Sexual Behaviour and Condom Use Perceptions in Karare, an Ariaal Rendille Community in Northern Kenya

by

Andrea Renee Kiehle
B.A., Washington State University, 2002
B.S., Washington State University, 2002

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Supervisory Committee

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Supervisory Committee

Dr. Eric A. Roth, Department of Anthropology
Supervisor

Dr. Lisa Gould, Department of Anthropology
Departmental Member

Dr. Cecilia M. Benoit, Department of Sociology
Outside Member

Abstract

Supervisory Committee
Dr. Eric A. Roth, Department of Anthropology
Supervisor
Dr. Lisa Gould, Department of Anthropology
Departmental Member
Dr. Cecilia M. Benoit, Department of Sociology
Outside Member

For over two decades, academia and health related fields have battled against the transmission and spread of HIV/AIDS in sub-Saharan Africa. In 2004, twenty-five million people were reported as HIV positive, with young people having the highest incidence rate. Research has shown consistent condom use can reduce the spread of HIV. However, African sexual behavioural studies show consistent reluctance to use condoms.

Based on the principles of social epidemiology, this study uses 2007 sexual behaviour survey data from the Ariaal Rendille community of Karare to delineate barriers and opportunities to condom use among the unmarried men and women. The methodological approach for this study lies in categorical data analysis of responses to questions concerning the function and perceptions of condoms.

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Forward and Acknowledgments

"I'm going to go to Kenya one day." I decided this at the young age of six during a family vacation to Expo '86 in Vancouver, British Columbia. I had found myself a new souvenir on that trip, a small 1cm x1cm painted elephant - that soon became my new best friend. While my prized possession was of the Asian variety, it mattered none to me, as I was determined to one day see African elephants in their natural habitat in Kenya.

That day came on June 10, 2007. I remember that day like it was yesterday, as I have never been so excited in my whole life! My only though was "I finally did it, I made it to Kenya!" While I would eventually see two African elephants in their natural habitat, my main focus for this trip was to carry out my research objective: to collect data on the perception of condoms and sexual behaviours between unmarried men and women of the Ariaal Rendille tribe of Karare, a community in northern Kenya.

It would be dismissive of me not to comment on the ways in which the product of my research, this thesis, was inherently affected by myself, Dr. Roth and the actual process of carrying out the research. We attempted at every incidence to be sensitive to how we were being perceived by the participants and how our status affected our interactions. Dr. Roth has been working in Karare off and on for more than 20 years. Over this time a trust relationship has formed between the people of Karare and Dr. Roth. This existing trust relationship allowed me the opportunity to carry out a sexual behaviour survey that quite frankly, asked very personal questions regarding the participants' sexual practices, their knowledge of HIV/AIDS and their perceptions of condoms. In many parts of Kenya it would be considered very rude to discuss these

topics, as it is not common place for strangers to ask about such personal, and often stigma associated issues. If not for this existing relationship, it is possible this research would not have taken place.

The work of an anthropologist is inherently interactive. We listen to, speak to, are corrected by, react to, learn from, give to and observe the participants (Williams 1999:16). This is to say that anthropological research is a two way street. I entered the field with preconceived notions regarding the Ariaal, and the Ariaal had preconceived notions of me, the *mzungu* (white person). As a matter of fact, I have quite a few funny stories regarding the preconceived ideas the Ariaal have of white people. Unfortunately those stories are for another day…and another composition. The point is, I as the interviewer affected the interviewees and vice versa. Possibly the interviewees produced answers on the survey they believed I wanted to hear or that would be different if I was not in the room. I can only imagine what these young girls were thinking about me, wanting to know the very details of their sexual relationships. And it is possible over time as I interacted with the Nykeri my insights and feelings towards their answers changed. My work as an anthropologist requires me to be as objective and all inclusive as possible when collecting data and, though I tried my best, my research will always be partial and limited due to the angle at which I chose to define the data and what I considered important in this research. This thesis is by no means the end-all, be-all regarding condom use perceptions among the Ariaal. It is merely a discussion of a "snap-shot" in time and a starting point for future research to actively promote condom use among the Ariaal Rendille.

I do hope you enjoy reading my thesis, and come to understand the wonderful group of people I had the most blessed opportunity to work with. My only wish is that I could have shared my most memorable experiences that primarily took place "off the record". Perhaps as I mentioned earlier, those heart-warming, funny stories will end up in another composition one day.

Figure 1.1 My Ariaal Rendille Friends and Research Assistants

Source Personal Photograph By Andrea Kiehle, 2007

I would also like to express my sincere appreciation to those special people who offered me continuing support and encouragement while my thesis was en route to completion. I owe many thanks to the people of Karare who generously offered their friendship and understanding throughout my stay in Kenya. A very special thank you is owed to the young women of Karare who shared their most personal thoughts with me. I cherish the trust they so willingly gave me as well as the permission to write about a very

private part of their lives. I would also like to acknowledge the enumerators Korea Lealas, Thomas Komote, Abdullahi Khaeifa, Helen Neepe, Selina Gambare, Rapheala Leado and Jennifer Sahado for without their hard work, friendship and understanding without which this project would not have been possible. I treasure the time we spent together and the memories we created. Remembrance of the stories we share was very inspirational during the writing process.

I gratefully acknowledge and thank my supervisor, Dr. Eric A. Roth, for his valuable friendship, support, and encouragement throughout my graduate studies. I would also like to express my utmost thanks to him for facilitating and supervising my studies in the field. I am grateful to my supervisory committee for their time, expertise and valuable feedback and comments, with special thanks to Dr. Lisa Gould and Dr. Cecilia Benoit of the University of Victoria.

Lastly, a very special thank you to my family--Dave and Dottie Kiehle, Jeanna Kiehle, and Claudia Kiehle, and my friends Tim Ottmann, Jacob Reed, Brenda Givens and my grad school cohort for all their love, support, encouragement and, most importantly, their listening ear and critical eye. I could not have done it without you, thank you for believing in me.

Dedication

In loving memory of my grandfathers:

Marlin H. Kiehle

and

Harvey J. Nelson

Chapter 1 - Introduction

1.1 Chapter Overview

> HIV has been able to spread because in order to replicate, it exploits one of the most complex areas of human life: our sexual relationships. These relationships in turn are shaped by our knowledge and beliefs, our customs and habits of authority, as well as the basic economics of individual lives." HIV transmission happens because of the choices that individuals perceive they have or do not have and the actions they take as a result. We know that a lack of economic development means few or no resources. That a lack of effective governance reduces the opportunities for effective HIV prevention or the maintenance of social safety nets. That these factors exacerbate the spread of HIV infection and that these factors are exacerbated by the spread of the virus itself (UNAIDS 2005:28).

This thesis focuses upon unmarried Ariaal Rendille men and women of Karare, a community in Northern Kenya. Over a three week period (June 10 – July 5, 2007) survey information of their sexual behaviours and perceptions related to condom use were collected and are now detailed in this thesis. The thesis follows the following sequence.

Chapter 2 begins with the basics: how HIV/AIDS has affected Africa, specifically Kenya, and Africa's response to the HIV/AIDS crisis. It contains a discussion of the reluctance of African youth to change their sexual behaviours and why condoms are so important in the effort to reduce the spread of HIV and, subsequently, AIDS. Chapter 2 ends with a summary of the proposed study.

Chapter 3 details the theoretical models used for this research. These important theories include Ajzen's (2002) Theory of Planned Behaviour, Poundstone *et al.*'s (2004) Social Epidemiology Framework and Benoit and Shumka's (2008) Health Determinants Framework. While each theory contributes to the understanding of the use of condoms in

Ariaal Rendille culture, Ajzen's theories fall short of adequately examining the decision making process between two people and receives a short discussion in section 3.5 titled "Condoms – It Takes Two."

Chapter 4, Pastoralists of Northern Kenya, provides an introduction to the Ariaal Rendille and highlights their cultural practices that have a profound effect on Ariaal Rendille sexual behaviours.

Chapters 5 details the materials and methods used for this research. Issues discussed include funding, required approvals, methodological approaches for recruitment and data collection, as well as details of the 2007 sexual behaviour survey.

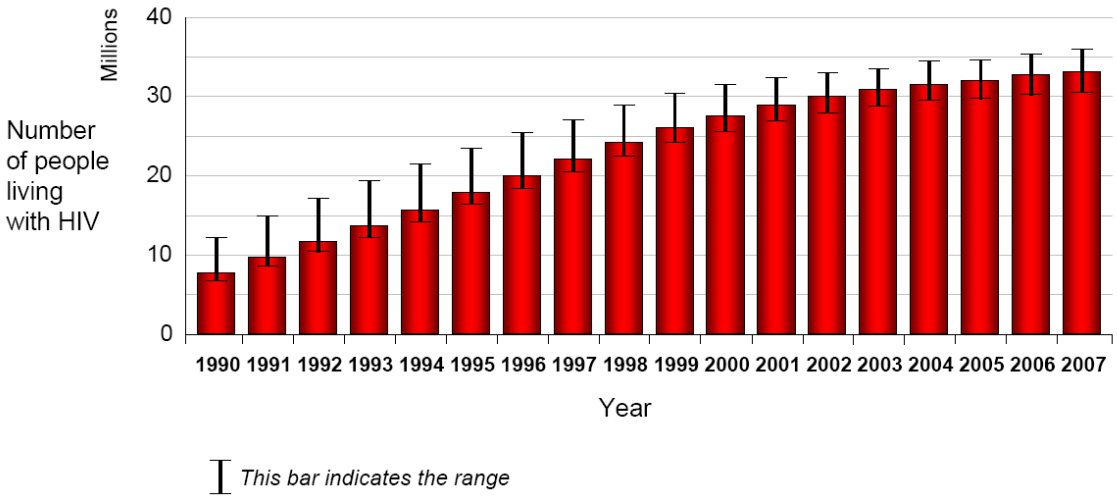
Chapter 6 presents the resulting data analysis from the 2007 sexual behaviour survey. Chapter 7 summarizes the thesis and provides a comprehensive discussion of the use and perceptions of condoms among the unmarried Ariaal Rendille men and women of Karare.

Chapter 2 - HIV and AIDS in Africa

2.1 HIV and AIDS in Africa

AIDS has now been reported in every country in the world. In 2006, an estimated 33.2 million people are living with HIV worldwide (Figure 2.1). Of these, 30.8 million are adults (ages 15+), and 2.5 million are children (ages <15). In 2007, roughly 2.5 million people became infected with HIV (2.1 million adults and 420,000 children); translating to 6,800 new infections daily, with nearly 5,700 deaths daily. In addition, an estimated 2.1 million people (1.7 adults and 330,000 children) have lost their lives to AIDS-related complications (UNAIDS 2007).

Figure 2.1 Estimated Number of People Living with HIV Globally, 1990-2007



Source UNAIDS 2007:4 - Report on the Global AIDS Epidemic

With such staggering statistics, we could easily view the world as homogenous, suffering from one pandemic. However, we must remember that there is not just one HIV/AIDS epidemic. Rather there are multiple local and national epidemics spread over the entire world, varying in intensity, transmission patterns and disease characteristics (Oppong and Kalipeni 2004). For example, HIV/AIDS epidemics in China, India and countries in Eastern Europe are in their early stages, with HIV concentrated in specific sub-groups,

including injection drug users, sex workers, their clients, and men who have sex with men (UNAIDS 2005a). In Africa, HIV is in the later stages of development, affecting men, women and children in all economic and geographic locations (UNAIDS 2006).

While global HIV infection prevalence rates remain stable, the total number of people living with HIV/AIDS has risen due to the accumulation of new infections coupled with longer survival times over an ever increasing population. In addition, a global decrease in HIV associated deaths can be attributed to the increase in treatment availability and a decrease in new HIV infections per year (UNAIDS 2007).

AIDS is still the leading cause of death in sub-Saharan Africa. As seen in Figure 2.2, Africa covers more than 30 million square kilometres, an area equal to Argentina, China, Europe, India, New Zealand and the United States combined (UNAIDS 2005a).

Figure 2.2 Map Showing Landmass Equivalence of Africa

Source UNAIDS 2005a:35 - Africa Scenario Project

With a land mass this large, the continent features 53 different countries, with different climates, cultures, ethnicities, languages, religions and customs that create many challenges for health care systems and HIV/AIDS programs. Furthering the problem, only one-quarter of Africa's population lives within 100 kilometres of the coast compared to an average of two-thirds in the rest of other low income countries, and 45% of the population is distributed amongst a wide geographic range (UNAIDS 2005a). These two factors create significant barriers for efficient, cost effective healthcare to reach compromised people within Kenyan boundaries.

Slightly more than one-tenth of the world's population lives in sub-Saharan Africa, yet this continent accounts for 32% of all new HIV infections and AIDS complicated deaths globally (UNAIDS 2007). Figure 2.3 (UNAIDS 2007) summarizes the general trends of HIV/AIDS activity in sub-Saharan Africa and worldwide for 2007:

Figure 2.3 General Trends of HIV/AIDS Activity in sub-Saharan Africa and Worldwide for 2007

Adults and Children Living with HIV	
Sub-Saharan Africa	22.5 million
Worldwide	33.1 million
Adult and Child New HIV Infections	
Sub-Saharan Africa	1.7 million
Worldwide	2.5 million
Adult and Child AIDS Related Deaths	
Sub-Saharan Africa	1.6 million
Worldwide	2.1 million

In 2007 22.5 million adults and children in sub-Saharan Africa were recorded as living with HIV. This is a 2.4 million increase from 2001, when 20.1 million adults and

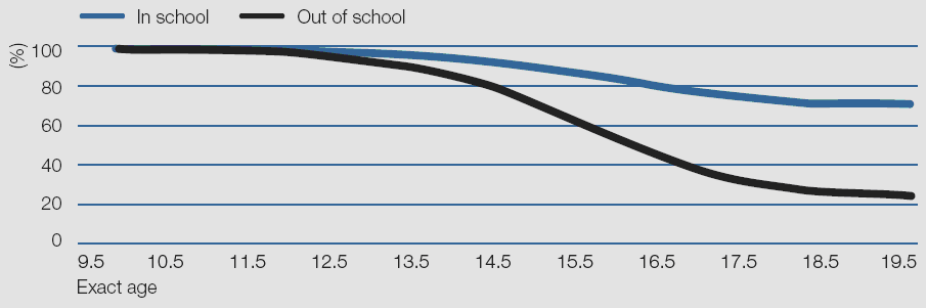
children were recorded as living with HIV (UNAIDS 2007). Of the total 33.1 million adults and children living with HIV worldwide, Sub-Saharan Africa accounts for 68% (22.5 million people) of the new global HIV infections, averaging out to roughly two out of every three people worldwide. Children in sub-Saharan Africa account for a staggering 90% of new infections among children worldwide. Overall, three out of every four deaths related to AIDS occurred in sub-Saharan Africa, while an estimated 11.4 million children have been orphaned in this region (UNAIDS 2007, 2006).

The HIV/AIDS epidemic must be viewed within the complex social, economic, cultural and political structures that exist and govern the world in which we live. HIV/AIDS is different from diseases like malaria and tuberculosis or other life hardships such as clean drinking water. This is because HIV/AIDS underlies all these things and undermines the ability of people to respond not only to the pandemic, but to everyday hardships as they arise. For example, in Zambia, two-thirds of families who lost a father due to AIDS, experienced an 80% loss in disposable monthly income. In Côte d'lvoire, income for AIDS-affected households was half the national average (FAO 2004). In Kenya, tea farmers forced to stop working due to HIV-related complications earned 18% less than their more healthy counterparts (Fox *et al*. 2004). One three-year survey (Yamano and Jayne 2004), collecting data from the eight agriculturally-oriented provinces of Kenya, found that poor rural households did not recover quickly when the head of the family dies, and neither crop production nor income rose to pre-death levels. Yamano and Jayne (2004) also reported that the gender of the deceased greatly affected the value of crops a family produces. If a man dies, a reduction in "cash crops" (e.g. tea, coffee, sugar) occurs versus a reduction in "subsistence crops" (e.g. grains) when a

woman dies. Sub-Saharan Africa is the only global region that grew poorer over the last 25 years; currently half of its 700 million people live on US $0.65 or less per day (UNAIDS 2006). With increased absence from work and substantial loss of income people living with HIV/AIDS often endure psychological impacts such as anxiety, depression and strained relationships (UNAIDS 2006; FAO 2004; Fox *et al*. 2004; Yamano and Jayne 2004).

