre-marital sex is common in the study communities and although considered not acceptable, it is implicitly tolerated. The need to prove manhood, peer influence and pressure, economic motives, and media influence were reported as influences on risk-taking behaviour in the study communities.

Abduction

A woman singled out marriage by abduction as another reason for the high-perceived risk of AIDS. She expressed her fear as though the practice is long gone and as if only men could infect women and not vice versa:

“ Marriage by abduction; in the traditional days, people used to abduct for marriage. An infected man may abduct you” (FGD participant, Female).

When asked if the practice is still common, the response was: *“yes, in some parts of the community they abduct.”e.g. around in Fetann sentom areas (FGD participant, Male).*

The attitude of rural residents towards rural returned migrants

The decision to migrate is usually purely economic, to earn some money for the household. Migrant populations are often perceived to act as “bridge populations”, forming a link between

high and low prevalence groups (rural residents). FGD's in the study areas about returnee rural to urban migrants articulate this perception very strongly *“if HIV does come we just believe it will be the rural to urban migrants who will have brought it and the real problem is that these guys go to town, they eat good food and come nice looking so urban women like them and if it's not them who bring the diseases I don't see how else the disease can get into our area”* (FGD participant, Female).

“When the husband moves outside, he might have different people ...it is especially the men who bring AIDS” (FGD participant, Female).

Most of the FGD participants said the rural to urban migrants are self-defining as not wanting to become a “bridge population”, but resident rural populations have to some extent already categorized returnee migrants as a “bridge population”.

In some areas, for example, there have been calls for the compulsory testing of returnee migrants if they want to marry a rural woman (FGD participant, Male).

The majority of the participants interviewed in-depth perceived themselves not at risk of HIV. Their past risky sexual behaviour was readily denied as some individuals alleged that AIDS was not present at that time and say *“Some people may be more vulnerable to HIV and AIDS because of the style of their work, for example, workers who spend time away from home may be more involved in risky sexual behaviour than those who spend the majority of their time at home with their families* (FGD participant, Males).

Market days

Some of the FGD participants' reported that market days were mentioned as avenues of casual sexual relations. In these discussions, markets were generally reported as not just places for selling and buying goods but also meeting points for both new and former lovers. Women and young girls were reported to be the most vulnerable group in these markets. Men tend to attract them with pretty gifts such as food to eat (urban food), clothes and *Kongo* (plastic shoes) and later ask for sex in return.

“On market days, people go to meet other people from different villages. Now a man might have

asked me for sex and I promised him. When I get chance to go to the market and happen to meet him, I can go near him, and if he asks about the other promise, I will wait until evening comes and give him.” (IDI respondent, Female).

“After the rural men have sold their commodities, they go to bars or local alcohol drinking selling houses for recreation. When they get drunk, they behave irresponsibly and trick young girls with small things like panties, clothes and have sex with them.” (FGD participant, Male).

Patriarchal Structures and Rape

All focus group participants, held strong views on the subordinate position of women, with men having overall responsibility for decision-making, as reflected in the following statements:

“There is nothing that a wife should do without the consent of her husband. It is against religion and it is not accepted by our culture” but now a days this tradition is violated by women so conflict and divorce is increasing in the family (FGD participant, Male) *and* (IDI respondent, Religious Leader).

Circumcision

Male circumcision was reported to be a dominant cultural practice in the study area and was reported to be a risky practice because of the way it is carried out, for instance, sharing knives and not using clean, sharp materials which all increase the risk of sexually transmitted infections. *Sharing of sharp materials, though reducing but still in practice* (FGD participant, Male)

Mobility of Commercial Sex Workers

Most of the FGD participants and some of the IDIs respondents explained commercial sex workers are coming from large cities especially from Bahir Dar and Debere Markos as sex workers to small towns near by like Bure. They make themselves newly divorced from their rural husband and act like rural women, as if they are not aware of town life. They wear the traditional clothes like ‘*Arba Shinshine*’ and sometimes ‘*Gunefe*’ which are the typical clothes of rural women. When they wear these clothes, they resemble rural women, divorced from their rural husbands and came as a result to nearby towns. Both rural and town men compete to have

sexual intercourse with the newly arrived women because they suspect these women are free from HIV thinking they came from the rural areas and divorced.

They wear the traditional clothes like 'Arba Shinshine' and sometimes 'Gunefe' (IDI respondent, Male)

In the near future, if this trend continues, it will be a huge mess for the prevention of HIV/AIDS because these women may be HIV/AIDS positive. Leaving aside the risk and danger of HIV/AIDS, they become involved in dangerous sex work merely to get new customers who do not know who they are and their HIV/AIDS status. Due to the thinking of the rural men who will welcome them, hoping that they are coming from nearby rural areas, the spread of the disease will advance at a devastating rate. This demands urgent attention from the concerned bodies in order to be taken into consideration for the on-going HIV/AIDS prevention programmes. What makes this so peculiar is that unlike the usual female migration from rural to urban areas, usually youngsters with less probability of HIV/AIDS risks; this one is migration from big cities to towns or adjacent rural areas. Such phenomena will happen when female sex workers lose hope on having customers in cities, and migrate to rural areas looking for more and new customers who are not as aware of HIV/AIDS as city dwellers.

According to the field observation during the study, there were unusually many commercial sex workers who came from big towns. They followed the migrants from commercial farming areas that go to nearby towns (Bure) for recreation to drink and dance in their spare time, holidays and weekends. The migrants enjoy playing around with the CSW that have moved from the big towns that pretend as if they are newly divorced women from the adjacent rural areas. The CSW go after those who have large amounts of money relative to the others and involve in sexual activities.

Divorce Rate and HIV RISK in the communities

According to the views of most of the male FGD participants *divorce rate is increasing because women are looking for more land*

(FGD participants, Male). Women divorce their husbands to gain a share in the husband's farm land. They marry a new husband and after a while they divorce their new husband again looking

for a share of the land. As the FGD participants report, such phenomena are becoming common in the study area communities.

Some participants of the FGD reported that "*males in the study area are currently avoiding marriage after once they divorce their wives fearing that the newly coming wives may go for divorce and take half of the remaining farm land*". The researcher has also confirmed this is from some of the representatives of females in the study area.

Following this, the researcher went to the nearby court, in case he could find women in the court arguing for the same reason. The researcher found 4 women arguing for farm land division from their husbands, three of the 4 women said *they have divorced two times before this divorce* and got farmland from each divorce - two times. When the researcher asked them the risk of marrying more husbands one after the other on HIV/AIDS, they said they did not look at the risk of exposure to HIV/AIDS rather they only look to get more farmland from each marriage. The HIV/AIDS prevention programme should also work to bring behavioural change in such women in particular and in the society in general.

CHAPTER 6: DISCUSSION

6.1. HIV-related Sexual Risk Behaviours among Migrants and Non-migrants.

This study is among the first to directly compare HIV related sexual risk behaviours among rural to urban migrants and non-migrants in Ethiopia. Both temporary rural to urban migrants and non-migrants appeared to be at risk of HIV infection though the magnitude is higher among the rural to urban migrants.

Current study documents higher rates of risky sexual behaviours among migrant than non-migrant men, a finding consistent with previous research studies (146-148). The results of this study are also in concordance with the Ugandan findings. According to that study, people who had moved within the last five years were three times more likely to be infected with HIV than those who had lived in the same place for more than 10 years (25) and in South Africa, people who had recently changed their residence were 3 times more likely to be infected with HIV than those who had not (25). Decosa and others have argued that it is not solely the movement itself but rather the conditions and structure of the migration process that put people at risk of HIV and other STIs (149)

The role of migration in the spread of HIV has been described primarily as a result of men becoming infected while away from home and infecting their wives or regular partners on their return. This assertion was documented by Pison in his seasonal migration study conducted in Senegal(149). Similar findings are also found in this study where frequent back and forth migration was seen. This is a point worth important consideration for future programme initiatives, due to the growth of the migrant population in Ethiopia, and migrants playing a big potential role in spreading HIV between rural and urban areas in search of work.

