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## Vulnerability of Adolescents to HIV/AIDS in Malawi

Paul Mkandawire, *The University of Western Ontario*

Supervisor: Dr. Isaac Luginaah, *The University of Western Ontario*

A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Geography

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# **VULNERABILITY OF ADOLESCENTS TO HIV/AIDS IN MALAWI**

(Thesis Format: Integrated-Article)

By

**PAUL MKANDAWIRE**

Graduate Program in Geography

A Thesis

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of  
Philosophy

The School of Graduate and Postdoctoral Studies

The University of Western Ontario

London, Ontario, Canada

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**THE UNIVERSITY OF WESTERN ONTARIO**  
**SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES**

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entitled:

**VULNERABILITY OF ADOLESCENTS TO HIV/AIDS IN MALAWI**

is accepted in partial fulfillment of the  
requirements for the degree of  
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Date: \_\_\_\_\_

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Dr. James C. Lacefield  
Chair of the Thesis Examination Board

## ABSTRACT

This thesis aims at examining vulnerability to HIV/AIDS among adolescents in Malawi. The study uses mixed methods that combine quantitative and qualitative techniques in order to better understand whether there are significant variations in the pattern of sexual behaviour between adolescent orphans and non-orphans. Results of a quantitative analysis (n=1214) revealed that orphans are less likely to undertake voluntary counseling and testing (VCT) for HIV/AIDS, that they tend to experience their first sexual intercourse earlier in life, and that they are generally more likely to engage in high risk sexual behavior than non-orphans. In addition, female orphans in particular are less likely to abstain from sex or to use a condom. The qualitative analysis (n=82) revealed that female orphans' high risk sexual behaviour is closely linked to a well-established inter-household casual labour relation locally known as *ganyu*. While providing an escape from extreme poverty, *ganyu* is increasingly associated with a practice of sexual exchange between those who offer it and those who perform it.

This study makes important contributions to theory, methodology and policy. Theoretically, the study shows that orphans' heightened vulnerability to HIV/AIDS in Malawi is in part rooted in their socioeconomic disadvantage and the lack of social support, but in ways that markedly differ between male and female orphans. Building on survey findings in order to examine the role played by the social and spatial environment in shaping vulnerability to HIV/AIDS also demonstrates the value of combining quantitative and qualitative methods. The presence of a large and highly vulnerable orphan population in a country already overburdened with one of the worst HIV/AIDS

prevalence rates in the world raises searching questions regarding new fault lines of the epidemic, and unravels complex policy challenges.

**Key words:** vulnerability, Northern Malawi, orphans, HIV/AIDS, policy, VCT, ganyu, gender.

## THE CO-AUTHORSHIP STATEMENT

This thesis is made up of a collection of papers which have been submitted for publication and are currently under peer review. The study problem, objectives and the relationship among the various manuscripts are outlined in the introductory chapter, while the study context is described in Chapter 2. The research manuscripts are as follows:

Chapter 3: Mkandawire, P. and Luginaah, I., Voluntary testing and counseling (VCT) for HIV in adolescents in Northern Malawi: Is Orphanhood a factor?

Submitted: *AIDS Care*

Chapter 4: Mkandawire, P., Tenkorang, E. and Luginaah, I., Orphanhood and time to first sex among adolescents in Malawi, Submitted: *AIDS & Behaviour*

Chapter 5: Mkandawire, P. and Luginaah, I., Lost in the shuffle: Female orphans' vulnerability to HIV/AIDS in Malawi, Submitted: *Environment and Planning C*

Chapter 6: Mkandawire, P., Luginaah, I. and Baxter, J., Growing up alone: Vulnerability of adolescent orphans to HIV/AIDS in Northern Malawi, Submitted: *Transactions of the Institute of British Geographers*

While all the papers are co-authored with my thesis supervisor and others, as the first author I conducted the actual research which involved problem identification, literature review, data analysis, and writing.

The bibliographies of the individual chapters are consistent with The University of Western Ontario Graduate and Postdoctoral Thesis requirements.