Children often feel the full force of the impact of the HIV/AIDS epidemic. A 2000 health survey conducted by Nyamukapa and Gregson (2005) in Zimbabwe reported that 65% of households where a mother had died of HIV/AIDS disintegrated and dispersed. The affected children are often removed from their home and placed with grandparents or other older female relatives who may already be taking care of multiple children on limited incomes (UNAIDS 2006). In Kenya, a 2005 survey by Evans and Miguel found that school participation rates fell by an average of 5% after the loss of a parent (due to the child having to carry on with the parents duties), where the decrease following a maternal death was more than twice that of a paternal death. Young girls compared to young boys are disproportionably removed from school in order to save money, and to provide care for sick family members. This creates a "negative feedback loop" as education has a "protective" effect against acquiring HIV (UNAIDS 2005a:30). As seen in Figure 2.4, young girls in Kenya who were removed from school or never attended school had an earlier sexual debut age than girls who remained in school.

Figure 2.4 Percentage of Girls Not Sexually Active by Age and Schooling Status in Kenya, 1998



Source UNAIDS 2005a:31 - AIDS in Africa: Three Scenarios to 2025

When removed from school at an early age, orphaned children, especially girls, are therefore more likely to be working, or end up on the street where they are vulnerable to exploitation and extreme poverty (UNAIDS 2006). Sugar Daddies, as they are termed, pose a specific threat to girls who wish to stay in school, yet do not have the money to pay for tuition and other related fees. Older men often exploit young girls for sexual favours as repayment for monies spent on school fees (Glynn *et al*. 2001; Luke 2003). "Sugar Daddies" also engage in sex with younger women because they believe these girls to be sexually inexperienced and thus less likely to be HIV-positive (Mbugua 2004). Large-scale economic disruption in a family can also lead young girls to enter the sex trade (Zulu *et al*. 2004; Gysels *et al*. 2002; Ngugi *et al*. 1996). Men who engage in extra-marital affairs during work-related absences from home often act as "bridge populations" between commercial sex workers and their wives back home (Kalipeni *et al*. 2004; Voeten 2002).

2.2 Africa's Response to the HIV/AIDS Crisis

The devastating effects of HIV/AIDS on Africa mandated mobilized responses from the international level down to the country and local levels. These responses came from the government, African-based domestic and global faith-based organizations, and

civil society groups. According to UNAIDS (2005a:32), AIDS has broadened the bounds of public policy in three ways: 1) generated greater debate on issues directly related to public policy in regard to sexual activity and on issues formerly thought of as strictly for family discussion (expanding beyond a reproductive health context), 2) required policies to deal with issues like sex work that previously fell into the realm of illegality and, 3) necessitated action to deal with issues perceived to be beyond policy, such as war and violence.

Successful HIV/AIDS campaigns are generally labelled as having two major components. First, successful campaigns focus on the willingness of public policy to incorporate and integrate scientific findings related to an appreciation that HIV is transmitted easily through sexual behaviours as well as other means (breastfeeding, poor health practices, etc.). Secondly, successful campaigns are supported by high-level leadership with the understanding that the epidemic must be viewed and confronted through a mixture of biomedical as well as economic and social means (PEPFAR 2005). One campaign designed to lower new infection rates is the popular ABC or Abstinence, Be faithful, and Condomise approach (PEPFAR 2005). Generally defined, *Abstinence* refers to youth delaying their sexual debut and/or abstaining from sex until marriage. *Be faithful* refers to being safer by practicing sex with only one partner or reducing the number of sexual partners. *Condomise* refers to the correct and consistent use of condoms (Avert 2007; PEPFAR 2004). It is important to note that PEPFAR (President's Emergency Plan for AIDS Relief) guidelines, state:

> ABC is not a program; it is an approach to infuse throughout prevention programs… This targeted approach results in a comprehensive and effective prevention strategy that helps individuals personalize risk and develop

> tools to avoid risky behaviours under their control
> (PEPFAR 2004:2)

Figure 2.5 provides an example of a billboard displaying the ABC campaign in Lesotho, Africa.

Figure 2.5 Example Billboard Advertising the "ABC" Approach in Response to Reducing the Spread of HIV/AIDS.

Source UNAIDS 2005a:21 - AIDS in Africa: Three Scenarios to 2025

An ABC success story is Uganda, one of the first sub-Saharan countries to be ravaged by HIV and AIDS. Uganda took early action to control the epidemic and succeeded in lowering new infection rates by 10% from 1991 to 2001 (Murphy *et al*. 2006). Since 1993, HIV infection rates among pregnant Ugandan women have more than halved in some areas, while infection rates among men seeking treatment for STIs have dropped by over a third (UNAIDS 2004a). However, debate continues as to whether the ABC approach is truly responsible for the decline in new infection rates in Uganda (Murphy *et al*. 2006; Lyons 2004). Supporters of the ABC approach accredit the Ugandan government for the decline of new HIV infection due to the widespread promotion of the abstain, fidelity, condomise approach, as well as monetary support from

the U.S. President's Emergency Plan for AIDS Relief or PEPFAR (Murphy *et al*. 2006). On the other hand, critics believe the ABC approach had little to do with the decline in new HIV infection in Uganda primarily because the program emphasized abstinence and fidelity but not condom use. Thus, critics argue, women were left at risk of infection because they were not empowered to insist on abstinence or fidelity (Murphy *et al*. 2006). While this may or may not be true for Uganda, Kenyan women have suffered a history of gender-powered relationships that have left women at risk to HIV infection and powerless against decisions related to their sexual health (Roth *et al*. 2006; Roth and Ngugi 2005; Fratkin and Smith 2005).

All too often conflicting AIDS messages regarding abstinence, condom use, legalization of commercial sex work, HIV testing and male circumcisions inhibit effective HIV transmission prevention strategies (Murphy *et al*. 2006; Lyons 2004). Worldwide governmental and local programs/agencies need to take into consideration how local people think about sex, and how sex is socially situated within each specific culture. Sex is not just a reproductive activity, but is often a life affirming action. For example, in some African countries men associate multiple sexual partners and frequent acts of sex with a healthy lifestyle (Caldwell 1999).

Other countries, including Kenya have worked hard in developing a model of health care that provides sexual and reproductive services related to HIV. The Family Planning Association of Kenya's pioneering program offers antiretroviral therapy in a sexual and reproductive health setting. Each of its nine clinics provides voluntary HIV counselling and testing, in addition to information regarding mother-to-child HIV transmission, as well as actual administration of antiretroviral therapy. The delivery of

the antiretroviral therapy is a part of the BACKUP Initiative (Building Alliances Creating Knowledge - Updating Partners in the fight against HIV/AIDS, tuberculosis and malaria) of the German development agency, Deutsche Gesellschaft für Technische Zusammenarbeit (German Agency for Technical Cooperation) (UNAIDS 2006). Kenya is taking a very practical stance against HIV transmission by adding HIV health care to existing reproductive and sexual health programs. With a strong network of community health volunteers, the Family Planning Association hopes to deliver antiretroviral therapy to the poor and marginalized. According to UNAIDS (2006), nearly 200 sites in Kenya, including the nine Family Planning Association of Kenya clinics, were providing antiretroviral therapies by December 2005.

In addition, the Kenyan Coalition on Access to Essential Medicines (which includes the Kenyan Medical Association, international and NGO groups, civil society groups and networks of people living with HIV) promote actions to enhance treatment access to people living with HIV (UNAIDS 2006) by providing sexual health seminars, programs to raise money for transportation and medical testing supplies, etc.

2.3 A Reluctance to Change Sexual Behaviours

Yet, even with increased education centered on condom use and safer sex practices, such as "zero-grazing" (limiting sexual activity to one person; Roth *et al*. n.d.; Halperin *et al*. 2004), the ABC Approach, and family planning programs offering HIV related materials and health care, research consistently shows Africans are reluctant to change sexual behaviours, specifically in regard to condom use (*e.g*. Caldwell 1999; Maharaj and Cleland 2004; Ajayi *et al*. 1991; Adih and Alexander 1999; McPhail and Campbell 2001). Early intervention efforts sought to change sexual behaviours by

increasing people's knowledge of HIV/AIDS, based on the assumption that greater knowledge would bring about a substantial, decisive behaviour change (Kalipeni *et al*. 2004). Regardless of the promotion of various campaigns and slogans and the existence of HIV testing and sexual health counselling services, in some African countries new HIV infection rates have actually increased (ITCP 2005; UNAIDS 2006). In short, individual behaviour changes have not taken place.

Apart from limited change in individual behaviour, in Kenya the increased infection rates are partly due to problems beyond individual control. This includes delays in releasing HIV/AIDS program funding or dealing with issues of insufficient program funding, inadequate leadership at the national level, and confusion regarding the meaning behind "universal" access to treatment (ITPC 2005). The International Treatment Preparedness Coalition (ITPC 2005) Report: *Missing the Target: A report on HIV/AIDS Treatment Access from the Frontlines*, outlines two additional key reasons for lack of behaviour change: 1) people carry a fatalistic attitude toward the virus so appear not to worry about HIV prevention and, 2) most prevention programs are dispersed in written form, causing a significant barrier for illiterate people. Njogu and Martin (2006) found young people in Kenya unlikely to change their sexual behaviours unless they sense they are personally at risk of infection (i.e., someone close to them, a relative or friend, has become infected). These issues however reflect general barriers to HIV prevention on a large scale.

With regard to condoms, specifically at the individual level, suggested reasons for their non-use include: 1) indigenous, wide-spread models linking men's overall health to frequent sex acts with multiple women (Caldwell 1999), 2) the perception that condoms

are indicators of promiscuity and extra-marital affairs (Maharaj and Cleland 2004) and, 3) the belief that condoms reduce sexual pleasure (Ajayi *et al*. 1991; Adih and Alexander 1999). McPhail and Campbell (2001) in their study of 44 young men and women between the ages of 13-25 in South Africa identified six additional factors hindering condom use specific to men and women aged 13-25. Those factors are: 1) lack of perceived risk for contracting an STI (including HIV), 2) peer pressure to not use a condom, 3) condom availability or lack thereof, 4) adult attitudes toward condoms and sex, 5) gender-power relationships and 6) the lack of economic funds for the purchase of condoms.

Reflecting on the conclusions of the McPhail and Campbell (2001) study in the township of Khutsong, South Africa, Bracher *et al*. (2004:63) summarized their micro-simulation study of condom use on women's lifetime risk of acquiring HIV in South Malawi this way: "we were alert to the realities that condoms are generally unpopular, that there is a gradient in condom acceptability according to type of sexual relationship or identity of sexual partner, and that people are very poor." The reality is people do not change their sexual behaviours easily, which is constrained by economic and sociocultural factors, psychological, emotional and physical needs and deeply-held beliefs.

2.4 Condoms, A Solution to Halting New HIV Infections?

Why study condom use if sexual behaviours are not easily changed? The focus of my thesis is on condom use because existing HIV prevention programs focus on abstinence and being faithful, which frequently disregard the social aspect and economic importance of sex in many African cultures. In addition, simulation studies (e.g. Bracher

et al. 2004) have shown that condom use can dramatically stop or reduce the spread of sexually transmitted infections (STIs), including HIV/AIDS. Bracher *et al*. (2004) used micro-simulation techniques to model the impact of condom use on a woman's lifetime risk of acquiring HIV in rural South Malawi. Results indicated that consistent condom use at each sex act would greatly reduce the spread of HIV. Furthermore, lifetime risk of contracting HIV would be further reduced (from 42% to 8%) if a smaller proportion of people used condoms regularly versus a larger proportion of people using condoms inconsistently. However, regardless of the proportion of people using condoms, Bracher *et al*. (2004) demonstrated that inconsistent use of a condom would reduce a woman's lifetime risk of contracting HIV more so than not using a condom at all. This last statement even takes into account elevated probabilities of events such as expired, heat or light damaged condoms, as well as slippage and breakage.

Similarly, Hearst and Chen's (2004) literature review of condom effectiveness in preventing HIV transmission found the most rigorous study estimated condom effectiveness to be 94% (Pinkerton and Abramson 1997). Hearst and Chen (2004) conclude that condoms are roughly 90% effective in preventing HIV transmission. This conclusion was supported by the earlier Steiner *et al*. (2000) study which found condom effectiveness for preventing pregnancy to be similar based on a self-selected sample of condom users for one menstrual cycle.

Condoms have been established as a significant instrument in preventing HIV transmission in many countries around the world. For example, in Thailand great effort has been made toward de-stigmatizing condoms through government regulated mass public advertising campaigns focused on 100% condom use among commercial sex

workers and their clients (Cohen 2004; Rojanapithayankorn and Hanenberg 1996; UNAIDS 2004b). This effort has led to a dramatic reduction in HIV infections in these sub-groups, translating to an overall reduction in the epidemic for the general population. In Brazil, early condom promotion among the general population and vulnerable sub-groups has lead to a levelling off of HIV incidence rates (UNAIDS 2004b).

In 2006 (in Kenya), 25% of women and 47% of men between the ages of 15-24 reported using a condom the last time they had sex with a casual partner (UNAIDS 2006). This marks a 10% increase of condom use for women since 2001 (increase for men was 4%; UNAIDS 2006). In addition, research conducted by Holmes *et al.* (2004) concluded that the correct and consistent use of condoms translated to significantly reduced risk of HIV transmission from both men to women and also from women to men. This fact is important in that both HIV prevention education and condom use promotion must overcome the barrier of complex cultural gender inequalities. Women of all ages are often denied information about or access to condoms. More importantly, in some African countries, women do not have the negotiating power to request condom use (Njogu and Martin 2006; Luke 2003; Government of Kenya 2002a). Unfortunately, both men and women will remain highly vulnerable to HIV infection until gender equality in decision-making regarding condom use between sexual couples is achieved.

2.5 Summary and Proposed Study

HIV/AIDS was introduced to the world twenty-nine years ago. Without question the HIV/AIDS pandemic is the most serious infectious disease challenge to public health worldwide. AIDS has now been reported in every country in the world with sub-Saharan Africa suffering the greatest toll of social and cultural devastation. As HIV primarily

spreads through sexual encounters many researchers thought basic HIV transmission prevention programs would be highly successful. While some sub-Saharan countries have benefited from these programs, an overwhelming number of people still do not engage in safe sex practices. Reasons for this reluctance range from the actual individual to socio-cultural practices such as laws or policies that prevent or inhibit people from partaking in safe sex practices.

Since condoms still provide the best, most cost-effective method for preventing the transmission of HIV and subsequently AIDS. Yet there remains a dearth of research focused on specific opportunities for condom use promotion. The goal of this thesis is to identify cultural and structural opportunities and barriers to condom use between unmarried Ariaal Rendille men and women in northern Kenya. Analysis is based on a 2007 survey in the Ariaal Rendille community of Karare which asked survey participants to respond to ten statements focusing on four aspects of behaviour related to condom use: 1) gender-based power differentials (i.e., empowerment to use a condom at each act of sex), 2) functions of condoms (including condoms as protection from sexually transmitted infections (STIs), including HIV and condoms as protection from unwanted pregnancy), 3) interpretations of condoms and health (i.e,. association of condom use with HIV/AIDS infection, and general health, 4) condoms and pleasure (i.e., how do condoms affect the sexual pleasure of both partners).

The theoretical frameworks used to form the ten statements of the 2007 survey and subsequently analyze the resulting data are discussed in chapter 3. Three pertinent theoretical models provided a comprehensive base from which to interpret the results. These are: 1) The Theory of Reasoned Action (TRA) (Ajzen 1985) and the Theory of

Planned Behaviour (TPB) (Ajzen 2002) 2) the Social Epidemiology Framework (Poundstone *et al*. 2004) and 3) The Health Determinants Framework (Benoit and Shumka 2008). Together these theories provide a framework for understanding how HIV/AIDS and condom use is embedded within the social, economic, cultural, political and ideological contexts of Ariaal Rendille life.