The data showed a substantial proportion of migrants were changing their characters while they are away from their rural environments. Since most young migrants originate from rural villages, where their social and sexual behaviours are strongly influenced and controlled by their families and culture, they tend to liberate themselves after migration, when they are no longer under the control of their families and community. Furthermore, they had no education

about the risk of having multiple sexual partners and were single. These conditions could make migrants a potential bridging population at risk to transmit HIV, suggesting the need for appropriate education targeting this group. Some studies have shown that temporary rural - urban migrants in China who are at risk of HIV are predominantly single males in their late teens through to early 30s (97, 150).

As males are generally more prone to risk-taking than females and young and single adults are more adventurous than older and married people, the sex, age and marital status of selectivity of temporary migrants would suggest that they are more likely to have risky behaviours than non-migrants. For instance, migration in China is described as 'circulation'(151). Migrants travel frequently back and forth between their migration destinations and their home towns. While four-fifths of HIV cases are reported in rural areas in China, the majority of cases of STIs have been reported in urban areas (152). In the same study it was reported that the frequency of hometown visits was significantly associated with the acquisition of STIs among temporary rural to urban migrants. This indicates that the role of the bridging population is high.

Temporary rural to urban migrants are observed as a bridge for the HIV/STI epidemics between urban and rural areas, a concerted effort limiting that migration through job creation opportunities in their residential area is required. The role of migration in the spread of HIV to families in rural areas which are concordant with the present study findings has been reported in other developing countries (153).

Although the acquisition of STIs among non-migrants was significantly lower than their counterparts, even a small proportion of STI is unacceptable in non-migrants because of its negative health consequences and association with HIV/AIDS. Moreover, some of the non-migrants reported having pre-marital sex; being exposed to multiple sexual partners together with the low level of condom use is alarming for HIV risk. Again the findings highlight the need for awareness creation, promotion of condom use and advice on safer sex practices. It is apparent that migrants were engaged in pre-marital sex and having multiple sexual partners than non-migrants and their low utilization of condoms consistently emphasizes the need for promotion of condom use among these population groups.

Another finding observed in this study is the non-significant associations between the frequency of hometown visits, age, education, duration spent in migratory town and knowledge of HIV, which are contrary to some studies reported earlier. For example, HIV-related sexual behaviours among rural to urban migrants and non-migrants in China were independently associated with the duration of work in cities (34). However in this study because of socially desirable responses, participants might have failed to admit to having multiple sexual partners and unprotected sex, HIV-related sexual behaviours are not socially acceptable as most of the responses were measured retrospectively.

These findings suggest that intervention programmes should increasingly include HIV-related knowledge to raise awareness on personal vulnerability to HIV infection and the reduction of risk behaviours. Given the high mobility of migrants, it is more practical to set up intervention programmes targeting rural residents before they leave for towns for a temporary job and in the migratory towns. To maximize the intervention effects, the program should focus on both rural to urban migrant as well as non- migrants.

Further research, particularly research that includes STIs and HIV testing, is needed to test rural to urban migrants and non-migrant differentials in the prevalence of HIV and STIs. In addition the dynamic relationship between migration and HIV risk sexual behaviours need to be studied in detail to develop effective prevention programme.

In short, the evidence availed in this study strongly suggest that migration as a result of migrants' detachment from the family and home community should receive particular attention in intervention programmes targeting temporary rural to urban migrants.

6.2. Sexual Risk Behaviours and Leisure activities among Rural to Urban Migrants and Non-migrants.

On the other hand, this study has examined and directly compared the association between leisure activities and HIV-related sexual risk behaviours among rural to urban migrants and non-migrants in the study area. The findings of this study show the level and pattern of eleven leisure activities and the observed strong associations between several leisure activities and HIV risk behaviours. Leisure activities that are performed by both rural to urban migrants and non-

migrants and were positively associated with HIV risk behaviours are wandering the streets, entertaining installations and reading. Watching television and watching videos were positively related with HIV risk behaviour only for rural to urban migrants.

Almost all of the leisure activities which are positively associated with HIV risk behaviours were not always socially desirable (e.g., watching videos which is related to sex and visiting entertaining places for commercial sex), and purely recreational or entertaining. Leisure activities which were negatively associated with HIV risk behaviours are chatting and doing chores for non-migrants and listening to the radio for rural to urban migrants. Most of them are socially desirable and constructive.

The associations between leisure activities and HIV risk behaviours imply that HIV prevention intervention research should consider leisure activities as a group of key modifiable factors. Since engaging in different leisure activities is associated with the possibilities to be engaged in HIV risk behaviours, effective interventions should include measures to encourage constructive and socially desirable leisure activities that are associated with reduced risk of HIV risk behaviours (e.g., chatting within norms and values of the society and doing chores after work), and to discourage other leisure activities that are often socially undesirable and are associated with increased HIV risk behaviours (e.g., visiting entertaining installments, wandering the streets and watching videos related to sex) especially for rural to urban migrants. Since chatting among friends and co-workers during leisure time is associated with reduced HIV risk, this behaviour should be encouraged.

When topics regarding HIV prevention become part of the leisure chatting, it may quickly spread to others (152). In addition, attention should be paid to the differences and changes in leisure activities when an HIV prevention programme is developed and tested, for example, watching videos (related to sex) and watching TV (the educational messages related to HIV may not be considered as the norm or the value of the people or they may be perceived negatively) are particularly risky for migrants. Considering such factors may increase the efficiency of HIV prevention programme in rural to urban migrants who are most at risk to HIV.

Findings from this study provided much needed information for HIV prevention among rural to urban, migrants and non migrants in Ethiopia (93). Leisure time represents a window of opportunity to reach especially at-risk rural to urban migrants scattered in the diverse urban settings.

Despite the limitations, this analysis has attempted to document leisure activities and their associations with an array of HIV risk behaviours among rural to urban migrants and non-migrants in Ethiopia. Findings of this analysis provided new information to support further research to understand leisure activities related to HIV spread. The research findings also have significant implications for HIV prevention interventions on rural to urban migrants and non-migrants in Ethiopia.

6.3. Fertility Intention in the Era of HIV/AIDS among the Rural Women

In an effort to assess the association of HIV/AIDS knowledge perceived risk and child mortality with fertility intentions (the desire to have children) of the rural married women this study come up with the following important findings. In general 32 % of the respondent women wanted to have more children and the difference noted was significant. The proportion of currently married women who have no education and are able to read and write, showed a higher desire to have more children than those who had secondary and above levels of education. This finding is in conformity with EDHS, 2005 and 2011, which showed education reduces fertility as it changes the outlook of women on the number of pregnancies. Illiterate women wish to have as many children as they could as they think some of the children would be successful by chance and would support them in later life. Education is also likely to delay the timing of marriage, increase a woman's awareness and motivation to adopt contraceptive methods besides improving her decision-making autonomy that enhances bargaining power on all aspects of married life (154). Furthermore monthly expenditure below 500 ETB had a significant association with the desire to have more children. This finding is coherent with other findings which show women in the poorest households have twice as many children as women in the wealthiest households (6.6 children versus 3.2 children, respectively).

According to the results of the current study, the desire for future pregnancy was highly associated with low mean age group, low parity, low mean number of surviving children, low

mean desired number of children and low mean ideal number of children. Similar results were reported in a cohort study in Rwanda where women with fewer than four children were more likely to get pregnant regardless of a high self perceived risk for HIV infection (155) . Furthermore, this study has found that younger married women of lower parity were more likely to have the desire for more children regardless of a high self-perceived risk for HIV infection and histories of child mortality. This is a finding that deserves attention since it is this segment of the population that has the highest reported cases of HIV and AIDS among women in Ethiopia(156).

Likewise, women who had more under-five year old child deaths in the last five years had significant association with higher desire to have children. This is similar to previous studies documenting the likelihood of having an additional child is significantly higher among those who lost at least one child. Qualitative evidence also indicates the possibility of losing some of the offspring as youths often forces couples to have more children to develop confidence for some to survive. Our data supports the child replacement hypothesis to the extent that women who experience childhood deaths or foetal losses may continue to get pregnant to achieve the desired number of children (157). The HIV epidemic may have contributed to the lack of decline in fertility rates, primarily through its associations with higher child mortality (158). Nevertheless the present study finding in contrary to what has been reported elsewhere indicated that women who experience child deaths or fetal losses could be so traumatized that they may be motivated to stop childbearing (159).