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## **LIST OF ABBREVIATIONS**

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
IDI	In-depth Interview
IDRC	International Development Research Centre
IMF	International Monetary Fund
MPRSP	Malawi Poverty Reduction Strategy Paper
NAF	National Action Framework
PCA	Principal Component Analysis
OR	Odds Ratio
SAP	Structural Adjustment Program
STI	Sexually Transmitted Infections
SSA	Sub-Sahara Africa
TR	Time Ratio
UNICEF	United Nations Children's Fund
UNGASS	United Nations General Assembly Special Session
US\$	United States Dollar
WB	World Bank
WDM	World Development Movement
WHO	World Health Organization

## **CHAPTER ONE**

### **INTRODUCTION**

This dissertation examines four interrelated aspects of the complex question of vulnerability of adolescent orphans to HIV/AIDS in Malawi. This chapter provides a brief overview and organization of the thesis. It also summarizes relevant literature that traces current themes in health geography, and explains how this research is situated within the broader sub-discipline of Health Geography. This is followed by a methodological framework developed within this research. It concludes with an outline of the conceptual link that bridges the various chapters and the overall research design and theory employed in this study.

#### **1.1 Background**

HIV/AIDS is a major public health challenge in sub-Saharan Africa (SSA). With nearly 70 percent of all global HIV/AIDS cases, SSA remains the worst AIDS-affected region in the world (UNAIDS, 2009). Although HIV/AIDS antiretroviral therapy is steadily becoming more widely available, the reality that a growing proportion of people dying of HIV/AIDS are within the reproductive age group directly translates into a rapid increase in the number of children without parents. Although the concept of an orphan is fluid, the international definition of an orphan refers to a child aged below 18 years who has lost one or both biological parents (UNICEF, 2006). It is estimated that there are 56 million orphans in SSA (UNAIDS, 2009). Nearly half of these children are in the Eastern

and Southern Africa regions where the AIDS epidemic has had its strongest grip (UNICEF, 2010).

Since the first case of the virus was officially reported in Malawi in 1985, HIV/AIDS has rapidly spread to its current national prevalence of 12.7 percent (UNAIDS, 2010). About 930,000 of Malawi's 14 million people presently live with the AIDS virus, and over 80,000 adults died of AIDS-related illnesses during the year 2009 (Malawi Government 2008; UNAIDS, 2010). HIV/AIDS related mortality over the years has greatly contributed to a steady increase in the number of orphaned children. It is estimated that there are over one million youth aged below 18 years without at least one natal parent in Malawi (Malawi Government, 2010; UNICEF, 2010).

Youth are considered the future generation. This stage of life course presents a fundamental "opportunity for governments to invest in the development of these youth in order to help them navigate risks and vulnerabilities, and to set them on the path to fulfilling their potential" (UNICEF 2010, p.2). These aspirations resonate with continuing idealized portrayal of childhood as a 'temporal oasis' of innocence, time free of 'pressures and cares', while responsibility and its attendant liabilities are associated with adulthood. Being a child is thus synonymous with pleasure and play. However, these ideals bear little semblance with lived realities of youth in other places, especially in SSA where youth must contend with various challenges such as poor access to education, health care, food, and continue to experience high levels of physical and sexual violence on everyday basis (Williamson, 1995; Evans and Becker, 2009).



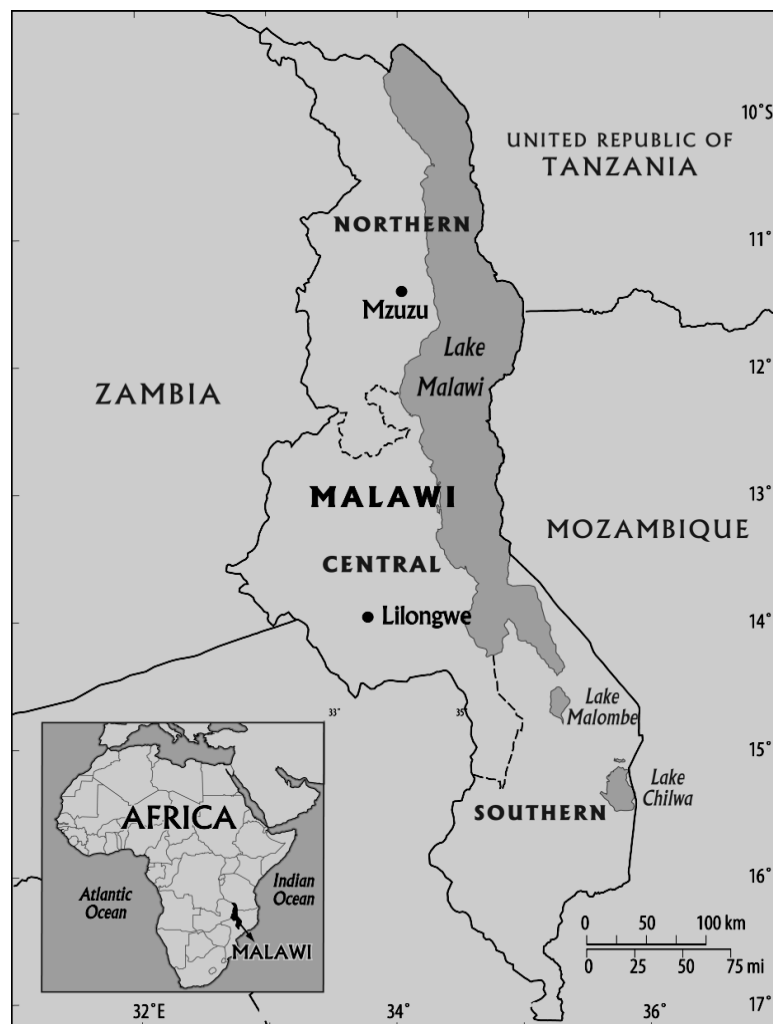
Intersecting with these challenges are emerging concerns regarding the wellbeing of the expanding group of children who have lost one or both parents (Lombe and Ochumbo, 2008). While it is difficult to accurately discern the true scale of human suffering exacted by the AIDS epidemic since it first appeared on the SSA landscape nearly four decades ago, it is nonetheless generally agreed that life worlds of a growing number of children continue to change in complex and incalculable ways. The long time lag between infection and onset of illness, and then death means that a record number of children in hardest-hit countries in the region are now coming of age without biological parents. This reality continues to subject these children to extraordinary threats of dropping out of school, food insecurity, poor access to health care, and to increased responsibility for the care and support of ailing parents and siblings (Monasch and Boema, 2004; Lombe and Ochumbo, 2008; Evans and Becker, 2009).