Chapter 3 Theoretical Framework

3.1 Introduction

No single discipline can develop the complex and intricate models needed to account for the interaction between an individual, their environment and the rise and sustainability of a disease like HIV/AIDS (Trostle 2005). Yet, until recently, a large chasm existed between demographers, epidemiologists and anthropologists in their theoretical frameworks for studying human populations. Demographers are primarily concerned with the geographical distribution of people, birth/death rates, and age/sex distributions in order to identify their influences on population growth, structure and development in a set geographical area (Roth 2004). Epidemiologists study the distribution and determinants of diseases in human populations and the data they gather are integrated into disease prevention and control (Bonita *et al*. 2006). On the other hand, cultural and bio-cultural anthropologists, largely focus on human culture with respect to social structure, language, law, politics, religion, magic, art and technology in order to learn more about the in-depth workings of various cultures (Lavenda and Schultz 2007; Trostle 2005). Because each discipline maintains specific views of the importance of quantitative and qualitative data in their respective fields, it is pertinent to draw from the strengths of all three disciplines to create and implement suitable, successful intervention programs to stop the spread of HIV/AIDS.

In an effort to understand the qualitative and quantitative data regarding HIV/AIDS and, specifically condom use behaviour as collected from the field, this study will focus on three pertinent theoretical models which integrate epidemiological, demographic and anthropological precepts. Each model provides a different perspective

to view and interpret how HIV/AIDS and sexual behaviour affect a population. These models are: 1) Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB), 2) the Social Epidemiology Framework and 3) the Health Determinants Framework.

The Theory of Reasoned Action and subsequently the Theory of Planned Behaviour (TPB) analyze factors, behavioural beliefs, normative beliefs, and control beliefs (Ajzen 2002) that influence an intended behaviour. The Social Epidemiology Framework expands on the TPB notion that factors affect condom use, by including the HIV Transmission Dynamics equation (Ro=BCD, see Section 3.3 - Social Epidemiology for variable explanation) as well as developing and organizing Ajzen's (2002) behavioural, normative and control beliefs into more functional individual, social and structural levels. In total this creates a flexible framework for understanding the complex interactions of sex and sexual practices between two people. Lastly, the Health Determinants Framework provides clarity as to the impact of gender-powered relationships regarding condom use and how they intersect with other key social factors, including class, race and ethnicity. Below is an overview of each theory, followed by a more in-depth description of each.

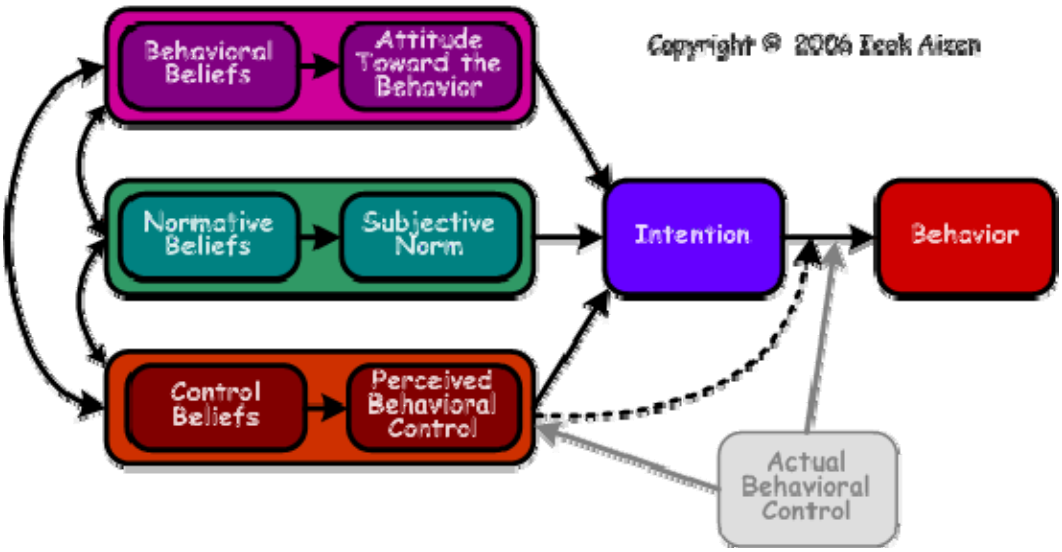
3.2 Theory of Reasoned Action and the Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) has historical roots in the Theory of Reasoned Action (TRA) as developed by Ajzen and Fishbein in 1980 (Bennett and Bozionelos 2000). TRA suggests that behavioural intentions are a function of "salient information or beliefs" (Madden *et al*. 1992:3). Two factors influencing the intended behaviour are: 1) behavioural beliefs or attitudes toward the behaviour and, 2) normative

beliefs or subjective norms or perceived social pressures to engage/not engage in a behaviour.

Realizing that the intention to perform a particular behaviour is not regulated solely by individual and social beliefs, Ajzen (1985) amended TRA to develop the Theory of Planned Behaviour. TPB (Figure 3.1) extends the boundary of pure volitional control to include perceived power or perceived behavioural control. This means the more resources and opportunities an individual thinks he/she possesses the greater their perceived behavioural control is over the intended behaviour (Madden *et al*. 1992). Ajzen (2002) also added another factor influencing a person's intention to perform a particular behaviour. This addition is actual behavioural control. This refers to the extent to which a person has the actual skills and resources to perform a given behaviour (see http://www.people.umass.edu/aizen/tpb.diag.html#null-link).

Figure 3.1 Theory of Planned Behaviour, I. Aizen 2006



Source http://www.people.umass.edu/aizen/tpb.diag.html#null-link

With regard to condoms, the intended behaviour would be condom use. The intention to use a condom is formed by whether the person thinks condoms and their use are good

(Behavioural Belief), and whether the person thinks that society believes a person should use a condom (Normative Belief). However, even if the behavioural beliefs match the normative beliefs, the actual behavioural control affects the intended behaviour. For example, if condoms are not available, one will most likely not be used. Or if men have the power for decision making regarding condom use, a woman has very little behavioural control even if she has the intention to use one. While this model seems at first to be adequate for predicting condom use behaviours, clearly there are downfalls. These will be discussed below in section 3.5 titled "Condoms - Its Takes Two".

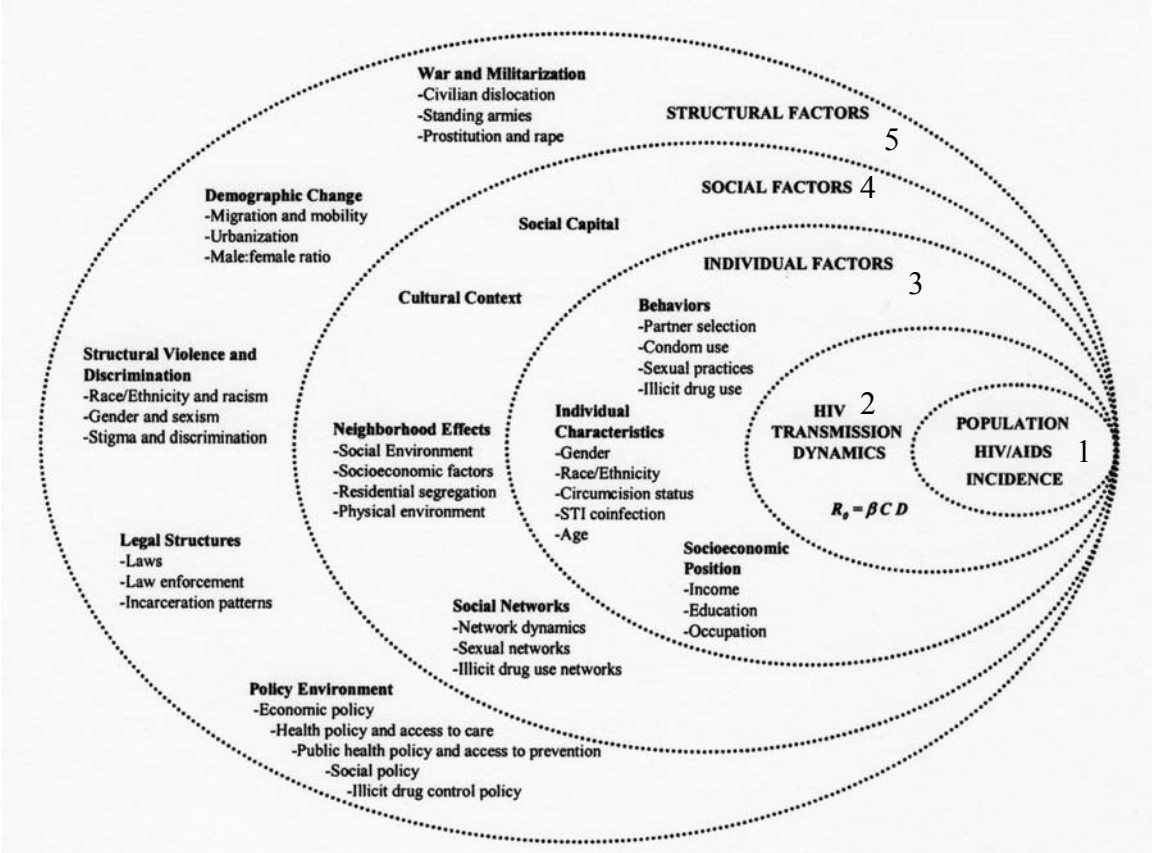
3.3 Social Epidemiology

Social epidemiology first gained recognition in the early 19th century (Krieger 2000) as the study of "the distribution of health outcomes and their social determinants" (Poundstone *et al*. 2004:22). Social determinants refer to specific features and pathways by which societal conditions affecting health can potentially be altered by informed action (Krieger 2001:697). Social epidemiology builds on the three cornerstones of classical epidemiology (host, agent and environment) to focus on the role of social determinants in infectious disease transmission and progression. In short, it posits social conditions as fundamental to the cause and spread of a disease (Bonita *et al*. 2006).

As discussed by Poundstone *et al.* (2004:22), identifying how society influences an individuals' behaviour is key in understanding the "non-uniform infectious disease patterns that emerge as a result of the dependent nature of disease transmission." In their article *The Social Epidemiology of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome* article, Poundstone *et al*. (2004) construct an analytical framework for conceptualizing the social epidemiology of HIV/AIDS (Figure 3.2).

Before examining the three social levels of this framework, a review of classical epidemiology is in order. The population measure, termed HIV incidence, (Figure 3.2, ring 1) is the number of people who are newly infected with HIV in a given period. The traditional HIV transmission equation (Figure 3.2, ring 2) indicates the sustainability of HIV in a given population where: c is the rate at which new sexual partners are acquired, b is the average probability that the infection is transmitted, and d is the duration of infectivity (Wasserhit and Holmes 1992). Through the expansion of classic epidemiology, social epidemiology not only takes into consideration the quantitative aspects of disease transmission (Figure 3.2, rings 1-2), but also incorporates qualitative measures in the three outer levels of the framework (Figure 3.2, rings 3-5) that affect HIV transmission and condom use.

Figure 3.2 Social Epidemiology Framework



Source Poundstone *et al*. 2004:24

Within this framework, HIV/AIDS transmission is determined on three levels: individual, social, and structural. Individual-level factors include risk behaviours (i.e. partner selection, personal sexual practices, and condom use), biological variables (i.e. sex, age, circumcision status) and demographic or socioeconomic positioning (i.e. income, education, occupation). In terms of HIV incidence, individual factors influence whether or not a person will acquire HIV and if yes, the progression of the virus.

Societal factors link individuals to society. Direct and indirect neighbourhood effects increase the likelihood of a person coming into contact with an HIV-positive person (direct) or increase a specific populations' vulnerability to HIV/AIDS exposure (indirect). Residential segregation or social isolation of marginalized populations would increase the likelihood of a non-infected person coming into contact with an HIV infected person; a direct effect. Indirect effects, including low socioeconomic conditions or high unemployment, increase the populations' vulnerability to HIV/AIDS exposure through unsanitary conditions, increased sexual mixing and increased commercial sex work (Poundstone *et al*. 2004). In contrast, a neighbourhood that would decrease the rate of contact with infected persons or would reduce the populations' vulnerability to HIV/AIDS exposure might be more sanitary, safer (i.e. increased police activity), less stressful and have high socioeconomic conditions (Oakes 2004). In addition, social networks, including sexual networks and support networks, determine the degree to which partner concurrency, bridging and sexual mixing play in HIV transmission (Poundstone *et al*. 2004).

The third level within Poundstone *et al*.'s framework represents structural factors, including urbanization, demographic factors and, migration and mobility. Structural

violence also falls into this category, represented by stigma and discrimination. In addition, policy environment (economic policy, health policy and access to care and prevention education), legal structures and war or militarization all heavily influence the transmission dynamics and differential distribution of HIV within a setting. The social epidemiological framework as discussed above is an important theoretical starting point to understanding the overall movement, transmission and distribution of HIV/AIDS, as it incorporates three levels of analysis.

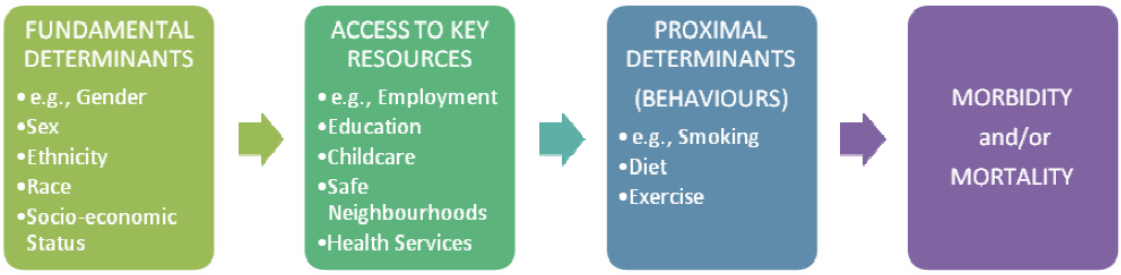
3.4 Health Determinants Framework

While the Theory of Planned Behaviour focuses specifically on the individual, (their actions and choices) and social epidemiologists have incorporated non-biological factors into the traditional epidemiological framework for the transmission and continuation of HIV/AIDS, neither theory adequately addresses gender inequalities in relation to health and health outcomes. In broad terms, the Health Determinants Framework (Figure 3.3) is similar to the social epidemiology framework in that, "determinants of health" are situated within social contexts in which individuals and groups exist and act (Benoit and Shumka 2008; Glouberman and Millar 2003). Variables most commonly held as determinants of health include, but are not limited, to: age, ethnicity, race, sex, education, income, social status and access to health services (Benoit and Shumka 2008). However, Benoit and Shumka (2008) clarify and expand the Health Determinants Framework (HDF) with the underlying knowledge that women's social positions vary according to socio-economic status, ethnicity, and race which affect their morbidity, mortality, diagnosis, prognosis and treatment. Therefore, as Benoit and

Shumka state, "health and health outcomes are fundamentally gendered" (2008:5; Krieger 2005).

With regard to the scope of the proposed research, two terms need defining. *Sex* is generally accepted as a biological construct denoting an individual's anatomy, physiology, genes and hormones that are common across many societies (Philips 2004). While there is debate as to how many *sexes* there are (see Benoit and Shumka 2008), for the remainder of this paper, two will be discussed: male and female. *Gender*, however, is a social construct that extends beyond the biological terms of sex to include the socially proscribed roles and norms expected of people that are reproduced and enacted upon, on a daily basis (Benoit and Shumka 2008). These roles can change over time, place and life stage and shape how people act within their society, and how they think about themselves (Oakley 2000; Doyal 2003).

Figure 3.3 Health Determinants Framework as Posited by Benoit and Shumka, 2008



Source C. Benoit and L. Shumka 2008 (Forthcoming):34

Because each theory has its own strengths and weaknesses, only together can a more complete understanding be gained of how HIV/AIDS and condom use is embedded within the social, economic, cultural, political and ideological contexts of Ariaal Rendille life. While each theoretical framework does add to the understanding of condom use in a unique way, the Theory of Planned Behaviour focuses only on the individual and falls

short of adequately examining the decision making process between two people in a sexual union and deserves a short discussion in the following section.