Supporting the initial hypothesis, the results of the study have not shown any association between high perceived risk and having knowledge of HIV/AIDS with the desire for having children in the future. This is in line with previous studies that showed an awareness of the HIV epidemic at the community level has had little impact on decisions about whether and when to have children (160). In one study in Zambia, when asked whether the risk of HIV had changed the way people in their community think about the number of children they would like to have or when to have them, respondents were perplexed about how HIV would affect these decisions unless a person knew that he or she was infected (161). Similarly, a study in rural Zimbabwe has also found no association between high self-perceived risk for HIV infection and the desire for more children(51).

One of the objectives of this study was to explore the socio-cultural environment in which people conceive and assess their risk of HIV, the common norms and discourses surrounding sexual behaviour and the risk of HIV in the community. This objective was achieved using focus group discussions (FGDs) and in-depth interviews (IDIs) including personal observation. The findings from the empirical study indicate that there was no sufficient awareness and knowledge about HIV/AIDS in the rural areas, HIV transmission is still associated with witchcraft and some people believe that HIV/AIDS is unavoidable. In extreme cases, some rural women reported that they have never seen a condom. Those 'who have them in their pocket or have used the condom are cultureless and they are considered as prostitutes.

Alcoholism was reported to be a major limitation to behaviour change; it deters people's efforts to abstain, and to remain faithful to their partners. Other barriers included illiteracy, especially an inability to read and interpret HIV/AIDS messages, negative peer pressure and cultural inclinations that perpetuate gender inequalities and the failure of parents to address sexual issues with their children leaving churches as the only dominant place for providing HIV education in which the youngsters are non- available in this area so this may not be appropriate place to educate youngsters who are at higher risk of HIV.

Social and cultural factors were said to have significant impact on HIV/AIDS related behaviour. Traditional dances, wedding parties, religious gatherings, and alcoholism were reported to be the main social factors impacting on HIV/AIDS. It was reported that all social and cultural ceremonies gather many people in a celebratory atmosphere and with the drinking, dancing and the resultant excitement; the risk for casual sex becomes high.

Interestingly, it was noted that some of the social and cultural factors reported to be enhancing HIV transmission were at the same time contributing to reduction of the risk of HIV transmission. For example, religious gatherings and funerals were reported to be avenues for HIV/AIDS education. Cultural norms such as preservation of virginity until marriage culturally arranged marriages promote abstinence and mutual faithfulness.

Although very limited and inconsistent, communities have initiated various strategies to respond to HIV/AIDS; HIV/AIDS information is shared at community gatherings such as village meetings, burials and other functions. Most of the HIV preventive services were reported to not

be available in the rural communities and unknown by most of the communities in the study area. The major limitations remain: poverty and lack of supportive services such as VCT, care and support, printed and electronic media and the awareness of using and having reliable outlets of condoms is critical to behaviour change together with the lack of sustenance.

Most of the FGD participants did not believe using a condom prevents HIV. However there was general consensus that mutual faithfulness/reduction in number of sexual partners and abstinence was contributing to reduce HIV transmission. Abstinence was largely seen to be unsustainable and faithfulness to a sexual partner was mostly being practiced by women. Low awareness of condom use was more prevalent among the people in rural areas and also unavailability hindered condom use.

In addition to churches institutions such as the family and schools should take responsibility in educating people about HIV/AIDS so that prevention can be facilitated. The religious leaders attribute the high prevalence of HIV/AIDS as punishment from God because principles of abstinence and faithfulness have been disregarded by society.

6.4. Validity, Generalizability and Limitations of the Study

Over the course of the present investigation, the necessary care was taken to maintain the quality of the study at the different stages of the research project. In this regard, the quality control methods instituted at the different phases of the study (data collection, data entry, etc.) coupled with the administrations of FGDs and key informant interviews ensure the validity of the findings. Although the ability to generalize all findings to other *woreda's* of the Amhara region or other *woredas* of Ethiopia may be questioned, most of the results can be generalized to all areas of the Amhara region because of the similarities in cultural practices and socio-economic status. By the same analogy, the findings of the present study could be of paramount importance to other *woredas* of Ethiopia especially to those regions with similar demographic, cultural and socio-economic status with the present study area.

It is true that relentless efforts were made to ensure the reliability and validity of the study in order for the findings to add knowledge and contribute to the development schemes of the country by reducing the risk of HIV. However, it would be difficult to ensure that the study was

completely free of any limitations. In this regard, note was taken of the following situations: Some of the limitations observed in the current study are: the study assessed only male rural to urban migrants and was restricted to the study *woreda*. Another possible limitation could be individual recall biases to questions concerning sexual behaviour, though such problems were minimized during the data collection process in order to respond to all the questions honestly as their responses would be helpful to improve the current national, local and workplace health policies. Although one might expect the limitations to affect generalization of the findings to the entire country, the findings are relevant to rural residents and rural to urban male migrants, a rapidly growing urban workforce, in many Ethiopian towns or cities. As a cross-sectional study, the current study has limitation in that it can only establish associations and not causal relationships. In addition, there was no validation mechanism for the self-reported outcome measure (sexual risk behaviours, intention to become pregnant in future).

Measurement of monthly household income is very difficult in developing countries particularly in rural areas. Some earlier reports indicated that the monthly income of many households was very much below what would be imagined to sustain a given family (considerably far from the known threshold of poverty line, such as Birr 30.00 for a family consisting of 5 members)(162). Therefore, in order to avoid such tendencies of under-reporting, attempts were made to obtain relatively accurate data by employing proxy indicators. Accordingly, monthly household expenditure was used in place of monthly household income. This approach was used for all households with unknown monthly income (mainly in rural areas where households do not get monthly salaries). Such proxy methods have been serving as a means of getting relatively accurate information although there is still a possibility of introducing some bias.

In order to fill the information gap special mechanisms that addressed such issues were developed and incorporated in the FGDs and key informant interviews. For example, many participants in the qualitative study confirmed the fact that the fear of child death leads couples to desire a large number of children. In fact, some studies have documented the desire of parents for additional births to make up for a dead child (163).

The measurements of leisure activities are limited. It was only counted whether a participant is engaged in a leisure activity, data from individual participants to assess changes in activities

before and after migration was not collected. Activity contents (e.g., type of television programmes, video programmes, books, etc), settings (e.g., when, where, and with whom, etc), frequency and duration of engagement in an activity during the leisure time were not taken into account. The data used for this analysis are cross-sectional in nature. No causal relationship can be concluded between a leisure activity and HIV risk behaviour without further verification with longitudinal data.

In general, human behaviour is a complex phenomenon, especially with regard to sexuality, which despite its generally personal and private nature has become a subject of open discourse due to the HIV/AIDS pandemic. No socio-cultural study of HIV/AIDS can ever be exhaustive and completely comprehensive because of the multiplicity of factors involved and limited time available for investigation.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions.

The findings of this study suggest that rural to urban migrants are at higher risk of HIV infection due to their social and environmental conditions when they are detached from their community. Although the HIV interventions are needed by both migrant and non migrants, special emphasis should be given to migrants due to their bridging effects of HIV from urban to rural communities. Among the socio-demographic factors responsible for the risky sexual behaviours of rural to urban migrant's occupation, age, and marital status were the most relevant.

Socially desirable and constructive leisure activities such as listening to radios for migrants and doing chores and chatting for non migrants may prevent the participants from being engaged in HIV risk behaviours while entertaining leisure activities related to sex (e.g., visiting entertaining installments, wondering on the streets and watching video related to sex) may increase the chance of rural to urban migrants to engage in HIV risk behaviours. In addition, further research that includes the dynamic relationship between leisure activities and HIV risk sexual behaviours needs to be carried out so as to develop targeted and effective HIV prevention programs.

High perceived risk of HIV infection was associated with high desire for future pregnancy. Moreover women seem to have a higher desire for a future pregnancy to replacing a dead child that may have lost its life as a result of HIV infection. The finding indicated the crucial role of desire for fertility by a married woman irrespective of the risk for acquiring HIV infection. In order to change rural parents' perception of values of children, child education needs to be compulsory so the cost of raising children will increase and inhibit a further high desire for pregnancy.

The study identified a number of social factors and cultural norms and practices that complement the quantitative findings in impacting on HIV/AIDS. Factors that were said to promote the spread of HIV/AIDS include alcohol drinking and drunkenness. To that effect, all social and cultural functions that involve large gatherings, alcohol drinking and dancing were seen to be greatly contributing to the spread of HIV/AIDS. The rural communities are still

bound by their cultural, social and religious beliefs, which are passed on to generations and continuously renewed through performance of rituals and rites. Although some of these rituals and rites increase risk of HIV infection, it is the activities associated with them such as alcohol and dancing that makes them risky. Effective preventive strategies still remain relevant to those that are culturally and socially sensitive.

Although there are some prevention activities to fight HIV/AIDS in the rural areas, most of them were inappropriate in terms of convenience in time, place and target groups. For instance, HIV educations are given only in weekends, holidays and around the church areas where most of the young people are not available. The finding has programmatic implications as it misses the young who are vulnerable to HIV infections.

Premarital and extramarital sex were reported to be common in the communities. The need to prove manhood, peer pressure, economic motives, and negative attitudes towards condoms were reported to influence risk-taking behaviour of the community. The results described above suggest that premarital sex though considered not acceptable, it is implicitly tolerated. On the other hand, among the communities who still observe the taboos, prohibition of extra marital sex was reported, but the problem is that the majority of people especially the youngsters are deviating from most cultural practices saying most taboos are outdated.

Abstinence, fidelity and monogamy and avoidance of risky practices (high Alcohol intake) were mentioned as options adopted to prevent HIV infection. Nonetheless, both women and men tended to blame their partners for infidelity. For instance, working away from home, spousal conflicts, revenge for a partner's sexual infidelity, and lack of care and concern by spouse were mentioned as reasons for infidelity. The fact that the use of condom was low by both men and women were contextualized by conditions where that the use of condoms was associated with mistrust and promiscuity. Similarly, most of the participants stated that use of condoms and abstinence were unrealistic behavioural change options for married people or those in stable relationships.

There is no doubt that the findings from FGDs and IDIs raise a number of programme and policy issues likely to influence AIDS prevention activities. Findings suggest that messages that people hear may not be addressing their needs as behavioural change communication has been

promoted at the expense of social contexts. The findings showed that the majority of people appear to embrace distorted perceptions of risk, while ignoring more risky aspects of their partners' or one's own sexual behaviour.

Perception of invulnerability may stem from the fact that an admittance of vulnerability would also mean being immoral. Thus, to rationalize the threat of AIDS, individuals may consider other people as vulnerable and not themselves. Sex workers, migrants' school boys and girls, were mentioned as high-risk groups – the groups identified by policy and program for targeted interventions. This deflection of vulnerability to others might appear, in fact, to have led to both a greater feeling in self-denial as noted in IDIs and a stigmatization of the infected and affected evident in FGDs.

Stigmatization and discriminatory practices may lead PLHA to conceal their infections in order to be accepted in their communities. Perhaps, the concealment of one's HIV status might explain the rampant fear of deliberate transmission of HIV in the communities.

Those that influence the reduction in the risk of HIV transmission include promotion of virginity, seeking God and arranged marriages. Interestingly, some of the main social factors, cultural norms and practices that increase the risk of HIV transmission were seen to also play significant roles in risk reduction. For instance, church gatherings, weddings, and burials were singled out as major avenues for promoting positive sexual behaviours yet some people use them to engage in risky behaviours. For instance, marriage ceremonies and religion help to promote faithfulness in marriage and abstinence. Cultural norms such as preservation of virginity until marriage and culturally arranged marriages were reported to enhance abstinence and faithfulness. However, these norms and institutions were also reported to be threatened by modern ideas and globalization which undermine people's efforts, particularly the youth to remain abstinent.

A number of social patterns and cultural practices impact significantly on the spread and the prevention of HIV/AIDS. Most of the social and cultural factors are generally seen to be enhancing its spread. Alcohol drinking and drunkenness were seen as key factors enhancing the spread of HIV. Many acts, such as casual unprotected sex, rape and abduction, which significantly increase the risk of HIV transmission, were associated with alcohol.

Similarly, cultural practices such as sex with local alcoholic drink sellers and circumcision were reported to be critical in enhancing HIV transmission. Widow's sexual activities were reported to be having a negative impact on abstinence and avoidance of multiple sexual relationships, circumcision on the other hand, was seen as a cultural practice that increases the risk of HIV transmission through the sharing and use of un-sterilized equipment.

According to the qualitative findings some striking characters were noted these are the mobility of commercial sex workers from large town to small towns such as Bure or adjacent rural villages in order to attract a wider or different client base, for adventure and to conceal illnesses which might be associated with HIV/AIDS, drinking alcohol while on ART drugs to pretend as HIV free and involve in sexual activity, desired to be considered as a HIV positive in order to get the support given to PLHI, underline the needs for further investigation due to their possible contribution for sustaining the HIV epidemic.

Furthermore some of the female study participants appreciated the presence of the traditional alcoholic sellers in the rural villages and their commercial sex activity as mechanism to prevent and reduce rape in their areas which hinders the HIV prevention activities. Therefore more focused activities on this group is needed to avert the existing experience in the community.

This study has revealed that there is a need to provide education about safe sex and reducing numbers of sexual partners along with free condoms should be provided in rural areas and in destination town for temporary rural to urban migrant communities. Furthermore, the local health care authority should consider offering low-cost primary health care and voluntary HIV counseling and testing which could greatly reduce the sexual risk taking behaviours and curb the bridging effect of migration in HIV transmission from urban to rural areas for rural to urban migrants.

7.2. Recommendations.

The large array of risk factors has multiplied the vulnerability of the rural to urban migrant population; thus it is important to have a “holistic” perspective in viewing prevention programs designed to target this population. An intervention must be responsive not only to the individual behaviours, but also to the social forces that drive those behaviours. Migrants urgently need effective HIV prevention education including safe sexual practices such as condom usage, HIV knowledge and awareness training. Education should not only address the migrants in the towns, but also their spouses who remain in the rural areas in particular and the rural community in general.

As both rural to urban migrants and non-migrants are at risk for HIV infection, intervention programs targeting both groups are recommended. However the evidence availed in this study strongly suggest that migrants as a result of detachment from family and home community facing a new environment and engaged several leisure activities which are not socially desirable and positively associated with HIV risk behaviours should receive particular attention in HIV intervention programs. HIV interventions should also include measures to encourage constructive and socially desirable leisure activities that are associated with reduced risk of HIV risk behaviours (e.g., chatting within norms and values of the society and doing chores after work), Therefore, given the high mobility of migrants, it is more practical to set up intervention programs targeting rural residents before they leave to towns for a temporary job.

Given the high prevalence of unprotected sex among rural to urban migrants, HIV interventions targeting these migrants would benefit from a focus on promoting safe sexual behaviours, paying particular attention to their post migration living arrangement and its associated lax social and normative controls.

There is a high unsafe sexual practice in the rural to urban migrant groups and CSW. Therefore, the Government of Ethiopia need to launch mobility friendly STIs/HIV intervention programs in order to alleviate the vulnerability of rural to urban migrants and CSWs in the short run and reducing poverty in the long run.

Reduce the wish to rural to urban migrants by increasing livelihood options in and around the community and extending the growing season through developing small-scale irrigation, product diversification, agro processing, strengthening existing and creating new market linkages.

The utilitarian-economic, social, and psychological values attributed to children by both rural married women and their male sex partners need further research. The involvement of men as partners in childbearing should be explored, as their desire for children may be the primary barrier to protective behavioural change among women.

There is need for specific and targeted interventions to tackle the misconceptions held by the community on HIV/AIDS. The interventions should mainly target rural areas, and illiterate women and men in particular and improve sensitization on HIV/AIDS in general. Increasing awareness and understanding about the disease among the rural population: through developing appropriate outreach media and materials in the study area, and training key personnel within the rural community (such as woreda staff, agricultural development agents, local and religious leaders, community volunteers and others) to become HIV/AIDS competent.

Radio featured prominently as the major source of HIV/AIDS information to communities. It is recommended that radio as a cost-effective medium of delivering HIV/AIDS information to the communities be harnessed and supported. Programmes that target specific behaviours or even localities should be designed and aired consistently and innovatively to the target population.