3.5 Condoms - It Takes Two

While TPB is widely used to measure intended condom use, it has also been heavily critiqued. Flowers and Duncan (2002) find TPB to view individuals as planning a behaviour through fixed and static conditions, whereby their attitudes, subjective norms and perceived behavioural control precede the intended behaviour. In contrast, "notions of reason, rationality and prior planning are at odds with wider cultural understandings of sexual behaviour, often characterized as spontaneous, emotional, instinctual, transgress or passionate" (Flowers and Duncan 2002:232). Therefore, Flowers and Duncan wonder if TBP can adequately account for the "reality of inherently social sexual decision-making in the context of a variety of sexual encounters against the backdrop of the HIV/AIDS epidemic?" (Flowers and Duncan 2002:232). Equally important, TBP does not account for intended behaviours, like condom use, that inherently requires the cooperation of two people.

Sex, in most forms, takes place between two people. Condom use therefore requires joint decision-making, which in turn increases the complexity of TRA and TBP and also threatens the predictive power of the two models (Kippax and Crawford 1993). The major critique of these two models is that they rely solely on the individual whose decision-making processes is void of cooperation with other people, and the influence of the broad social structures that people inhabit (Flowers and Duncan 2002; Kashima *et al.* 1993; Kippax and Crawford 1993; Liska 1984).

These two models treat intended behaviours as compilations of discrete pieces of information unrelated to cultural, social or interpersonal contexts. Condom use, however, needs to be conceptualized as "grounded in social and cultural representations and in action" (Kippax and Crawford 1993:260). Connections between the individual and the social relations in which they act, and the social structures which govern social practices, can not be ignored. Without social relations and structures (i.e. cultural values), individual behaviours have no meaning (Kippax and Crawford 1993:255) yet condom use is constituted with reference to shared meanings between two people.

According to Kashima *et al*. (1993), two major behavioural conditions must be met to increase the chance of the behavioural goal (condom use) being met. Those conditions are: 1) having a condom available at the time it is needed and 2) having an agreement with one's sexual partner to use a condom. When these two conditions are met, the act of using a condom during that sexual act constitutes a successful completion of the behaviour. However, as Kashima *et al*. (1993) note, even when these conditions are satisfied, both decision-makers may change their mind at the last moment due to excitement or pressure from the partner. In addition, "norms governing condom use are related to broader cultural values such as those of fidelity and romance, and honest concern for others" (Kippax and Crawford 1993:261). In this view condom use clearly lies outside individual parameters as suggested by TRA and TPB, and lies within the realm of joint decision making between two partners.

Social conditions are fundamental to understanding the cause and spread of a disease. Identifying how society influences individual behaviour is vital to increasing condom use in rural northern Kenya. Unlike TRA and TPB, social epidemiology provides

a flexible theoretical framework for analyzing condom use. The individual level takes into consideration concepts like partner selection, personal sexual practices (including condom use), socioeconomic position (in terms of available funds to buy condoms), and circumcision status (at the age to have sex). These individual factors are captured in the 2007 sexual behaviour survey data of unmarried Ariaal Rendille men and women in Karare.

Social epidemiology also recognizes social factors that relate to condom use in Ariaal Rendille culture such as the *nykeri* tradition. This cultural tradition accounts for the acceptability of multiple short-term pre-marital sexual unions. Additional social factors (i.e. social networks and neighbourhood effects) in partnership with cultural context help to explain how this tradition of sexual mixing influences condom use (see Chapters 4 and 6 for more in-depth discussions).

Lastly, the structural level of the epidemiological paradigm allows for the inclusion of structural factors that influence the use of condoms in Ariaal Rendille culture. A child out of wedlock creates a great deal of stigma and discrimination in Ariaal Rendille culture as Roth and Ngugi (2005:258) state "…there are severe proscriptions for births out of wedlock". A child out of wedlock complicates Ariaal Rendille inheritance as they practice patrilineal partible inheritance meaning every child inherits equally (Fratkin 1986). This type of inheritance is also why *Moran* do not marry *Nykeri* (Moran and Nykeri are the unmarried men and women in Ariaal Rendille culture; see Chapter 4). Rather, parents arrange marriages with appropriate families to maintain proper inheritance. Therefore the perception that condoms prevent pregnancy represents a structural variable. Social epidemiology clearly indicates how individual factors interact

with social factors which in turn are influenced by structural factors to create a dynamic environment in which a person interacts on a daily basis. Social epidemiology is an important theoretical framework for understanding the use/non-use of condoms by the Ariaal Rendille.

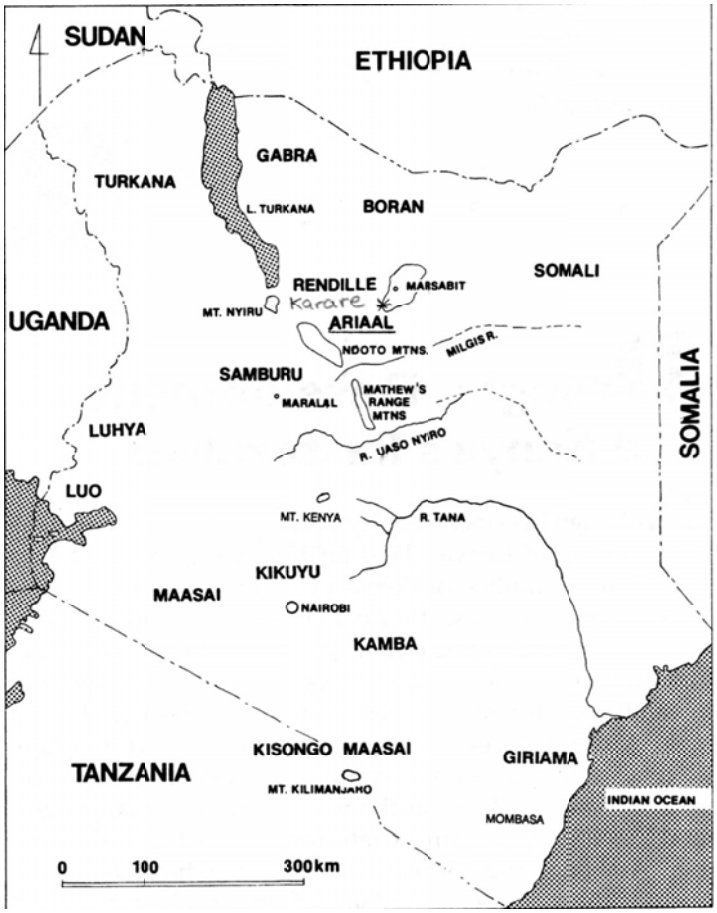
While inadequacies lie within the Theory of Planned Behaviour in terms of analyzing condom use between the sexual couple, this theory does make clear that behaviour or behavioural intentions for an individual are deeply rooted in how the individual feels about the behaviour, how society views and reacts to the behaviour, and the individuals perceived and actual control over performing the behaviour. To adequately address condom use between two people, the Social Epidemiology Framework is implemented. Again, this framework not only takes into consideration the transmission of HIV throughout a community but also takes into consideration the outlying factors that either inhibit or encourage the spread of HIV in society. The Social Epidemiology theory is especially serviceable when focusing on condom use, as condoms are the most cost effective and most easily distributed form of protection against the spread of HIV. Lastly, the Health Determinants Framework draws attention to the ever important fact that health consequences are not equally distributed between men and women. Social norms and traditions dictate how both men and women act in society and, as will be described in Chapter 4, Ariaal Rendille society is stratified along gender lines, creating differential distribution of interpersonal power which in turn affects condom use.

Chapter 4 Ariaal Rendille Pastoralists of Northern Kenya: Ecology and Culture

4.1 Introduction to Pastoralism

Northern Kenya is primarily inhabited by nomadic pastoralists including Turkana, Samburu, Rendille, Ariaal, Boran, Gabra and Somali (Figure 4.1). These pastoralists occupy 70% of Kenya's northern landmass yet make up less than one million of Kenya's 30 million people. Generally these livestock-keeping pastoralists fall into two large language groups, the *Cushites* (in the Afro-Asiatic family) and the *Nilotes* (in the Nilo-Saharan family of languages).

Figure 4.1 Geographic Locale and Ethnic Group Distribution, Marsabit District, Northern Kenya



Source Fratkin 1998:22

Not all pastoralists are strictly nomadic. Within semi-sedentary settlements, pastoralists herd their animals in areas around the homestead or take their animals to seasonal grazing camps during extended drought periods. However, in the 21st century, all pastoralists face complications from drought and famine, population growth combined with loss of herding lands, commoditization, sedentism, and urban migration as well as political turmoil and war (Fratkin 1998; 2004). Loss of herding land is also due to increased national game parks and reserves. Increased commoditization of livestock has led to major transformations of pastoral societies, creating a polarization of pastoralists into "haves" and "have nots": "haves" owning private ranches and "have nots" work for wealthier kinsmen (Fratkin 2004). Lastly, especially in northern Kenya, an increase in the availability of automatic weapons from neighbouring Ethiopia, Somalia, Sudan and Uganda has led to increasingly violent levels of inter-pastoralist stock raiding.

4.2 The Setting - Marsabit District, Marsabit Town and Karare

Marsabit District lies in the Eastern Province of Kenya and is bordered by Ethiopia and Moyale districts to the north, Turkana district to the west, Samburu district to the south, and Wajir and Isiolo districts to the east. Eastern Province is divided into five administrative divisions, 25 locations and 51 sub-locations (Adan and Pkalya 2005). Currently, Marsabit District is Kenya's second largest district, covering a landmass of 66,000 square kilometres (Government of Kenya 2002b) with roughly 138,500 people from differing ethnic groups including the Boran, Gabra, Rendille, Samburu, Ariaal, and Turkana. This area is characterized by arid and semi-arid lands lying between 300m and 900m above sea level with unreliable rainfall, (an annual average of 700mm in the highlands and less than 300mm in the lowlands) and frequent severe droughts (1969-

1973, 1980, 1984, 1998-2002; Adan and Pkalya 2005). Marsabit District has 54 primary schools, seven secondary schools, four hospitals and 15 medical dispensaries. These features mark an increase in sedentarization; for in 1963, Marsabit District had 80,000 people, with three primary schools, no secondary schools, one hospital and no medical dispensaries (Fratkin 2004).

Within Marsabit District lies Marsabit Town with a population of 11,113 (Shell - Duncan and Yung 2004). Marsabit Town sits on a large extinct volcano standing alone in the desert with an altitude of 1,500 meters. The town was established during British rule as an administrative post in 1909 (Fratkin and Roth 2005). Since then, Marsabit Town has become a commercial trading post that facilitates the movement of goods and services between Moyale and Isiolo, two larger towns in the Eastern Province, and has petrol stations, a bank, post office, an open air market, shops and restaurants. Livestock are not kept in Marsabit Town, but rather they are herded in distant *fora* camps.

Seventeen kilometres southwest of Marsabit Town is Karare. The 2,000 residents are primarily Ariaal Rendille, and Karare women often frequent Marsabit Town to shop for goods and food staples as well as sell milk (Fratkin and Smith 1995). In June of 2007, Karare consisted of a few small *dukas* (shops), a permanent watering spigot, the Kargi-Karare Catholic Mission, a Muslim Mosque, and recently built, the new Karare Boarding School for girls. There is no running water or electricity.

Figure 4.2 Traditional Homes, Karare, 2007

Source Personal Photograph By Andrea Kiehle, 2007

Settled towns like Karare developed slowly over time, beginning with the establishment of British colonies in the north and continuing during the 1960s (with the *shifta* conflict) and 1970s (with the establishment of Christian missionaries for famine relief from the Sahelian Famine). The s*hifta*, or "bandit" conflict erupted when Somali and other Muslim populations attempted to secede from Kenya and join the Somali Republic, resulting in a period of livestock raiding (from the Boran, Rendille, Ariaal, Samburu and Gabra pastoralists) and civil war. With increased violence and concern for their personal safety as well as herd safety, Rendille pastoralists began to move their *manyattas* (homesteads) closer to police posts and established towns (Fratkin 1998).

Increased sedentarization continued in the 1970s when severe recurrent droughts caused catastrophic livestock loss among the Ariaal Rendille. Catholic and Protestant

missions established long-term famine relief centers around existing watering holes, and created an agricultural resettlement scheme named Naskikawe, where the Ariaal Rendille were to take advantage of agricultural means of subsistence (Fratkin and Roth 2005). This caused a dramatic dietary shift for the Ariaal Rendille from protein rich camel milk to less nutritious *ugali* meal (cornmeal paste, a staple dietary starch). This leads to increased protein and micronutrient deficiencies which may cause impaired function and immunity and increased infectious morbidity and mortality (Fujita *et al.* 2005; Nathan *et al.* 2005).

Figure 4.3 Nasikakwe (the Scheme), 2007

Source Personal Photograph By Andrea Kiehle, 2007

The mid-1980s brought about further change and sedentarization throughout Marsabit District as a result of increased famine relief efforts from NGOs like World Vision and international development projects such as the UNESCO-IPAL Project

(Integrated Project in Arid Lands). The main objectives of the UNESCO-IPAL Project were to conduct research on environmental degradation caused by overgrazing and integrate ecological research with developmental techniques to halt further desert encroachment. However, because of a combination of poor leadership and a less than acceptable understanding of traditional pastoral practices, UNESCO-IPAL failed in northern Kenya. Instead of acting on their original goals, IPAL sought to de-stock pastoral herds by increasing stock sales; thus restricting pastoral range and rehabilitating the land. However, these policies directly weakened the ability of Ariaal Rendille (and other pastoralist communities) to adequately feed their households (Fratkin 1991; 2004; Schwartz 2005).

By the 1990s the entire region had undergone irreversible changes. Permanent towns now existed where there were previously only watering holes. While permanent towns create many challenges for traditional pastoralists (decreased nutrition, increased spread of disease, exploitation of natural watering areas), settled towns also provide increased security from tribal cattle raiding, access to medical care, increased opportunities for young boys and girls to attend school (Fratkin 1991; Galaty 2005; Roth and Ngugi 2005; Smith 2005), and increased marketing opportunities for women to sell milk and agricultural products in Marsabit town as well as Karare (Fratkin and Smith 2005).

4.3 The Ariaal Rendille, A Bridge Culture

The Ariaal Rendille represent a cultural bridge between the Samburu and Rendille pastoralists of Northern Kenya. It is not clear how long the Ariaal Rendille have existed as a distinct pastoral society, but an estimate comes from Spencer who describes in his

book *Nomads in Alliance* (1973) the intermarriage between Samburu and Rendille during the *Kipayang* age-set circa 1823-1837. Later, Fratkin states the Ariaal Rendille distinguished themselves from Rendille in oral histories and are noted for their fierce fighting against the Laikipiak during the *Tarigiri*k age-set circa 1866-1880. Fratkin states that in the late 19th century, poor Rendille men migrated toward Samburu populations in order to build up their camel herds with cattle and small stock (goats and sheep). This was due to Rendille inheritance patterns of primogeniture, in which stock inheritance falls to the first-born son. At the same time Samburu men became involved with Rendille women as second and third wives (Fratkin 1998; 2004).

Ariaal Rendille share many cultural customs with both Rendille and Samburu people. They practice segmentary descent organization, with related groups organized into families, lineages and clans. While both Rendille and Samburu cultures feature closely related age-set systems the Ariaal Rendille use Samburu age-sets names.

While Ariaal are considered Samburu by Rendille, and Rendille by Samburu, the Ariaal consider themselves to be more like Samburu because they use Samburu clan names, follow Samburu age-set rituals and prefer to speak Samburu. However, the Ariaal practice Rendille customs including annual camel blessings, and male and female circumcision. In Samburu the Ariaal are called *Masagera* (meaning "those Rendille who follow Maasai"), *Turia* (meaning "mixture") or *Ariaal* (Fratkin 2004:48).