The major limitations to utilization of HIV related services such as VCT was noted to be the low knowledge and apparent far away service points and waiting time to pick results. It is therefore recommended that VCT services should be promoted and available and protocols that allow for same-day results should be introduced in the rural areas. In addition, programs that encourage training of community based youth counselors and volunteers should be encouraged to help create resource persons that offer on-going support to the people in the community.

The needs and priorities in prevention of HIV/AIDS- are twofold: to enable community members to be fully informed about the disease and reduce potentially risky behaviour; and to secure viable rural livelihoods which would reduce the need for people to move into potentially

HIV-risky environments.

Strengthening and diversifying rural livelihoods: women are particularly vulnerable to insecure and poor livelihoods which may drive them into HIV-risky environments. Through strengthening and diversifying their livelihood options in rural areas (for example, blacksmithing, beekeeping, poultry, animal fattening, trading, small scale irrigation and horticultural production. it may be possible to change their outlook towards the future and stem the rural to urban drift and other potentially HIV-risky behaviour.

Use occasions when people are gathered together (for example, market days, seasonal migrants working on farms, or commercial sex workers moving into an area during harvesting season) to educate them about HIV/AIDS and its prevention.

The low level of knowledge of HIV/AIDS and misconceptions about HIV/AIDS still persists in the study areas (rural) where information and other services are also inadequate. These misconceptions continue to distort people's perceptions of the HIV/AIDS problem and consequently hamper behaviour change. There is therefore a need for specific and targeted interventions to tackle such misconceptions using a variety of approaches especially through effective means that is easily accessible to the population.

Reduce the behaviours of high alcohol consumption and extramarital affairs by training farmers how to manage their market earnings through savings and investment, and broaden their horizons to improve the well-being of their whole family.

Improve community awareness and understanding of the use of condoms and develop ways and means of making them more readily available in rural areas.

Promote awareness campaign to reduce stigma and discrimination, and promote positive attitudes towards PLHA and those who care for them.

ACKNOWLEDGEMENTS

It is a great pleasure to acknowledge certain forms of indebtedness during the work on this research project. First and foremost, I would like to thank The Great Almighty God for giving me the time, courage and strength to complete this endeavour.

I would like to express my deep appreciation and sincere thanks to my supervisors Professor Damen Hailemariam and Dr Getnet Mitike, School Public Health, Addis Ababa University (AAU), for their unreserved advice and all rounded support during the whole process of this PhD work.

My heartfelt thanks go to Dr Jemal Haidar, Dr Mesfin Addissie, Professor Getu Degu and Ms Juddy Price, Ato Samuel Asferaw and Ato Fekadue Mulugeta for their support in various aspects of the PhD work.

I owe my deepest gratitude to my mother w/o Belayneshe Temessegen, my brothers Yihalem Tamiru and Minechel Tamiru, my sister Aster Getachew without whose enduring support and encouragement, it would not have been possible to embark upon this journey in life.

I am highly indebted to all rural to urban migrants, rural residents, women, community leaders, farmers and many other individuals of *Bure Woreda* who generously responded to the lengthy interviews we had during data collection. Without their kind participation this dissertation work would never have been possible. I will always remember and admire the rural women and men who participated in this study for their honesty and genuine answers to our questions which some of them were sensitive.

Finally, I would like to thank the School of Public Health, College of Health Sciences, Addis Ababa University, for its kind assistance in funding the research project.

REFERENCES

1. United Nations. Personal Declaration on HIV/AIDS: Intensifying our Efforts to Eliminate HIV/AIDS2011.
2. Joint United Nations Programme on HIV/AIDS. World AIDS Day Report 2011 November.
3. Joint United Nations Programme on HIV/AIDS. UNAIDS report on the global AIDS epidemic2010.
4. Joint United Nations Programme on HIV/AIDS. AIDS epidemic update Geneva, Switzerland: Joint United Nations Programme on HIV/AIDS (UNAIDS)2009.
5. World Health Organization/ Joint United Nations Programme on HIV/AIDS. Towards universal access: Scaling up priority HIV/AIDS interventions in the health sector2010.
6. Stoneburner R, Low-Beer D. Population-level HIV declines and behavioral risk avoidance in Uganda Science. 2004;304(5671):714-8
7. Cohen B, Trussel J. Preventing and mitigating AIDS in sub-Saharan Africa: research and data priorities for the social and behavioral sciences. Washington Dc: National Academy of sciences press1996.
8. Topouzis D. The implications of HIV/AIDS for rural development Policy and Programming: Focus on Sub-Saharan Africa. : Sustainable development department, FAO1998.
9. Berhane Y, Mekonnen Y, Seyoum E, Wilson D, Gelmon I. HIV/AIDS in Ethiopia - An Epidemiological Synthesis World Bank Global HIV/AIDS Program2008.
10. Mitike G, Tamiru M. The Drivers of the HIV/AIDS Epidemic & Response in Ethiopia. . Addis Ababa Ethiopia2008.
11. Ministry of Health. Ethiopia. AIDS in Ethiopia Disease prevention and control Department2001.
12. United Nations Development Programmme. The implication of HIV/AIDS for rural development policy and programming. Focus on sub-Sahara Africa 1999.
13. Joint United Nations Programme on HIV/AIDS WHO. Guidelines for second Generation HIV Surveillance for HIV: the next decade Geneva2000.
14. HIV/AIDS Prevention and Control Office, Ministry of Health. Guideline for prevention of mother to child transmission of HIV in Ethiopia. Addis Ababa: Federal HIV/AIDS Prevention and Control office2007.
15. Ministry of Health. AIDS in Ethiopia. Technical Documents for the fifth Report. Addis Ababa: Ministry of Health2004.
16. Central Statistical Agency. Ethiopian Demographic Health Survey (EDHS)2011.
17. Central Statistical Agency. Ethiopian Demographic Health Survey (EDHS) 2005.
18. Mekonnen Y, Daniel G, Mekonnen A, Degefu A, Tegbaru B. Magnitude of and Risk Factors for HIV Infection among Most at Risk Populations (MARPs) in Amhara Region: Ethiopian Public Health Association, Amhara Region HPCO, CDC.2009.
19. Ministry of Health, HIV/AIDS Prevention and Control Office. AIDS in Ethiopia. Addis Ababa, Ethiopia2005.
20. Helen J. AIDS in Africa continent crisis 2002;8:33-4.
21. HIV/AIDS Prevention and Control Office. Multi-sect oral HIV/AIDS Response Annual Monitoring and Evaluation Report. July 2008-June 2009.

22. Federal Democratic Republic of Ethiopia, HIV/AIDS Prevention and Control Office. Report on progress towards implementation of the UN Declaration of Commitment on HIV/AIDS2010.
23. Byass P, Berhane Y, Emmelin A, Wall S. Patterns of local migration and their consequences in a rural Ethiopian population. *Scand J Public Health*. 2003;1(31).
24. Assefa T, Davey G, Dukers N, al. e. Overall HIV-1 prevalence in pregnant women from Afar Region over-estimates HIV-1 in the general population *Ethiop Med Journal*. 2003;41(4).
25. Gossaye Y, Deyessa N, Berhane Y, al. e. Butajira Rural Health Program: Women's life events study in rural Ethiopia *Ethiop J Health Dev*. 2003.
26. *Dynamics of the HIV/AIDS epidemic in value chain development in rural Ethiopia and responses through market-led agricultural initiatives*. IPMS of Ethiopian farmers project working paper12,ILRI , Nairobi, Kenya. [database on the Internet]2008.
27. Ismail S, Larson C. Urban and rural routes of HIV infection and spread in Ethiopia. . *Journal of Tropical Medicine and hygiene* 1995.
28. Joint United Nations Programme on HIV/AIDS, World Health Organization. AIDS epidemic update, (<http://www.Unaids.org/wad/2003/Epi> undated 2003-en/Epi03-en.htm Geneva2003.
29. Peltzer K, Ramlagan S. Safer sexual behaviours after 1 year of antiretroviral treatment in KwaZulu Natal, South Africa: a prospective cohort study. *Sexual Health*. 2010 June;7(2):135-41.
30. Joint United Nations Programme on HIV/AIDS. Annual Report: Towards Universal AccessUNAIDS; 2009. Geneva2008.
31. Luchters S, Sarna A, Geibel S, al. e. Safer sexual behaviors after 12 months of antiretroviral treatment in Mombasa, Kenya: a prospective cohort. *AIDS Patient Care STDS*. 200822(7):587 -94.
32. Edemariam T, Biru M, Nordenfelt E, Hansson B, Lindberg J. Serological Survey of HIV Infection in Ethiopia. . *Ethiopian Medical Journal* 1988;26.
33. Hailu N, Khodakevich L, Bekele S. AIDS Cases in Ethiopia. (Abstract) the 26th Annual Conference. . Addis Ababa: Ethiopian Medical Doctors` Association1990 May 24-26.
34. Joint United Nations Programme on HIV/AIDS. Report on the Global HIV/AIDS Epidemic2000.
35. Tadesse D. AIDS in Ethiopia Disease Prevention and Control Department Ministry of Health2002.
36. Central Intelligence Agency. The world Fact book (<http://www.cia.gov/cia/publications/factbook/geos/et.html>)2003.
37. World Health Organization. Anti-malarial treatment policy in Ethiopia. . Addis Ababa, Ethiopia 2004 24 may Report No.: Workshop organized by WHO and MOH.
38. HIV/AIDS Prevention and Control Office. HIV/AIDS Behavioral Surveillances Survey (BSS) in Ethiopia Addis Ababa2002.
39. Central Statistical Authority. Ethiopia and Demographic Health Survey. Addis Ababa: Central Statistical office and USA: ORC2000.
40. Bishop-Sambrook C. Dynamics of the HIV/AIDS epidemic in value chain development in rural Ethiopia and responses through market-led agricultural initiatives. IPMS of Ethiopian farmers project working paper12,ILRI , Nairobi, Kenya. 2008.