Since pastoral life is determined by seasons, the combination of different types of herd animals allows the Ariaal Rendille to take advantage of the varied resources in which they live; utilizing the lush and rich yet, temporary, pastures of the highlands for cattle and small stock and the lowland deserts for camel herding during the long dry

drought periods. They also have greater access to grazing lands than either Samburu or Rendille as they have maintained positive relationships with both groups through intermarriage, decent and friendship. While maintaining their pastoralist heritage, the Ariaal Rendille are considered agro-pastoralists, and some have even taken up shop-keeping, livestock trading or employment in urban areas of Kenya as governmental workers, or workers for non-governmental agencies (NGOs) (Fratkin 1991; 1998; 2004; Schwartz 2005). Although Ariaal Rendille life is becoming more settled, Ariaal Rendille social structure remains the same as it has been for many years.

4.4 Clan Identity, Age-grade and Age-set Systems

Ariaal Rendille society is organized by a segmentary descent system in which clan and sub-clan identity are the most important social categories. These form the basis for shared residence, cooperative herding as well as cooperative defence against human and animal threats. Clan settlements are local communities made up of relatives from the same clan. Each clan constitutes several sub-clans and sub-clans are made up of distinct lineages which can trace their ancestry to the grandparent level (Spencer 1973:27; Fratkin 1998:51). Sub-clans consist of men who are brothers, fathers and sons and married women who come from other sub-clan settlements. These women remain with their husband's community even after he dies. As will be discussed in detail later, Ariaal Rendille warriors are allowed sexual relationships with girlfriends from the same lineage but not from the same sub-clan (Fratkin 1998), as the latter would be considered incestuous. A common question after greeting a stranger is "*leng'ang era iye?*" or "which family/clan are you from?" (Fratkin 1998:89). Other important social categories for the Ariaal Rendille are age-grades and age-sets. Age-grades are distinct stages in life

marked by socially proscribed sets of behaviours (Fratkin 1991; 1998; 2004). Men, for example, move through the stages of boy, warrior (*moran)*, junior elder and senior elder (*mzee* - singular*, wazee* - plural). Each stage is formally acknowledged with elaborate ritual ceremonies (Fratkin 2004:56). On the other hand, women move through life cycle stages of young girl, adolescent girl (*nykeri*) and married woman (*mama*). These stages are neither formally recognized nor celebrated to the extent of the male ceremonies, one indication of gender inequality. Each age-grade has explicit rules and regulations for both men and women regarding what tasks one performs, what clothes and ornaments one may wear, what foods may be eaten and with whom this food is eaten, as well as with whom one is allowed to associate with or take lodging with (Fratkin 2004:56). For example, adolescent boys and *wazee* may milk camels together but *mamas* and *moran* may not. Warriors may wear red ochre in their long hair, but boys are expected to keep their hair free of colour and short. In terms of sexual behaviour rules, *nykeri* are allowed to have sex with warriors but they may never have sex with a married man. Similarly, *moran* should not have sex with a *mama*, although they sometimes do, particularly if that woman was a former girlfriend (Fratkin 2004:56).

In addition to the age-grades, Ariaal Rendille culture is also regulated by an elaborate 14 year age-set system. An age-set begins with male circumcision marking the transformation from boy to *moran* or warrior. Boys between the ages of 10-25 are circumcised with other members from their clan during a special circumcision ceremony. The ceremony is performed in a ritual camp located outside the larger clan settlement. Two male relatives hold the initiate's back and right leg while the operation takes place.

The initiate should not flinch or shout out during the procedure as these reactions will bring shame to the initiate for life (Fratkin 1998:57).

The first *mugit* (series of ox slaughters that accompanies male age-grade advancement) happens after the circumcision ritual. This slaughter formally marks the point when initiates become junior warriors. At this time, *moran* must follow strict food prohibitions, such as never allowing women, especially their mothers, to see the roasted meat they eat (Fratkin 1998:57). Warriors are allowed at this point to grow their hair long and dye it with red (color of virility) ochre and fat. They cover their bodies with red cloths either over their shoulder or around their waist and carry many weapons, including long slender spears, swords sheathed in leather and large wooden clubs. The second ox slaughter happens one month following the first and is the "*mugit* of the roasting sticks". At this time the age-set is divided into senior (right side) and junior (left side) divisions, separating older from younger warriors (Fratkin 1998:58). Figure 4.4 details the name and circumcision year for Ariaal Rendille age-sets to date.

Figure 4.4 Age-set Distribution for the Ariaal Rendille (circa 1781-2007)

Age-set Name	Circumcision Year	Age-set Name	Circumcision Year
Metili	2007	Merikon	c. 1880
Moli	1992	Tarigirik	c. 1866
Kororo	1978	Kiteku	c. 1852
Kashili	1964	Kipeko	c. 1838
Kimaniki	1951	Kipayang	c. 1824
Mekuri	1937	Petaa	c. 1809
Kiliako	1922	Kurukua	c. 1795
Merisho	1910	Meishopo	c. 1781
Terito	c. 1894		

Upon entering their age-set, warriors are expected to provide labour and defence for their livestock for 11 years. During this time *moran* live apart from the main settlements, spending most of their time with fellow warriors in the livestock camps.

Herding camps are created by making temporary enclosures from bent *acacia* tree branches that encircle the cattle and sheep as they sleep. The warriors sleep in the open upon cow skins and are covered with nothing more than their thin cotton cloths (Fratkin 1998:13).The warriors eat porridge and drink tea but when these staples are not available they rely on drinking milk and blood from their animals. Living conditions are very difficult in these camps and it is not uncommon for predators to attack camp animals during the day and at night (Fratkin 1998:79).

Warrior-hood (the 11 year period after circumcision) is perhaps the most important period in a man's life and initiated men remain in their age-set for life. The warrior age-grade stage is quite revered, as young boys (<10 years of age) look up to the warriors (between 10-25 years of age) longing for the day they are initiated, and adolescent girls compose songs and create beaded jewellery for the warriors. Mothers pray for their warrior sons' safety, and *wazee* reminisce about their warrior days. Three to five years later, the "*mugit* of the name" occurs, signifying the maturation of the age-set. At this point, the clan elders give the age-set its name and decide in secret whom the ritual leader will be for the age-set. This person (*launon*) is a mature, responsible person whose duties include resolving disputes, and touring the country to build up a herd of 40 cattle from clan warriors (Fratkin 1998:58). The *launon* manages this herd in trust for the age-set. This *mugit* is repeated a month later with each warrior again sacrificing an ox. Two years before the initiation of the next warrior age-set, the *moran* participate in the "*mugit* of the bull" whereupon the ritual leader and his fellow age-mates are released from warrior-hood and allowed to marry. The final ceremony is the "*mugit* of milk and leaves" which is performed after the ritual leader and the majority of his clan age-mates

are married (Fratkin 1998:58). At this point, the men emerge as junior elders into Ariaal Rendille society.

Figure 4.5 Mzee (left) and Moran (right), Karare, 2007

Source Personal Photograph By Andrea Kiehle, 2007

4.5 Ariaal Rendille Pre-marital Sexual Culture: *Nykeri* Tradition and Inheritance Patterns

During the 11 years warriors tend their herds, they are encouraged to take on many sexual partners and experiment sexually. First, this custom reflects the Ariaal Rendille belief that unmarried men and women should participate in casual sexual relationships; as they believe a man's overall health is related to frequent sexual acts with multiple women (Roth 2004:163). Secondly, this practice helps to alleviate the constant tension between *moran* and elders due to the latter's control over the former (Roth *et al*. 2001:38; Roth 2004:164).

One manifestation of this belief is the *nykeri* tradition in which warriors give successive strands of beads to an unmarried girl's parents. When placed around the girl's neck by her mother, acceptance of the beads initiates a long-term, pre-marital sexual relationship between the moran and the beaded girl, now termed *nykeri* (Roth *et al*. 2001:38; Roth 2004:163; Roth and Ngugi 2005:258). A warrior can bead as many *nykeri* as he wants. Since male age-mates are required to share all assets, moran (warriors) often sexually share *nykeri* with other warriors. *Nykeri* do not have a choice with whom they engage in sex. They are bound by the *nykeri* tradition and are seen as communal property among the *moran*.

Warriors and *nykeri* usually do not marry; instead they enter into parentally arranged marriages with other non-*nykeri* partners. Over the past decade an increase in female education and the high cost of beads have led to a decline in the *nykeri* tradition (Roth et al. 2001:38; Roth and Ngugi 2005:258). Nevertheless pre-marital sex remains culturally acceptable for both genders, with additional multiple short-term sexual unions outside the formal moran-*nykeri* relationships permitted before marriage.

However, a *nykeri* is not to become pregnant, as a child out of wedlock complicates Ariaal Rendille inheritance and raises questions regarding biological paternity (Roth *et al*. 2001:38; Roth 2004:163; Roth and Ngugi 2005:258). The Ariaal Rendille practice patrilineal partible inheritance, meaning all property is passed down through the father and is divided equally between all his male children. This is why moran do not marry *nykeri* with whom they are sexually active. Instead, parents arrange marriages with appropriate families to maintain proper inheritance (Roth 2004:163).

Women are married between 16 and 25 to men who are at least 30 years in age (Fratkin 1998:59), reinforcing male dominance and power over Ariaal Rendille women.

To prevent pregnancy, young warriors are counselled by elders on the withdrawal technique, the most commonly used pregnancy prevention technique (Shell-Duncan *et al*. 2000:117). If an unmarried girl does become pregnant serious consequences follow. Both the *nykeri* and her boyfriend are disgraced and the young girl faces forced abortion by either brute force (Shell-Duncan *et al*. 2000:117) or ingestion of strong purgatives (Fratkin 1996:91). The gravity of the situation as described by an Ariaal Rendille man:

> Children of girls are outcasts or can be killed. You must have a circumcised mother to be accepted. If an unmarried woman is pregnant we must jump on her stomach until she aborts. The mother and child may die… If we bear children with an uncircumcised girl, we lose all respect in the community (Shell-Duncan *et al*. 2000:117).

Figure 4.6 Nykeri, Karare, 2007

Source Personal Photograph By Andrea Kiehle, 2007

4.6 Wedding Ceremony and Female Circumcision

Females do not go through different age-grades as males do. Instead, women pass through distinct life cycle stages that are not formally celebrated, yet are significant in their own right. Young girls have certain responsibilities, rules and regulations to live by. For example, they are called upon to assist with child care and firewood collecting (Fratkin 1998:82). Upon becoming beaded around the age of 10-12 (Roth and Ngugi 2005:258), these young girls are henceforth known as *nykeri* and are expected to participate in the *nykeri* tradition (as explained in section 4.6; Roth 2004:164) During this time *nykeri* will take time to fashion the beads they receive from their warrior lovers into head bands or necklaces for themselves or into bracelets, armlets or necklaces for their boyfriends (Fratkin 1998:59). These romantic relationships are expressed in music, poetry and songs by both the *nykeri* and *moran*. However, these relationships are often short lived.

Ariaal Rendille women do not choose their husbands. Between the ages of 16-25 (and after the "*mugit* of the bull") the girl's father and uncles begin to arrange her marriage to a man at least one age-set her senior, maintaining gender power inequality. A prospective spouse declares to the father his intentions to marry the girl using the groom's father's brother (Fratkin 2004:59; 1998:59). If the father agrees to the union, a bride price is negotiated. Marriage negotiations are considered male-to-male enterprises and the economics of the bride price contractualize the families (especially the men) into a life-long alliance and source of assistance and aid (Fratkin 2004:59). The most common forms of bride price are a mixture of cattle, small stock and cash paid out over a period of time (Fratkin 1998:59).

Once negotiations are completed, the girl's mother is informed of the decision and begins preparations for the wedding ceremony. Marriage is very important in Ariaal Rendille culture, so preparations are kept from the bride in case she will not like her chosen husband and run away, thereby disgracing the family (Shell-Duncan *et al*. 2000:115). Two days before the wedding, the groom and his family walk from their home to the bride's home. Outside the bride's home, women sing praises of the groom and the union of the families. A ram is slaughtered and presented to the bride's mother for a feast among the married women. The skin of the ram is important as it is prepared for the bride to sit upon during her circumcision (Shell-Duncan *et al*. 2000:115).

Before the sun rises and as the wedding ox is being slaughtered, the bride undergoes female circumcision; also known as female genital cutting, female genital mutation and clitoridectomy (Shell-Duncan *et al*. 2000:116). The circumciser or *kamaratan* is elected by the bride's mother for her reputation as being careful, quick and accurate. With the hut vacant of uncircumcised girls, males and the bride's mother, the *nykeri* is held by two *mamas* one holding her legs the other her back. The *kamaratan* then proceeds to remove the clitoris and part or all of the labia minora (Fratkin 2004:67; Shell-Duncan *et al*. 2000:116). The wound is rinsed with milky herb-infused water and the bride is instructed to sit quietly with her legs closed until the bleeding is under control. Once the bleeding stops, the bride's mother and mother-in-law are allowed in the hut and the good news is announced. At this time songs of praise and goodwill are sung for the bride and groom and the initial payment of the bride wealth is made (Shell-Duncan *et al*. 2000:116). By enduring the pain of being cut and showing the fortitude to greet guests

and celebrate right after the operation, a woman demonstrates her maturity and readiness to handle the pain of childbirth and hardships of marriage (Shell-Duncan *et al*. 2000:117).

Female circumcision in Ariaal Rendille culture is very important to both men and women. To the man, female circumcision physically marks a woman, socially signifying that she is exclusively his and is now allowed to bear his children; in this way, men view circumcision as a "brand" (Shell-Duncan *et al*. 2000:118). Men also stress that the circumcision of a girl is necessary in preparing the girl for marriage, thus entitling her family to a large bride wealth (Shell-Duncan *et al*. 2000:118). While circumcision may seem like a male imposed mutilation practice, women also have strong positive beliefs regarding circumcision. Women believe that circumcision "is the only thing that separates us from animals" (Shell-Duncan *et al*. 2000:115). Another woman stated (when told American women are not circumcised) "it is bad that you don't circumcise women in your country. That child which is born to such a woman, is it human? We think it is bad to bear a child if the woman is not circumcised" (Fratkin 2004:67). It should be noted that perhaps if asked in private, some Ariaal Rendille women may feel differently about female circumcision. However, this idea was not reported on by either Shell-Duncan (2000) or Fratkin (2004).

Figure 4.7 Mama and her Mtoto (baby), Karare, 2007

Source Personal Photograph By Andrea Kiehle, 2007

According to Ariaal Rendille women, bearing and raising children is the most important role for a woman in Ariaal Rendille culture and woman with many children are admired widely. Infertility due to STIs (i.e. gonorrhoea and Chlamydia) is thought to be brought on by misfortune or sorcery (Fratkin 1998:61). Married women in Ariaal Rendille culture are not allowed to remarry, divorce or return to her natal home as her family would be reluctant to return the bride price as it was most likely used to marry her brothers. Widows of reproductive age may continue to have children with her husband's male kin after his death (Fratkin 1998:61).

As indicated above, inequalities between men and women are quite evident within Ariaal Rendille society. While women do gain prestige and satisfaction from values that

emphasize motherhood, fertility, household contributions and the success of their husbands and children, they are by all means "essentially powerless" as stated by Elliot Fratkin (1998:62). Women's unequal status is based on several factors, including lack of ownership in livestock, lack of decision-making ability in marriage and child rearing, and lack of political voice in village and extra-village affairs (Fratkin 1998:62; Shell-Duncan 2000:119). Even if a woman's husband dies she is only responsible for the herd until her sons are old enough to marry, at which point the herding rights are turned over to the sons. Ariaal Rendille men secure the public and legal domains of Ariaal Rendille culture by virtue of their control over livestock capital and the fact that women are viewed as property and are subsequently dependent upon men for food and continued care as they age (Fratkin 1998:63).

With male dominance expressed in Ariaal Rendille ideology, economy and politics, one can reasonably hypothesize that important and significant gender differentials exist between Ariaal Rendille men and women in regard to condom perceptions and/or use. Past African sexual behaviour research has focused on intended condom use as fundamentally dependent upon the attitude of the individual towards condoms, the subjective norm or societal view of condoms, the individual's control over the intended action to use a condom, and past behaviour as a predictor of future behaviour to use a condom (Fishbein and Middlestadt 1989; Kashima *et al*. 1993; Lugoe and Rise 1999; Bennett and Bozionelos 2000; Ajzen 2002). However, researchers like Roth *et al*. (2006) and Longfield *et al*. (2004) question "risk" and how individuals perceive their risk of contracting HIV/AIDS as an indicator for using/not using a condom and MacPhail and Campbell's (2001) research in South Africa identified many reasons

why Africans are reluctant to use condoms. However, these studies focus only on the individual and how the individual attempts to negotiate condom use for themselves.

This thesis focuses on both genders, honing in specifically on the interaction between them regarding how condoms are perceived and used. Sex is generally negotiated between two people, and in this thesis sex between a man and a woman is analyzed. Identifying specific points of gender agreement and disagreement between Ariaal Rendille men and women using carefully chosen statements (that were generated from past research) helped to illuminate gendered barriers and opportunities for condom use.

Chapter 5 Materials and Methods

5.1 Funding and Principal Investigators

Funding for this project came from a Social Science and Humanities Research Council Standard Research Grant entitled "Sexual Behaviour and Health in an Ariaal Rendille Community in Northern Kenya". Principal Investigators on this project included Dr. Eric A. Roth, Department of Anthropology, University of Victoria and Dr. Elizabeth N. Ngugi, Department of Community Health, University of Nairobi.

Dr. Eric Roth is a demographic anthropologist who has worked in northern Kenya since 1987, studying the biosocial consequences of sedentism for formerly nomadic pastoralists. Since the early 1990s he has collaborated with Dr. Elizabeth Ngugi in implementing community-based HIV/AIDS prevention programs in northern Kenyan communities. Dr. Elizabeth N. Ngugi is a Senior Lecturer for the Department of Community Health at the University of Nairobi and is an internationally renowned expert on HIV/STI education and intervention programs for female commercial sex workers (Ngugi *et al.* 1996). Dr. Ngugi is the Founder of the non-profit organization Kenya Voluntary Women Rehabilitation Centre (K-VOWRC). K-VOWRC provides services for female sex workers (FSWs) such as training in alternative occupations (e.g. hairdressing and sewing), a micro-credit program offering loans, and a financial support program for AIDS orphans. In recognition of both her academic and development work with FSWs Dr. Ngugi was the 2004 Kenyan United Nations Person of the Year (http://unicnairobi.org/display.asp?section_id=30&storynr=107).

5.2 Required Approvals

Two approvals were obtained before research began. A permit from the Ministry of Science and Technology, Republic of Kenya (number MOST 13/001/19C 249) was secured prior to departure for Africa. In addition to the clearance from the Kenyan government, a formal application was submitted to the University of Victoria's Human Research Ethics Committee (HREC) for this project. Approval was granted from HREC with research permit number: 07087-B.

While in Africa, the Local District Commissioner of Marsabit and the Location sub-Chief of Karare were informed of the research plans as a courtesy.

5.3 Recruitment and Data Collection Methods

A team of seven trained Kenyan enumerators from the community of Karare assisted in participant recruitment and the administration of the non-standardized questionnaire (see Appendix "A"). This study recruited unmarried men (n = 100; ages 16 and older) and unmarried women (n = 100) of child bearing age (16 years and older) in the community of Karare, Kenya.

The enumerators are as follows: Korea Leala, Thomas Komote, Abdullahi Khaeifa, Helen Neepe, Selina Gambare, Rapheala Leado and Jennifer Sahado. These seven enumerators were divided into four groups of two. EA Roth worked as a translator with one of the male enumerators. Andrea Kiehle worked with the women's teams, switching teams every other day. Both EA Roth and AR Kiehle served to ensure that the questionnaire was understood by the enumerators and was accurately administered to the study participants. Seven enumerators were needed to complete the 200 questionnaires in the established data period of three weeks (21 days).

Participants were recruited in person and at random by the enumerators. No power-over relationship existed between the investigators, enumerators and participants, as participation in this study was completely voluntary. The enumerators went out into the community of Karare to locate 5 participants each day. Female teams recruited female participants and male teams recruited male participants as it is common knowledge that in Ariaal Rendille culture men speak with male researchers and women speak with female researchers. When a participant was located, the enumerator secured a private area to administer the questionnaire.

The Statement of Consent was read to the participant before the interview began if the participant was illiterate or could not read English. The participant then had the opportunity to ask any additional questions regarding the interview. Participation in this study was strictly voluntary and all participants had the right to refuse to participate at any time.

Completing the questionnaire took anywhere from 30 to 60 minutes and was administered by the enumerators. After completing the questionnaire, participants were invited to ask EA Roth and AR Kiehle questions about condoms, STIs or other sexual health related issues. Conversations generally resulted in advantages/disadvantages of condoms, gender related issues centered on buying/carrying condoms and appropriate usage of condoms. A payment of 200 Kenyan shillings (about 4 Canadian dollars) was given to the participant for time spent answering the questionnaire. Compensation was in recognition that time spent in the survey could have been spent on economic matters -- e.g., going to the market, working in fields or herding livestock.

To minimize risk, all data were kept strictly confidential and no names will be used in the dissemination of the study results. Completed questionnaires were kept in a locked room during the course of the time spent in Kenya and are in a locked filing cabinet at the University of Victoria campus.

5.4 2007 Survey

The 2007 survey evolved from a successful field study conducted in 2004 based on the UNAIDS (1998) document "*Looking Deeper Into the HIV Epidemic: A Questionnaire for Tracing Sexual Networks*" (Roth *et al.* 2006). This prior study collected data from 400 reproductive-aged Ariaal Rendille men and women in four sub-groups located in Karare/Nasakakwe, Kenya. The four sub-groups were: unmarried men (*moran*; n = 100), unmarried women (*nykeri*; n = 100), married men (*wazee*; n = 100) and married women (*mamas;* n = 100).

The 2004 survey focused on sexual behaviours among the four sub-groups and was divided into two sections. The first section focused on questions regarding the number of partners each participant had within the last year, sexual mixing among the four major sub-groups, concurrency, and condom use in the past year (Roth *et al.* 2006). The second section required respondents to evaluate their own risk of contracting HIV/AIDS as either high or low and the basis of their risk self-assessment. A second question in section two addressed the concept of "worry", with answers revealing that respondents either worried about their own sexual behaviour or that of their sexual partner (Roth *et al.* 2006). Results of this study found rates of condom use to differ between the four sub-groups. Within marriage, condom use among *wazee* and *mamas*

was reported at a mere 1-2 percent of all sexual acts recorded, while among *moran* and *nykeri* condom use was roughly 14-16 percent.

The 2007 survey expanded on the 2004 survey and was broken into four sections (See Appendix "A" for the complete survey):

1. Personal Characteristics
2. Sexual History
3. Sexual Health and Risk Assessment
4. Condom Use Perceptions

The first section gathered basic personal information including age, education level and area of residence. The second section focused on the participant's sexual history. As with the 2004 survey, critical questions in this section addressed number of partners over the last year, concurrency, and condom use in the past year.

The larger third section aimed to acquire information regarding the participant's ideas about sexual health and risk assessment. Again, as in the 2004 survey, participants in this survey were asked to evaluate their own risk of contracting HIV/AIDS as high or low. This question was followed by an open-ended question asking for the basis of their risk self-assessment. The 2007 survey included four additional questions in an effort to determine the level of education/knowledge in reference to HIV/AIDS. These questions were: 1) Have you ever heard of HIV/AIDS; 2) Do you know anyone who has died of HIV/AIDS; 3) Were they your family or friends; and 4) If you assessed your risk as high (in question 6, section 3), how could you lower your risk of contracting HIV/AIDS? A network question was added to the 2007 survey to identify who the participants confided in when talking about HIV/AIDS. Although not the focus of this analysis, network

questions regarding HIV/AIDS could elicit naturally formed target groups for HIV/AIDS intervention programs.

The fourth section – Condom Use and Perceptions – is the critical section for this analysis. This section was designed to collect both men and women's perceptions of condoms by asking the participant to respond dichotomously (yes/no) to ten condom statements pertaining to four topics (Figure 5.1). This information in combination with question six from section two ("Did you use a condom with your last sexual partner?"), was used to delineate patterns of condom use for both men and women, as well as identify areas of partner agreement and disagreement, with the underling assumption that disagreements between the sexes would represent barriers in condom use while agreements would constitute opportunities for condom use. The statements in section four were based loosely on questions Lugo and Rise (1999) used in their study *Predicting Intended Condom Use Among Tanzanian Students Using the Theory of Planned Behaviour*, however the 2007 survey elicited only yes/no answers, rather than continuously distributed Likert scaled responses.

Figure 5.1 Ten Condom Statements Broken into Focus Topics

I. Gender Power Differentials for Condom Use

1) "I want to use a condom every time I have sex"
2) "I can insist we use a condom every time we have sex"
3) "I can ask that we use a condom every time we have sex"

II. Functions of Condoms

4) "Condoms prevent pregnancy"
5) "Condoms protect us from sexual diseases"

III. Interpretations of Condoms and Health

6) “Condoms show that I care about my partner’s health”

7) “Condoms suggest that I have AIDS”

8) “Condoms suggest that my partner has AIDS”

IV. Condoms and Pleasure

9) “Condoms reduce my sexual pleasure”

10) “Condoms reduce my partner’s sexual pleasure”

It should be noted that not all the original data collected in Section Four were used in the final analysis of this thesis. Because condom use requires the cooperation of both sexual partners, the enumerators were originally instructed to collect yes/no statements for male and female participants (deemed as the “SELF” column in section four), as well as how they think their last sexual partner would answer (deemed as the “PARTNER” column in section four) using the very same statements (see Appendix “A”, section four). However, during the data analysis step, it became clear that restricting analysis to only the “SELF” responses provided a more cogent analysis for this thesis. Therefore, only the data reported for “SELF” are used here. A limitation to this research is that the “actual couple” could not be directly interviewed. Trying to create this link during data collection would have been ethically wrong as the anonymity of our participants was critical due to the sensitive nature of the study topic. In addition, it is not culturally appropriate in Ariaal Rendille society for men and women to sit together with researchers to discuss their sexual thoughts and practices. In order to mitigate this shortcoming, information regarding the nature of each relationship was gathered (i.e., type of relationship: casual, intimate or affair; location of partner: lived in Karare or

elsewhere; and concurrency: had the relationship ended or was it still going on at the time of the interview), We also asked specifically for information regarding each participants' "last sexual partner" (the person with whom the participant had sex with most recently), with the aim of coming as close to the sexual couple as possible.

5.5 Methods of Analysis

Bivariate Analysis

Analysis began with an exploratory study of index cases (collected from Section Four of the 2007 survey), searching for patterns of association by sex. Association was measured as agreement or disagreement for each question, and was completed separately for each sex. Analysis was based on chi-square, a non-parametric statistic appropriate for the investigation of categorical variables in this case yes/no responses (Roa 1998:165), using the Statistical Analysis System (SAS) Version 9.1 PROC FREQ sub-routine with α set at 0.05. One run was completed for both unmarried men and unmarried women for each of the 10 variables of Section Four of the 2007 survey.

Chi-square analysis is based on the null hypothesis that two variables are independent and unrelated (Garner 2005:192). In this case it means that knowing the participant's gender (male or female) tells us nothing about condom use perceptions for each sex. In-other-words, under the null hypothesis the proportion (percent) of people who say "yes" to any variable in Section Four of the 2007 survey will be the same for both men and women. Because proportions are analysed, the actual number of people interviewed is not critical, so the unequal sample size of men to women for each variable in Section Four is acceptable (Garner 2005:192). Variation in sample size occurred primarily for three reasons, 1) the participant did not understand the question being asked even after multiple explanations, 2) the participant had no idea how to answer, they

simply did not know, or 3) one male participant had never participated in a sexual union nor used condoms before.

The algorithm for chi-square is expressed as $\chi^2 = \sum ((O - E)^2/E)$ where $\sum$ is the sum, O is the observed data collected from the field and E represents the expected frequencies under the null hypothesis that the two variables are unrelated. This formula expresses the discrepancy between the observed counts from the sample and the expected counts under the null hypothesis. Because only two variables are tested at one time, once one square of the 2 x 2 matrix is filled the rest of the squares are "forced" this gives the computations one degree of freedom or df = 1 (Garner 2005:195). If observed frequencies are close to the expected frequencies, then the null hypothesis is true and the sex of the participant is unrelated to the variables in Section Four and if the observed frequencies are different from the expected frequencies, then the null hypothesis can be rejected and sex is related to the variables with men and women reporting differently. Figure 5.2 is an example of a Chi-square result for one variable in Section Four. Note how each of the four cells reveals expected values representing relatively large deviations from the observed frequencies. As a result each cells contributes a noted percentage to the total chi-squared value of 9.91, as shown by the last row titled, "cellchi2".

Figure 5.2 Example Chi-square Result for the Statement "I want to use a condom every time I have sex"

Sex	Self: YES	Self: NO
Female		
Frequency	88	11
Expected	79.101	19.899
Percent	44.22	5.53
Cellchi2	4.38	0.55
Male		
Frequency	71	29
Expected	79.889	20.101
Percent	35.68	14.57
	3.54	1.45

$\chi^2 = 9.9128$, p = 0.0016, df = 1

The rationale for using this analytical technique was to delineate overall patterns of agreement/disagreement between the male and female participants in response to the statements included in Section Four of the survey instrument. Such patterns represent potential opportunities or barriers for interventions with the goal of increasing condom use among unmarried Ariaal Rendille men and women. Hypothetically, imagine there is a high degree of positive agreement (yes responses) between each sex in response to the statement, "Condoms prevent pregnancy", while there is a high degree of difference between the sexes in response to the statement, "Condoms protect us from sexual disease". Interventions could either focus on emphasizing the birth control function of condoms instead of their role in stopping sexually transmitted infections, or work to raise awareness of the latter to the level of the former.

Another rationale was to investigate gender-power differentials with respect to condom use. The statements, "I want to use a condom every time I have sex", "I can insist we use a condom every time we have sex", and "I can ask we use a condom every time we have sex" all speak to possible gendered power differentials embedded in Ariaal

Rendille culture. Earlier research (cf. Roth et al. 2001; Roth and Ngugi 2005) identified multiple power differentials within Ariaal Rendille sexual culture that clearly favour men; for example the *nykeri* tradition. Within this tradition, nykeri are powerless to choose the moran who bead them, nor can they refuse to accept the beads. Rather it is the moran that choose the nykeri. Also within the tradition, moran must share all assets and as the nykeri are viewed as an asset, they too are shared sexually among the moran. This tradition closely mirrors the sexual division of labour and power within Ariaal Rendille society. Women are not allowed to own or inherit livestock yet they work more than half of their day tending to livestock and household chores (50.7%); whereas men spend over half of their day resting (52.4%) (Fratkin 2004:92). In addition, women are not allowed to remarry if widowed, and their children's labour belongs to their father's lineage (Roth et al 2001:39). These factors lead to women having a great dependency on their male counterparts and their children. Recognition and inclusion of such factors would be vital in designing intervention programs targeting unmarried Ariaal Rendille men and women.

Multivariate Analysis

The form of multivariate analysis used was logistic regression analysis, a form of statistical modeling designed to test for associations among categorical variables (Stokes et al. 1995:165). Categorical variables fall into a nominal scale where a set of variables has two or more categories with no intrinsic ordering (Gravetter and Wallnau 2002:14). For example, the responses "yes" and "no" are categorical. These answers have qualitative differences rather than quantitative differences and can measure a difference between participants' answers to questions but the answers cannot measure "more" or "less" than one another (Gravetter and Wallnau 2002:15).