41. Ellis F. Rural Livelihoods and diversity in developing countries Oxford: University Press 2000.
42. Guest P. Population mobility in Asia and the implications for HIV/ AIDS. In: Hsu LN (ed). Population Movement, Development and HIV/AIDS: Looking Towards the Future. . Bangkok Thailand 2000.
43. Andhra Pradesh: State AIDS Control Society (APSACS). HIV prevention 2007.
44. Coast E. Sexual behaviour and perceptions of risk: male rural-urban migrants in Tanzania. Paper presented at International Union for the Scientific Study of Population XXV International Population Conference Tours, France 2005.
45. Devereaux S. State of disaster: Causes, consequences and policy lessons from Malawi. London: Action Aid 2002.
46. Meekers D. Going underground and going after women: Trends in sexual risk behaviour among gold miners in South Africa. International Journal of STD and AIDS. 2000;11.
47. Mark J. Long distance truck drivers' sexual cultures and attempts to reduce HIV risk behavior among them: A review of Africa and Asian literature. 1999.
48. Jemal Y, Hailemariam D, Deressa W. Assessment of risky sexual behavior for HIV infection with special focus on night markets and mobile people in Gummer Woreda, Gurage. Addis Ababa 2004.
49. Quigley M , Munguti K , Grosskurth H , Todd J , Mosha F , Senkoro K , et al. Sexual behaviour patterns and other risk factors for HIV infection in rural Tanzania: a case-control study. AIDS 1997;11(2):237-48.
50. Boerma J. Spread of HIV infection in a rural area of Tanzania. AIDS. 1999;13(10).
51. Gregson S. Is there evidence for behaviour change in response to AIDS in rural Zimbabwe? . Soc Sci Med. 1998;46(3).
52. Mishra A. Risk of sexually-transmitted infections among migrant men: Findings from a survey in Delhi. Asian and Pacific Migration Journal. 2004;13:89-105.
53. Poudel C, Jimba M., Okumura J, Sharma M., Poudel-Tandukar K, & Wakai. Migration in far western Nepal: A time bomb for a future HIV/AIDS epidemic. Tropical Doctor. 2004;34:30-1.
54. Brown A, Jejeebhoy S, Shah I, K. Y. Sexual Relations among Young People in Developing Countries: Evidence from WHO Case Studies Geneva Switzerland World Health Organization 2001.
55. Joint United Nations Programme on HIV/AIDS. Population Mobility and AIDS: UNAIDS Technical Update. Geneva Switzerland 2001.
56. Smith C. Social geography of sexually transmitted diseases in China: Exploring the role of migration and urbanisation Asia Pacific Viewpoint. 2005;46(1).
57. Mundandi C, Vissers D, Voeten H, Habbema D, Gregson S. No difference in HIV 2006.
58. Li X, Fang X, Lin D, Mao R. HIV/STD risk behaviors and perceptions among rural-to-urban migrants in China. *AIDS Education and Prevention*. 2004;16(6):538-56.
59. Yang X. Temporary migration and the spread of STDs/HIV in China: Is there a link? *International Migration Review*. 2004;38(1):212-35.
60. James S, Emmanuel K, et.al. A cultural approach to HIV/AIDS prevention and care. Kampala Uganda: UNESCO, project UUR; 1999.

61. Schensul L, Mekki-Berrada A, Nastasi K, Singh R, Burleson A., & Bojko M. Men's extramarital sex, marital relationships and sexual risk in urban poor communities in India. *Journal of Urban Health*. 2006;83:614-24.
62. Madhivanan P., Jerajani H., Mathur M., Gogate A., & Lindan C. Sexual behavior & STIs among men at high risk for HIV infection in Mumbai, India. *Poster presented at the XV International AIDS Conference 2005 Bangkok 11-16 July 2004*.
63. Coffee M, Garnett G, Mlilo M, Voeten H, Chandiwana S, Gregson S. Patterns of movement and risk of HIV infection in rural Zimbabwe. *J Infect Dis*. 2005;191(Suppl 1: S159-67).
64. Zuma K, Lurie M, Williams B, D. M-M, Garnett G, Sturm A. Risk factors of sexually transmitted infections among migrant and non-migrant sexual partnerships from rural South Africa. *Epidemiol Infect*. 2005;133:421-8.
65. Kayirangwa E, Hanson J, Munyakazi L, Kabeja A. Current trends in Rwanda's HIV/AIDS epidemic. *Sex Transm Infect*. 2006;82:127-31.
66. Mmbaga E, Hussain A, Leyna G, Holm-Hansen C, Mnyika K, s NE ea. Trends in HIV-1 prevalence and risk behaviours over 15 years in a rural population in Kilimanjaro region of Tanzania. *AIDS Res Ther* 2007;4(23).
67. Mmbaga EH, A. Leyna, G. Klouman, E. Masenga, E. Sam, N, et al. Incidence of HIV-1 infection and changes in the prevalence of reproductive tract infections and sexual risk behaviours: a population-based longitudinal study in rural Tanzania. *AJAR*. 2006;5:281-8.
68. Lagarde E, Schim van der Loeff C, Enel B, Holmgren R, Dray-Spira G, Pison JP, V. , et al. Mobility and the spread of human immunodeficiency virus into rural areas of West Africa *International Journal of Epidemiology*. 2003 32:744-52.
69. Dyson T. HIV and urbanization. *Population and Development Review* 2003;29(3):427-42.
70. Coast E. Local understandings of, and responses to, HIV: Rural-urban migrants in Tanzania. *Social Science and Medicine*. 2006 63:1000-10
71. Ronny S. Migrant populations and HIV/AIDS Department of social medicine the Hebrew University and Hadassah Brawns school of public Health and community medicine 2000.
72. Givans K, et.al. Perspectives Factories in HIV/AIDS transitions in sub Saharan Africa *Bulletin of the WHO* 2001;79 (12).
73. Ismail S, Mitike G. Rapid assessment of the Ethio-Djibouti Transportation Corridor in the context of STDS /HIV/AIDS related high-risk factors. In: CDC, editor. *International Conference on AIDS in Ethiopia; Addis Ababa 2002*. p. 7-12.
74. Garbus L. HIV/AIDS in Ethiopia. AIDS Policy Research Center, University of California, San Francisco. 2003.
75. Reniers G. Nuptual Strategies for Managing the Risk of HIV Infection in Rural Malawi Paper presented at the Annual Meeting of the Population Association of America; April 1-3; Philadelphia, USA. 2005
76. Uganda M. Policy Recommendations based on the Major Findings of the 2004-05 Uganda HIV/AIDS Sero-Behavioural Survey. 2007.
77. Degue G. Knowledge and prevalence of condom in prevention of HIV/AIDS infection among commercial sex workers in three small towns of northwest Ethiopia *Ethiopian Journal of Health Development* 2002;16(3).
78. Joint United Nations Programme on HIV/AIDS, World Health Organization. HIV/AIDS in Africa up date. *Disparity in women's health* 2003.