Logistic regression is a model used to predict the probability of an event by fitting data into a logistic curve and is a useful way of describing the relationship between one or more factors (also called independent variables) and an outcome (deemed the dependent variable) (Gravetter and Wallnau 2002:15). For example, the probability of a person using a condom the next time they have sex (outcome) might be predicted from knowing a person's gender (male or female), as well as how they perceive condom use and condom function (factors). To model for probability (p_i) between use(0) and non-use (1) the logistic regression equation is: $p_i = 1/ 1 + \exp(-\alpha - \beta_1 x_{i1} - \beta_2 x_{i2} - \ldots - \beta_k x_{ik})$ (Allison 1999).

The logic behind the logistic regression model is to quantify the probability that any given (one) or many independent variables will change the odds of a specific outcome or dependent variable compared to the odds ratio when no independent variables are used (Garner 2005:157). If the information about the independent variables does change the outcome or dependent variable then it is said the variables are associated or correlated (Garner 2005:157).

Multivariate analysis was used to further explore the bivariate findings by assessing the simultaneous associations between responses to the statistically significant ($p \leq 0.05$) independent variables (UseSelf, InstSelf, AskSelf, PlsSelf, and UAidsSlf) in Section Four and the responses given in Part II of the 2007 Sexual Behaviour Survey to the question, "Did you use a condom with your last sexual partner?" (dependent variable).

In logistic regression, association is measured by Odds Ratios, which compare the odds of membership in one class of a variable to the odds for another. For example in this

study, the Odds Ratio measures the odds of men who respond "yes" to the statement, "Condoms reduce my sexual pleasure", belonging to the class of men who responded "yes" to using a condom with their last sexual partner. When an Odds Ratio is above 1.0, there is a positive association. When below 1.0, the association is negative. When it is equal to 1.0 there is no association. Returning to the example given above, analysis yielded an Odds Ratio of 0.29. Please note that the PROC GENMOD procedure does not calculate the Odds Ratio but rather the data generated from the PROC GENMOD procedure were entered into a Microsoft Excel program that calculated the Odds Ratio by taking the exponential log of the Estimate value from the PROC GENMOD procedure.

The advantage of multivariate analytical tools like logistic regression is that they enable the analyst to compare simultaneously multiple associations between a group of independent variables (here responses to statements in Section Four) and one dependent variable (here whether one used condoms with his/her last sexual partner).

Figure 5.3 Coding of Variables for PROC GENMOD Procedure - Dependent and Independent

Dependent Variable

Variable	**Statement**	**Code**
Condoms Last	Response to the question: "Did you use a condom with your most recent sexual partner?"	Yes (1) No (2)

Independent Variables

Variable	**Statement/Question**	**Coded One (1)**	**Coded Two (2)**
Pleasure (PlsSelf)	Response to the statement: "Condoms reduce my sexual pleasure"	Yes	No
Power	Because the chi-square vales were so close for all three Gender Power Differentials for Condom Use statements, only one variable was analyzed, but represents all three variables.	Yes	No
Partner AIDS (UAidsPrt)	Response to the statement "Condoms suggest my partner has AIDS"	Yes	No

Chapter 6 will discuss the chi-square results and the findings from the PROC GENMOD procedure.

Chapter 6 Results

6.1 Results

Chi-Square Analyses

Chi-squared results with a probability greater than $\alpha = 0.05$ were deemed statistically insignificant, indicating a high degree of gender agreement. However, these results are not socially insignificant and, as will be discussed later, these agreements are appropriate and help to explain sexual behaviour practices in Ariaal culture. However, as this research is aimed at identifying barriers to condom use, the variables with high partner agreement were not included in the multivariate analysis.

Overall, the chi-square runs yielded the following initial results (Figure 6.1) with regard to agreements and disagreements between the sexes for all variables in Section Four of the survey instrument:

Figure 6.1 Gender Specific Chi-square Results for each Variable in Section Four Organized by Focus Topic

VARIABLE	MEN		WOMEN		Chi-square	Pr> ChiSq
	Yes	No	Yes	No		
Functions of Condoms						
"Condoms prevent pregnancy"	99	1	92	6	3.8082	0.510
"Condoms protect us from sexual diseases"	94	6	95	4	0.4003	0.5269
Condoms and Pleasure						
"Condoms reduce my sexual pleasure"	74	24	28	70	43.2557	<0.0001
"Condoms reduce my partner's sexual pleasure"	74	26	43	56	19.1847	<0.0001
Gender Power Differentials						
"I want to use a condom every time I have sex"	71	29	88	11	9.9128	0.0016
"I can ask that we use a condom every time we have sex"	69	31	86	13	9.2234	0.0024
"I can insist that we use a condom every time we have sex"	70	30	86	13	8.3571	0.0038
Interpretation of Condoms and Health						
"Condoms show that I care about my partner's health"	94	5	95	4	0.1164	0.7330
"Condoms suggest that I have AIDS"	9	91	5	94	1.1865	0.2760
"Condoms suggest that my partner has AIDS"	21	78	6	93	9.6491	0.0019

1) high agreement between the sexes in all the variables for the Functions of Condoms statements

2) high agreement between the sexes in two of the Interpretations of the Condoms and Health statements; "Condoms show that I care about my partner's health" and "Condoms suggest that I have AIDS"

3) high disagreement between the sexes for only the statement "Condoms suggest that my partner has AIDS" in the Interpretation of Condoms and Health Section.

4) is high disagreement between the sexes in all of the Condoms and Pleasure statements and the Gender Power Differentials for Condom Use

The high agreements between the sexes for the Functions of Condoms statements are very encouraging results in favour of increased condom use among unmarried Ariaal Rendille men and women; as condoms are roughly 90% affective in preventing the spread of HIV/AIDS and preventing pregnancy (Steiner *et al*. 2000; Hearst and Chen 2004). This high agreement could translate into the reduction of HIV/AIDS among the Ariaal Rendille as well as increased prevention against pregnancies out of wedlock, both outcomes favouring a healthier lifestyle for both males and females in Ariaal Rendille culture. Furthermore, the agreement between the sexes to the statement "Condoms show that I care about my partner's health" indicates a higher level of understanding of the functions and use of condoms (meant to prevent harmful outcomes) and that men and women do care about the sexual health of their partner.

Interestingly, there is high agreement between the sexes answering "no" to the statement "Condoms suggest that I have AIDS" but there is a disagreement between the sexes, to the statement "Condoms suggest that my partner has AIDS"; with men

answering “yes” more frequently than women. One might have expected congruency between men and women for both statements as each variable pinpoints the critical issue of stigma regarding condom use and HIV/AIDS that overwhelmingly prevents condom use in other parts of Kenya and Africa as a whole (Volk and Koopman 2001). Because of the apparent disagreement between the sexes, further analysis was carried out on this variable in the multivariate analysis to investigate if it is a significant barrier to condom use.

Lastly, chi-square results indicate that there is high disagreement between the sexes in all of the Condoms and Pleasure statements and the Gender Power Differentials for Condom Use. As expected, men reported more often than women that condoms reduced their sexual pleasure. In fact, men reported “yes” two and a half time more often than women (men = 74-yes; 24-no; women = 28-yes; 70-no). In addition, men over-reported for women that condoms reduce their sexual pleasure (74-yes; 26-no), and women under-reported for men the importance of sexual pleasure (43-yes; 56-no). This particular statement, “Condoms reduce my partner’s sexual pleasure”, was indeed statistically significant but was not included in the multivariate analysis. The decision to not use this variable in the multivariate analysis was two fold: 1) the goal of the multivariate analysis was to assess the simultaneous associations between the statistically significant chi-squared variables to determine if the variables at all affected condom use and 2) due to the revised focus for this thesis - to only report on the variables that reflect the participants personal answers and not those they believe their partner would answer. While this variable “Condoms reduce my partner’s sexual pleasure” was not included in

the multivariate analysis, a brief discussion of its cultural significance can be found in Chapter 7.

In addition to these curious results, the most startling result might be the distribution of responses for the gender-power differentials for condom use. One would have expected in a heavily gender-powered society as the Ariaal Rendille, that men would have affirmed their status as the decision makers through their positive affirmations to the three statements "I want to use a condom every time I have sex", "I can ask that we use a condom every time we have sex" and "I can insist that we use a condom every time we have sex". However, women respond positively more often than men on all accounts. Again, because of the statistically significant difference in reporting for men and women regarding condoms and pleasure and gender-power differentials, these variables will be further examined in the multivariate analysis.

Due to the determination that the chi-square values were so close for all three Gender-Power Differentials for Condom Use statements and that the reporting was consistent for men and women on all accounts (Figure 6.1), only the data for the variable "I can ask that we use a condom every time we have sex" was used in later analysis, yet represents all three gender power differential variables.

After analyzing the chi-square results the following statements and corresponding variables were used in the multivariate analysis step: 1) "Condoms reduce my sexual pleasure" (Pleasure) 2) "Condoms suggest that my partner has AIDS" (Partner AIDS) and 3) all three Gender Power Differential statements (Power).

PROC GENMOD Procedure with Odds Ratio

Below, Figure 6.2 summarizes the finding from the PROC GENMOD procedure with the dependent variable Condoms Last, representing condom use at last sexual encounter, and the independent variables Power, Partner AIDS and Pleasure. While all three variables (Power, Pleasure and Partner AIDS) posed potential barriers to condom use, as determined by the chi-square tests, according to the multivariate analysis, none of the variables are statistically significant barriers to condom use. The variable Partner AIDS is positively associated with the non-use of condoms, but is not statistically significant, meaning that it is not a determining variable for consistent non-condom use. The other two variables, Power and Pleasure, are actually negatively associated with the non-use of condoms. This indicates that they are not barriers to condom use. In fact, Power is statistically significant and has a negative association meaning that variable Power actually increases the odds of using a condom.

Figure 6.2 Proc GENMOD Procedure with Odds Ratio Computation; Response Variable Condoms Last

Analysis of Parameter Estimates Modeling the probability that Condoms Last = No						
Parameter	DF	Estimate	Standard Error	Chi-square	Pr > ChiSq	Odds Ratio
Power	**1**	**-1.8965**	**0.4113**	**21.2640**	**<0.0001**	**0.150**
Pleasure	**1**	**-0.6492**	**0.3744**	**3.0068**	**0.0829**	**0.522**
Partner AIDS	1	0.7859	0.5003	2.4674	0.1162	0.456

While these combined results of the bi-variate and multivariate analysis statistically indicate non-barriers to condom use, they also provide clear indications of continuing gender-power differentials among the Ariaal Rendille. Chapter 7 continues the discussion of the multivariate analysis findings and situates these findings within Ariaal Rendille culture.

Chapter 7 Summary and Discussion

HIV/AIDS stigma, sexual gratification and gender-power relationships are significant barriers to condom use in many parts of AID- affected Africa (Adih and Alexander 1999; Njogu and Martin 2006; Luke 2003; Caldwell 1999) and condoms have been associated with promiscuity, and are often seen as general health hazards (Maharaj and Clealand 2004; MacPhail and Campbell 2001; Sunmola 2005). Yet, according to the 2007 data presented here, none of the initial statistically significant variables from the chi-squared tests (Power, Pleasure, or Partner AIDS) turned out to be notable barriers to consistent condom use for the Ariaal Rendille, as determined by the logistic regression analysis. While surprising, these findings reflect recent changes in the area over the last three years and are consistent with current Ariaal Rendille sexual behaviour practices.

The 2004 survey concluded that roughly 14-16 percent of nykeri and moran were using condoms. The 2007 survey indicated 67 percent of the same demographic group stated using a condom with their last sexual partner. This begs the question: why the dramatic increase in reported condom use? One possible answer: increased condom availability over the past three years. Initially condoms were not available in the remote area of Karare or Marsabit Town and educational programs to promote condom use were few. Today, while condoms are still not available in Karare, they are available for free from the health clinic and bars in Marsabit Town. With access to free condoms, more men are obtaining them when conducting business in town. Women also reported the freedom to pick up condoms from town, but this is not an official finding of the study and was only heard about through casual conversation. Nonetheless, condoms are now easily

obtained from town and most importantly are free, signifying the removal of an important economic barrier (MacPhail and Campbell 2001).

While increased access is undoubtedly important, my results can also be interpreted in light of Ariaal Rendille culture, sexual behaviour and gender-based differentials. For the past 30 years research has consistently reported that the Ariaal Rendille uphold rigid gender power differentials that transcend all aspects of Ariaal Rendille culture. Men are the focus of Ariaal Rendille social organization, from marriage practices to circumcision practices, sexual practices and even general health measures. For example, Ariaal Rendille culture is organized around 14 year male age-sets which open with men being circumcised during an elaborate celebration and end with them marrying en masse at a designated time. During this time, men are recognized and praised for their transition through each age-grade (boy to moran to wazee). Women on the other hand transition from girls to mamas at time of circumcision, a practice that happens right before marriage and is done on an individual basis with no celebration.

Women also do not have a choice in who they marry. A woman's father and uncles arrange her marriage to a man that is at least 16 years her elder, fundamentally reinforcing gender inequalities. Before marriage, nykeri are viewed as property, to be shared, like food or shelter, among the moran. It is also common to hear moran say (and research to report Roth *et al.* 2001) that frequent sex acts with multiple women, a characteristic of the nykeri tradition, is good for their health. To date, research on the Ariaal Rendille has yet to report how this tradition reflects on a women's health status. While these gender inequalities might be hard to understand from a perspective other

than Ariaal Rendille, women in this culture are not afforded a voice of opposition to that of men. The results from this study further exemplify this fact.

To begin to understand why there are no statistically significant barriers to consistent condom use among the Ariaal Rendille a re-examination of the Nykeri tradition and inheritance pattern is mandatory. As a reminder, Ariaal Rendille males inherit equal parts of their fathers' herds. This type of inheritance is called patrilineal partiable and is a mainstay of Ariaal Rendille life and functionality. Also, as mentioned earlier, the Ariaal Rendille practice freedom in pre-marital sexual mixing per the Nykeri tradition. If a child is conceived out of wedlock, severe proscribed consequences fall on both the young man and woman. Both the nykeri and moran are disgraced and the young woman will be forced to terminate her pregnancy even at the expense of her own life. If the pregnancy is not terminated, the woman and her child are forced from the community to live on their own. Often this can influence a woman to turn to sex work for economic support. Men on the other had are scolded severely but are allowed to remain in the community. Such severe actions are taken toward pre-marital pregnancies because a child out of wedlock raises questions of paternity and rightful ownership to the father's land, as the nykeri does not marry the moran she has become pregnant by.

With such consequences, it is not surprising that preventing pregnancy is so overwhelmingly agreed upon by both Ariaal Rendille moran and nykeri. The high awareness and the severe proscriptions against pre-marital pregnancies override all barriers to condom use, and in turn promotes condom use for the Ariaal Rendille. Combined with the increased availability of free condoms, the young men and women taking part in the nykeri tradition of sexual mixing are using more and more condoms.

Therefore, it could be said that if men and women agree in their thinking of condoms for a common goal, in this case preventing pregnancy, chances of condom use increase dramatically no matter the supposed barriers.

However, further analysis of the 2007 sexual behaviour survey results reflect continued gender-power differentials among the Ariaal Rendille and reflect the idea that although there maybe a common goal between the sexual couple, inferring gender equality may not be the case. This being said, it should be noted that research indicates gender power roles can change over time, place and life-stage (Benoit and Shumka 2008) and depending on partner type (i.e., long-term girl/boyfriend, casual girl/boyfriend, commercial sex worker or bar girl) and relationship type (i.e., casual, loving, and/or trusting) . Today in Karare, unmarried sexual partners may be able to talk about their sexual relationship and condom use and relate to each other in a more equal way. In addition, both men and women indicated in the 2007 survey that they care about their partner's health by affirming their position to the statement "condoms show that I care about my partner's health."

Initially the results from the Power statements indicated that Ariaal Rendille nykeri had the autonomy and power to want, ask and insist that condoms be used during sex. In a society where women are not included in age-sets, are not able to inherit land or livestock, have no power to decide who they will marry, or with whom they have sex with while they are unmarried, it is significant that these women feel they can ask to use condoms, but the result is somewhat confounding. The question that needs to be asked is, why can they? The answer: because their positive response does not affect Ariaal Rendille male power differentials. Ariaal Rendille men can still have sex with nykeri

(both their girlfriends and their age-mates' girlfriends), but now, by using condoms, these men don't have to worry about the ramifications of pregnancy out of wedlock. This result represents a false power granted to women as men actually have the last say in the decision making process of using a condom during sex. Again, this is not to say that open communication, that could lead to increased condom use does not exist between sexual couples,, but on the whole, the 2007 survey data show that men continue to hold the final decision making power regarding condom use.