79. Family Health International. BSS: A guideline for repeated behavioral survey in population at risk of HIV: Arlington, Va Family Health International2000.
80. Fletcher G. Making an impact on HIV/ AIDS in Cambodia: making a difference impact on HIV. Washington USAID2000.
81. Peterepiot P, Michael B. The epidemiology of HIV and AIDS. AIDS in Africa2002.
82. Central Statistical Agency. Ethiopia Demographic and Health Survey. Addis Ababa and Calverston MA (USA): Central Statistical Authority and ORC Macro2001.
83. Appleton J. At my age I should be sitting under that tree': the impact of AIDS on Tanzanian lakeshore communities. Gender and Development 2000.
84. Robert J, Ali M, Lisa A, Katherine C, Musonda L, Gwendolyn T. Reproductive Health Risk and Protective Factors among Youth in Lusaka, Zambia. Lusaka Zambia2000.
85. Mbulaiteye S, Ruberantwari A, Nakiyingi J, Carpenter L, Kamali A, Whitworth J. Alcohol and HIV: a study among sexually active adults in rural southwest Uganda. International journal of epidemiology. 2000;29(5):911-5.
86. Gratz T. Gold-Mining and Risk Management:a case study from Northern Benin.Ethnos2003.
87. Larsen U, Mlay J, Aboud S, Ballard R, Sam N, Shao J, et al. Design of a community-based study of sexually transmitted infections/HIV and infertility in an urban area of northern Tanzania Sexually Transmitted Diseases. 2006;33 (6).
88. Gathenya G, Asanga F. Men and HIV in Kenya Available: [Http:// www. Panos Org. UK]: Supported by the Community Found Through the Panos Institute2004.
89. Sener A, Terzioglu R, Karabulut E. Life satisfaction and leisure activities during men's retirement: a Turkish sample. Aging Ment Health. 2007;11(1):30-6.
90. Tessier S, Vuillemin A, Bertrais S, Boini S, Le Bihan E, Oppert J, et al. Association between leisure-time physical activity and health-related quality of life changes over time. *Prev Med.* 2007 44(3):202-8.
91. Hopper K, Klazinga N, Stronks K. Acculturation does not necessarily lead to increased physical activity during leisure time: a cross-sectional study among Turkish young people in the Netherlands. *MC Public Health.* 2007;7 (147):230.
92. Thorlindsson T, Bernburg J. Peer groups and substance use: Examining the direct and interactive effect of leisure activity. . *Adolescence.* 2006 41(162):321-39.
93. Chen X, Stanton B, Li X, Fang X, Lin D. H.Substance use among rural-to-urban migrants in China: A moderation effect model analysis. *Subst Use Misuse.* 2008;43(1):105-24.
94. Yang H, Li X, Stanton B, Fang X, Lin D, Mao R, et al. Workplace and HIV -related sexual behaviours and perceptions among female migrant workers. *AIDS Care.* 2005;17(7):819-33.
95. Li X, Stanton B, Chen X, Hong Y, Fang X, Lin D, et al. Health indicators and geographic mobility of young rural-to-urban migrants in China. *World Health Popul.* 2006; 8(2):5-21.
96. Lin D, Li X, Yang H, Fang X, Stanton B, Chen X, et al. Alcohol intoxication and sexual risk behaviors among rural-to-urban migrants in China. *Drug Alcohol Depend.* 2005;79(1):103-12.
97. Wang F, Zuo X, Ruan D. Rural migrants in Shanghai: Living under the shadow of socialism International Migration Review 2002;36:520-45.
98. Xinguang CX, L. Bonita, S. Xiaoyi, F. Danhua, L. Rong, M. Associations between Leisure Activities and HIV Risk Behaviors among Rural Migrants in Urban China. . *Californian Journal of Health Promotion.* 2009;7(2):01-15.

99. Edward B. Primitive Culture, England. 1871.
100. Lugalla J, Emmelin M, Mutembei A, Comoro C, Killewo J, Kwesigabo G, et al. The social and cultural context of HIV/AIDS transmission in the Kagera region, Tanzania *Journal of Asian and African Studies*. 1999;34 (4).
101. Food and Agricultural Organization. AIDS-a threat to Africa2005.
102. Taffa N, Johanne S, Carolo H, Gunnar B. HIV prevalence and socio cultural contexts of sexuality among young youth in Addis Ababa, Ethiopia *Ethiop JHealth Dev* 2002;16(2).
103. Larsen S. The Cultural Implications of HIV in Sub-Saharan Africa Edmonds Community College2001 October 13
104. Larsen U, Hollos M. Motherhood in sub-Saharan Africa: the social consequences of infertility in an urban population in Northern Tanzania 2007.
105. Gyimah S, Obeng. Childhood mortality and reproductive behavior in Ghana and Kenya :an examination of fertility and non-fratility models [Ph.D dissertation]. London ,Canada: the University of Wasteren Ontario; 2001.
106. Yohannes F, Yimane B, Alemayehu W. Impact of Child Mortality and Fertility on Fertility Status in Rural Ethiopia. *East Africa Medical Journal*. 2004;81(6):301- 5.
107. Dust K. The effect of Education, income, and Child Mortality on Fertility in South Africa [Master of art thesis]: Simon Fraser University pag; 2005.
108. Kenya Ministry of Health, ORC MACRO. Kenya Demographic and Health Survey. Calverton, Maryland: CBS2003.
109. Cooper D, Harries L, Orner H, Bracken ea. Life is still going on : Reproductive intentions among HIV-positive women and men in South Africa. *Social Science and Medicine*. 2007;65(2):274-83.
110. Baylies C. The impact of HIV on family size preference in Zambia. *Reproductive Health Matters*. 2000;8 (15):77-86.
111. Yeatman S. The impact of HIV status and perceived status on fertility desires in rural Malawi. *AIDS and Behavior*. 2009;13: (supplement):S12-S9.
112. Moyo W, Mbizvo. Desire for a future pregnancy among women in Zimbabwe in relation to their self-perceived risk of HIV infection, child mortality, and spontaneous abortion. *AIDS and Behavior*. 20048(1):9-15.
113. Grieser M, Gittelsohn A, Shankar T, Koppenhaver T, LeGrand R, Marindo W, et al. Reproductive Decision Making and the HIV/AIDS Epidemic in Zimbabweand K. Hill “Reproductive Decision Making and the HIV/AIDS Epidemic in Zimbabwe*Journal of Southern African Studies*. 2001;27 (2):225-43.
114. Gyimah S, Rajulton F. Intentional Replacement of Dead Children in the Sub-Saharan Africa: Evidence from Ghanan and Kenya. *Canadian Studies in Population*. 2004;31 (1).
115. Kalemli-Ozcan S. AIDS, reversal of the demographic transition and economic development: evidence from Africa. NBER Working Paper. 2005 W12181.
116. Jeppsson A, Tesfu M, Persson L. Health care providers’ perceptions on harmful traditional health practices in Ethiopia *Ethiopian Journal of Health Development* 2003;17(1).
117. Gray P. HIV and Islam: is HIV prevalence lower among Muslim *Social Science & Medicine* 2004;58.
118. Joint United Nations Programme on HIV/AIDS. Sexual behavioral change for HIV: where have theories taken us? . . Geneva.1999.
119. Encarta. Microsoft Encarta Encyclopaedia standard 2006.

120. Kermyt G, Anderson A, Beutel, Brendan M. HIV Risk Perceptions and First Sexual Intercourse Among Youth in Cape Town South Africa Family Planning Perspectives. 2007 33(3).
121. Prata N, al e. Relationship between HIV risk perception and condom use: evidence from a population-based survey in Mozambique. International Family Planning perspectives. 2006;32(4).
122. Joint United Nations Programme on HIV/AIDS. Expanding the global response to HIV/AIDS through focused action. Reducing risk and vulnerability: Definition, Rationale and Pathways. 1998.
123. Tony B, Alan W. Guidelines for studies of social and Economic impact of HIV/AIDS.UNAIDS,Geneva, Switzerland 2000.
124. Legrand M, Kirchner S. Polar atmospheric circulation and chemistry of recent (1957-1983) South Polar precipitation. Geophysical Research Letters. 1998;15(8):879.
125. Nehash Y, Betemariam G, Daniel B, Mebratu.B. A community based study on HIV/AIDS in Gambela town western Ethiopia. EthiopJ Health Dev. 2003;17(3).
126. United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS, World Health Organization. Young People and HIV/AIDS 2002.
127. Joint United Nations Programme on HIV/AIDS. Report on the global AIDS epidemic, fourth report2004.
128. United Nations Educational Scientific and Cultural Organization. A cultural Approach to HIV/AIDS Prevention and Care. Proceedings of the Nairobi International Conference; 2-4 October; Nairobi2000.
129. Petros B, Belayneh S, Mekonnen Y. AIDS and college students in Addis Ababa: A study of knowledge, attitude and behavior. EthiopJ Health Dev. 1997;11(2).
130. Kiene S, L. S, Abrams A, Cloete A, Tennen H, Fisher J. High rates of unprotected sex occurring among HIV-positive individuals in a daily diary study in South Africa: The role of alcohol use *Journal of Acquired Immune Deficiency Syndrome*. 2008 October 1;49(2):219-26.
131. Kerrigan D, Bastos F, Malta M, Carneiro-da-Cunha C, Pilotto J, Strathdee S. The search for social validation and the sexual behavior of people living with HIV in Rio de Janeiro, Brazil: understanding the role of treatment optimism in context. *Social Science and Medicine*. 2006 May;62(10):2386 -96.
132. Chantavanich B, Paul P, al. e. Links between mobility and sub-groups with high risk to HIV/AIDS infection2000.
133. Merso F. Women and Girls and HIV/AIDS in Ethiopia: An Assessment of the Policy and Legal Framework Protecting the Rights of Women and Girls and Reducing Their Vulnerability to HIV/AIDS: UNFPA.2008.
134. Luri M, Harrison A, Wilkinson D, Abdool-Karim S. Circular migration and sexual networking in rural KwaZulu/natal: Implications for the spread of HIV and other sexually transmitted disease. Health Transition Review. 1997;7:15-24.
135. Central Statistical Agency. The 2007 National Census Report for Ethiopia.2008.
136. Bawoke T. Assessment of Status of Commercial Sex female selling local beverage, their risk perception towards HIV infection and condom use in towns of Gojam. Addis Ababa: Addis Ababa University; 2007.
137. Ministry of Agriculture and Rural Development (MoARD). Bure Pilot Learning Woreda Diagnosis and Program Design Brahir Dar, Amhara Region: . 2007.

138. United States Agency for International Development. Amhara Region Second Behavioural assessment for Mobile HIV counselling and Testing Program second assessment towns: Debresina, Shoarobit , Ataye, Bati, Dejen, Bure, Chagni and Estie. The private sector Program-Ethiopia. Addis Ababa, Ethiopia2008.
139. Abebaw F, Teshome S, Atalay A, Derge Kea. Bipolar disorder among an isolated island community in Ethiopia. *Journal of Affective Disorders*. 2004 8.
140. Mitikie G, Wuleta L, Frehiwot B, Reta A, et.al. HIV/AIDS Behavioral Surveillances Survey (BSS) in Ethiopia. . Addis Ababa2002.
141. Ministry of Health, HIV/AIDS Prevention and Control Office. HIV/AIDS Behavioral Surveillances Survey (BSS) in Ethiopia. Round Two.2005.
142. Bernard R. Unstructured and semi-structured interviewing. In *Research Methods in Cultural Anthropology*, Beverly Hills: Sage Publications1988.
143. Murphy B, Cockburn J, Murphy M. Focus groups in health research. *Health Promotion. Journal of Australia*. 1992;2(2):37-40.
144. Ulin P, Robison E, Tolley E. *Qualitative Methods in Public Health: A field Guide for Applied Research*. Jossey-Bass, CA, USA. USA2005.
145. Dahlgren L, Emmelin M, Winkvist A. *Qualitative Methodology for International Public Health*. Umea University.Umea: Umea International School of Public Health; 2004.
146. Saggurti N, Schensul L, Verma K. Migration, mobility and sexual risk behavior in Mumbai, India: mobile men with non-residential wife show increased risk. *AIDS Behav*. 2009;13(5):921-7.
147. Verma K, Saggurti N, Singh K, Swain N. Alcohol and sexual risk behavior among migrant female sex workers and male workers in districts with high in-migration from four high HIV prevalence states in India. *AIDS Behav*. 2010;14(Suppl 1):S31-9.
148. Z. Hua, H. Liub, X. Lib, B. Stantonb, X. Chenb. HIV-related sexual behaviour among migrants and non-migrants in a rural area of China: Role of rural-to-urban migration. *Public Health* 2006;120:339-45.
149. Fan C. Rural-urban migration and gender division of labor in transitional China *International Journal of Urban and Regional Research*. 2003; 27:24-47.
150. Chen X, Gong X, Liang G, Zhang G. Epidemiologic trends of sexually transmitted diseases in China. *Sex Transm Dis*. 2000;27:138-42.
151. Liu H, Detels R, J. X, Yu W, al. e. A study of sexual behavior among rural residents of China. *J Acquir Immune Defic Syndr*. 1998;19:80-8.
152. Lurie M, Williams B, Zuma K, Mkaya-Mwamburi D, al. e. The impact of migration on HIV-1 transmission in South Africa: a study of migrant and nonmigrant men and their partners. *Sex Transm Dis*. 2003;30:149-56.
153. Hesketh T, Duo L, Li H, Tomkins A. Attitudes to HIV and HIV testing in high prevalence areas of China: informing the introduction of voluntary counseling and testing programmes. *Sex Transm Infect*. 2005;81:108-12.
154. Mhloyi M. Status of women, *Population and Development*. International Union for the Scientific Study of Population, Liege, Belgium. 1998.
155. Lindan C, Allen S, Carael M, Nsenguremyi F, Van de Perre P, Serufilira A, et al. Knowledge, attitudes, and perceived risk of AIDS among urban Rwandan women: Relationship to HIV infection and behavior change *AIDS*. 1998;5:993-1002. .
156. United Nations Children's Fund. Available at www.unicef.org <<http://www.unicef.org>> 2009

157. Takyi B. AIDS-related knowledge and risks and contraceptive practices in Ghana: The early 1990's. *African Journal of Reproductive Health*. 2000;4:13-27.
158. Magadi M, Agwanda A. Investigating the association between HIV/AIDS and recent fertility patterns in Kenya. *Social Science & Medicine*. 2010;71(2):335-44.
159. Temmerman M, Chomba E, Ndinya-Achola J, Plummer F, Coppens M, Piot P. Maternal human immunodeficiency virus-1 infection and pregnancy outcome. *Obstetrics and Gynecology* 83. 1994:495-501.
160. Setel P. The effects of HIV and AIDS on fertility in East and Central Africa. *Health Transition Review*. 1995;5 (Supplement):179-89.
161. Rutenberg N. Reproductive decision-making in the context of HIV and AIDS: A qualitative study in Ndola, Zambia. *International Family Planning Perspectives* 2000; 26(3).
162. Fantahun M, Kumb S, Degu G. Dabat Rural Health Project, North West Ethiopia: Report of the baseline survey. *Ethiop J Health Dev*. 2001;15(special issue).
163. Fantahun M. Mortality and survival from Childhood to old age in Rural Ethiopia [PhD Thesis]. Umea, Sweden: Umea University; 2008

ANNEX-1: ORIGINAL PAPERS (I-IV)

ANNEX-3: STUDY TOOLS

LETTER FOR DECLARATION

I, the under signed, declared that this is my original work, has never been presented in this or any other University, and that all the resources and materials used for the thesis, have been fully acknowledged.

Name: Melesse Tamiru Semegn

Signature: _____

Date: _____

Place: _____

Date of submission: _____

This thesis has been submitted for examination with our approval as University Supervisors.

1. Name: Prof. Damen Hailemariam

Signature: _____

Date: _____

2. Name: Dr. Getnet Mitike

Signature: _____

Date: _____