In addition, the high disagreement between the sexes regarding condoms and AIDS further supports gender-power differentials. As mentioned earlier, these statements pinpoint the critical issue of stigma regarding condom use in many parts of Africa (Volk and Koopman 2001). Results indicate that women trust themselves (by answering "no" to the statement "Condoms suggest that I have AIDS") and have an underlying trust towards their male partners (by answering "no" to the statement "Condoms suggest my partner has AIDS"), while there is a partial distrust among men toward their female partners. Men trust themselves by answering "no" to the statement "Condoms suggest that I have AIDS", but indicate distrust towards their female partners by answering in affirmation to the statement "Condoms suggest my partner has AIDS". A shift has occurred for men from harbouring a stigma of condoms and HIV/AIDS to the distrust of their female partners. Although the multivariate analysis indicated this potential barrier to condom use is statistically insignificant, this particular result is culturally interesting and would need to be further examined in future research to explore reason why men and not women feel condoms indicate their partner has AIDS.

Finally, although the statement, "Condoms reduce my partner's sexual pleasure" was not included in the multivariate analysis, this finding deserves a short summary because of its importance in promoting gender inequality among the Ariaal Rendille. The over-reporting of men and under-reporting of women for their partner in terms of the importance of sexual pleasure is completely reasonable when examined within the context of Ariaal Rendille culture. Women are taught from a very young age that sex is a means of reproduction to gain social status within their culture. This belief is reinforced in a profound way at marriage during the painful "branding" ceremony of female circumcision. This act, of cutting of the clitoris or the pleasure producing organ of the female body, signifies that sex is not meant for pleasure but is only meant as a purposeful measure for reproduction (Shell-Duncan *et al*. 2000). On the other hand, moran are taught and encouraged through the nykeri tradition to partake in uninhibited sexual freedom and are rewarded with pleasure to help mitigate the stress felt by the control of the wazee, and for their hard work tending cattle (Roth *et al.* 2001; Roth 2004).

Placing these findings into the combined theoretical framework proposed in Chapter 3 it would appear neither the Theory of Planned Behaviour nor the Social Epidemiology Framework is particularly useful for examining gender inequalities in Ariaal Rendille culture. Looking back to the Health Determinants Framework (HDF) we are reminded that "determinants of health" are situated within social contexts in which individuals and groups exist and act and "health and health outcomes are fundamentally gendered" (Benoit and Shumka 2008:5). For example, as presented by this thesis, women must partake in the Nykeri tradition, a tradition that is central to Ariaal Rendille social structure and is extremely gendered. Within this tradition, women reported that they can

ask, want and insist that a condom be used during sex yet, the reality is, men still hold the final decision making power. The HDF brings to the forefront the notion that health consequences are not equally distributed between Ariaal Rendille men and women and that societal norms, like the Nykeri tradition, dictate how moran and nykeri act in society which creates differential distribution of power and in turn affects condom use.

The Theory of Planned Behaviour and the Social Epidemiology Framework do help explain the increase in condom use over the past three years from the 2004 to 2007 survey. TPB is comprised of three beliefs: behavioural, normative and control. Ariaal Rendille nykeri and moran believe that condoms are useful in preventing pregnancy (behavioural), and Ariaal culture promotes condom use among the younger generation to prevent complications with inheritance (normative). One factor not adequately addressed 3 years ago was condom availability or the perceived control belief (because to use a condom you must first have one available). Now that condoms are available, there is a greater chance moran and nykeri believe they have control over using a condom with every sexual partner.

Finally, stepping away from the individual and examining the sexual couple via the Social Epidemiology Framework helps to understand the importance of the nykeri tradition in Ariaal Rendille culture as well as the importance of not becoming pregnant outside these sexual unions. The flow between the individual and behaviour (i.e., condom use, sexual practices by individuals) is directly linked to the couple at the societal level (i.e., inheritance patterns, pre-marital pregnancy proscriptions) which in turn dictates the outcome of intervention programs incorporated in the structural level of the Social Epidemiology Framework. While it is tempting to report on specific intervention

programs for increased condom use among the Ariaal Rendille, the data collected do not support such a discussion. For now, it is clear that all three theoretical frameworks were necessary to fully understand and comprehend the complexity of condom use among the Ariaal Rendille.

The goal of this thesis was very specific and along the way, limitations of this research surfaced and interesting avenues for future research were put on hold. The biggest limitation to using a sexual survey format for data collection is the overwhelming ratio of quantitative to qualitative data. Initial data were collected such as, how many and what kind of partners each participant had sex with over the past year, but more qualitative data looking into the cultural values that govern fidelity, romance, and honest concern for their sexual partner, were not collected. This is one instance where employing qualitative research methods like in-depth interviewing and personal narrative collection would be appropriate and extremely useful.

Two additional areas that would benefit from in-depth interviewing are the role of female and male education in Ariaal Rendille culture and the role of religious doctrine in influencing pre-marital sex. Roth and Ngugi in their works titled "2001 Female Education, Adolescent Sexuality and the Risk of Sexually Transmitted Infection in Ariaal Rendille Culture" (Roth *et al.* 2001) and "Female Education in a Sedentary Ariaal Rendille Community: Paternal Decision-Making and Biosocial Pathways" (Roth and Ngugi 2005) have begun to look at female education and its effects on individual health outcomes. Yet future research would still greatly benefit from examining specifically how a girl's education impacts her views on premarital sex, if her education changes the decision making dynamic between her and her sexual partners, and the impact her

education has on the surrounding community. Could a girl's education and views begin to change how her culture views pre-marital sex?

Additionally, a personal interest for future research lies within the investigation of religious views regarding pre-marital sex. Two primary doctrines are found within Karare, Christianity and Muslim. Information gathered on this topic was only through casual conversation and not included as a formal part of this research project. However, girls did express during the interview process, that they felt premarital sex did not uphold their faithful views and that they did not want to participate in the nykeri tradition. Can an Ariaal Rendille nykeri refuse to have sex with her age-mates based on religious beliefs? What would happen to her if she did refuse? To date there has been no research conducted on this issue. Therefore future ethnographic research investigating the impact of religious doctrine regarding pre-martial sex and autonomous power that may or may not come from a woman's faith background would shed additional light on the issue of condom use and perceptions in Ariaal Rendille culture.

Future research both applied and theoretical must be designed around the examination of specific sexual unions in Ariaal Rendille culture; knowing *who* each sexual partner is, and the rationale behind why they are partners. Condom use could possibly vary between different types of partners. For example, in a loving, trusting union, condoms may not be used, but in a union that was forced or a union with a commercial sex worker, a condom might be used. This thesis did ask each participant to identify a category for each of their sexual partners, but only the last sexual partner data were used for analysis. This was to maintain the specific focus of this research. Unfortunately, until the cultural barriers of the Ariaal Rendille shift (as it is not

appropriate to interview men and women in the same room) or a new method of ethical theoretical investigation is designed, examining specific sexual unions for the Ariaal Rendille will have to wait.

Again I must reiterate that I had no control over what the participants reported to me. Whether they were being completely honest, or telling me what they thought I would like to hear or simply did not understand the question, all these attributes affected the data set. What I do know is that I tried to mitigate these issues by choosing a research field where a trust base with the community had already been established, and by using local enumerators for interviewing. In addition, I tried to make the participant as comfortable as possible, sharing at times my own experiences to create a personal connection and an atmosphere of trusting vulnerability and openness, as Fenton *et al.* (2001) report the more invasive a research survey the less reliable the given data. Fenton *et al*. (2001) also report that men consistently over-report and women consistently under-report the number of sexual partners they have had when asked to recall that information from memory. In an effort to mitigate this problem, I only used the data from their last reported sexual partner. Possible avenues for future research to try to further mitigate the effects of under/over reporting include using a coital diary (Morris and Ferguson 2006), in-depth narrative interviewing methods, developing the questionnaire in the participant's native language whilst including more qualitative questions to substantiate qualitative data.

This thesis is significant to the larger body of work concerning condom use, HIV/AIDS and gendered powered relationships in Kenya, Africa and around the world. The aim of this thesis was to delineate potential barriers and opportunities to condom use between the sexual couple under the premise that agreements between the sexes would

pose potential opportunities for increased condom use and disagreements between the sexes would pose potential barriers to condom use. This basic premise to research can be used in all geographic locations as a primary investigative tool for condom use. However, as with the 2007 research, what might be found is that although there are potential barriers to condom use a closer analysis of the social structure in which the person lives and acts is vital to truly understanding condom use patterns and behaviours between two people within a culture. One must also examine influences outside the specific culture of study. Examples include: HIV/AIDS transmission patterns across the topography, movement of people in and out of larger cities for work and education, and increased condom use promotion programs that, in the case of Karare, bring condoms and or health education classes to remote areas. In addition an examination of the influence of the larger governing body of a country is critical to how condoms are viewed, accepted, distributed and used.

One of the most striking examples of this is condom use campaigns in Asia versus Africa. In Thailand, condom use campaigns are successful because they are instituted and supported fully by the government. For example the government has established a 100% condom use program in commercial sex establishments and brothels based on the assumption that the source of heterosexual HIV/AIDS transmission was through the commercial sex industry (Cohen 2004; Rojanapithayakorn and Hanehberg 1996). The idea is that by maintaining control over commercial sex establishments the government can control and punish establishments that are not using condoms 100% of the time. Penalties range from refunding money to the patrons to closing down the offending brothel. The government also purchases and regulates the distribution of the condoms to

the brothels and mandates that boxes of condoms are given to commercial sex workers during their monthly examinations (Cohen 2004; Rojanapithayakorn and Hanehberg 1996). In addition, the Thai government is allowed to broadcast explicit TV commercials which bluntly advertise men going to commercial sex work establishments and condom use. Such public displays begin to de-stigmatize condom use in for the people of Thailand (Cohen 2004; Rojanapithayakorn and Hanehberg 1996).

In contrast, Kenya and many parts of Africa are not socially organized like Asia and therefore can not necessarily take advantage of the strategies for condom use that have been employed successfully in Asia. Firstly in Thailand there is almost no free-lance prostitution as opposed to Kenya where organized brothels do not exist and free-lance prostitution is the norm. Secondly, the Kenyan government does not take a significant role in the control of commercial sex across the country nor does it buy and disseminate condoms regularly. Lastly, at least in parts of Kenya there is still great sigma surrounding condoms and condom use (Volk and Koopman 2001) with little to no effort in mass marketing campaigns via the TV or other media due to the fact that many parts of Kenya do not have radio access. Printed campaigns would also be marginally successful as many Kenyans are illiterate.

While this research can provide a basic premise to investigating potential barriers and opportunities to condom use in many parts of the world, as with the Ariaal Rendille, what might seem like potential barriers to condom use really are not and what seems like potential opportunities for condom use are more complex than when first reviewed. A sound theoretical base using the Theory of Planned Behaviour, the Social Epidemiology Framework and the Health Determinants Framework will help to flesh out critical

individual, social and structural factors that influence to varying degrees the use of condoms in any given society as exemplified by the comparison between Kenya and Thailand.

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Appendix A - Karare Survey 2007

This research is authorized through Research Clearance Permit # 13/001/19C 249 issued by the Permanent Secretary, Ministry of Education, Science and Technology, for the research project entitled, "Sexual Epidemiology and Commercial Sex Workers in Marsabit Town, Northern Kenya Transition to Modern Fertility Regulation Among Rendille Pastoralists" and is valid until June 30, 2007.

PART I. PERSONAL CHARACTERISTICS

Name: _____

Sex: _____ Age (Approximate): _____ Community Residence: _____

Education (total years, final level reached): _____

PART II. SEXUAL HISTORY

1) Women:

Have you ever been beaded?	Y	N
If yes, how many times?	_____	
What ages were you when beaded?	_____	

2) Men:

Have you ever beaded a woman?	Y	N
If yes, how many times?	_____	
How old were you when you beaded a woman?	_____	

3) Both Sexes:

How old were you when you first had sexual intercourse?	_____
How many sexual partners have you had in your lifetime?	_____
How many sexual partners have you had in the past year?	_____

"I would now like to know more about the sexual partners you have had in the past year, beginning with your most recent. Please note that we want to know about both regular, long-term partners, as well as short-term, casual partners, or for men, commercial sex workers. Thank you."

	1	2	3	4	5	6	7	8	9
4) How would You describe your partner?	___	___	___	___	___	___	___	___	___

1 = Spouse
2 = Unmarried girl/boy friend
3 = Married girl/boy friend
4 = Casual relationship (e.g. bar girl, commercial sex workers)
5 = Other (describe)

	1	2	3	4	5	6	7	8	9
5) Where do these partners live? 1 = Karare 2 = Elsewhere (list)	___	___	___	___	___	___	___	___	___
6) Did you use condoms with these partners the last time you had sex? 1 = Yes 2 = No	___	___	___	___	___	___	___	___	___
7) Is each relationship currently going on, or has it ended? 1 = Going on 2 = Ended	___	___	___	___	___	___	___	___	___

	1	2	3	4	5	6	7	8	9
[IF CURRENT] **8) How many times in the last month did you have sex with this person?**	___	___	___	___	___	___	___	___	___
[IF ENDED] **9) How many months ago did it finish? (record months)**	___	___	___	___	___	___	___	___	___
10) How long did it last? (i.e. how long was it between the first and last time you had sex) Record months. If less than 1 day enter 00.	___	___	___	___	___	___	___	___	___

PART III. SEXUAL HEALTH AND RISK ASSESMENT

"Now we would like to ask you a few broad questions about sexual behaviour and health. Please answer in your own words. There are no right or wrong answers."

1) Should a man have sex before marriage? Y N
Why or why not?

2) Should a woman have sex before marriage? Y N
Why or why not?

3) Have you ever heard of the disease called AIDS? Y N

4) Do you know anyone who has died of this disease? Y N

5) Do you have any family members who have died of this disease? Y N

6) How would you rate your personal risk of catching this disease? Low ___ High ___

7) Why do you make this assessment?

8) If you rated your personal risk of having AIDS as High, what can you do to lower this risk?

9) Please think of up to five people who you talked with about AIDS. In the space below please tell us about these people, but without naming them.

Number	Sex[1]	Education[2]	Relationship[3]	Risk of AIDS[4]	Reason for Risk Ranking[5]
1					
2					
3					
4					
5					

[1] Male or Female
[2] Last level of schooling achieved, e.g. Form 2
[3] For example, friend, age-mate, parent, teacher
[4] Low or High
[5] Please use your own words

PART IV. CONDOM USE PERCEPTIONS

"Condom use requires the cooperation of both sexual partners. For the following questions please answer Yes (Y) or No (N) for both yourself and how you think your last sexual partner would answer."

	SELF		PARTNER	
1) I want to use a condom every time I have sex	**Y**	**N**	**Y**	**N**
2) Condoms prevent pregnancy	**Y**	**N**	**Y**	**N**
3) Condoms reduce my sexual pleasure	**Y**	**N**	**Y**	**N**
4) Condoms reduce my partner's sexual pleasure	**Y**	**N**	**Y**	**N**
5) I can insist we use a condom every time we have sex	**Y**	**N**	**Y**	**N**
6) Condoms show that I care about my partner's health	**Y**	**N**	**Y**	**N**
7) Condoms protect us from sexual diseases	**Y**	**N**	**Y**	**N**
8) Condoms suggest that I have AIDS	**Y**	**N**	**Y**	**N**
9) I can ask that we use a condom ever time we have sex	**Y**	**N**	**Y**	**N**
10) Condoms suggest that my partner has AIDS	**Y**	**N**	**Y**	**N**

Did you take part in a previous survey like this done in 2003-2004? Y N

“The survey is now finished. Thank you for your help in completing it.”

Name of Enumerator: _____

Date: _____