More recently, these concerns have also included the question of whether youth who are growing up and coming of age without one or both parents engage in more risky behaviour, and therefore are more vulnerable to HIV infection, than those with both parents (UNICEF, 2006). However, emerging studies from SSA have generally painted a mixed picture. For example, while some researchers have found considerable association between orphan status and more risky sexual behaviour (Birdthistle et al., 2008; Nyirenda et al., 2010; Robertson et al., 2010) others have found little or no relationship (Beegle and Krutikova, 2007; Palermo and Peterman, 2009). It has been suggested that the apparent conflicting evidence around the hypothesis that orphans may be more vulnerable to HIV/AIDS in part rests on the fact that findings largely depend on place setting. As such

the widely held assumption that children with deceased parents engage in more risky sexual behaviour and therefore face increased HIV/AIDS risk are not always borne out in practice (Palermo and Peterman, 2009).

This study seeks to contribute to this debate by examining the vulnerability of adolescent orphans to HIV infection within the social and spatial context of Malawi.

**Figure 1: Map of Malawi**



Produced by: The Cartographic Section, Dept. of Geography, Western, 2006. #37-06

## **1.2 Study Objectives**

The research findings presented within this thesis are guided by the following four objectives:

1. To examine whether vulnerability to HIV/AIDS in adolescents varies by parental status and gender in Northern Malawi;
2. To assess the levels of protective sexual behavior in adolescents in Northern Malawi, and determine whether these practices vary by parental status;
3. To examine the determinants of sexual risk-taking behaviour in adolescents in Northern Malawi and to explore whether they vary by parental status and gender;
4. To explore the social and spatial contexts which underpin HIV/AIDS risk in adolescents in Northern Malawi and discern how this milieu shapes the risk differently with respect to parental status of adolescents.

## **1.3 Geographies of health**

The application of geographic perspectives to the study of population health can be categorized into three broad areas. The first component involves the analysis of spatial variations in human health or morbidity and mortality (Curtis and Taket, 1996; Cliff and Hagget, 1998; Gatrell and Elliot, 2009; Meade and Earickson, 2010). According to this perspective, the understanding of determinants of morbidity and mortality in a population involves searching for environmental and social factors which are causally connected to

health. The concept of human disease ecology is particularly useful in providing a theoretical framework for understanding how human behaviour, in its cultural and socioeconomic context, interacts with the environment to produce or prevent disease in a susceptible population (Mayer, 2000; Earickson and Meade, 2010). The second strand relates to the study of both formal and informal practices concerned with the management of ill-health (Brown et al., 2010). Specifically, this domain of health geography focuses on the organization of health care services, the distribution of these in space, and how this spatial pattern of distribution shapes utilization of the service (Mayer, 1982; Rushton, 1988; Opong and Hodgson 1994). In general, the concern hinges on mapping areal patterns of health services and describing and understanding its changing spatial organization. On the basis of this information, and using special techniques such as location-allocation modeling, health planners can identify populations which are in need and identify potential sites for location of new health facilities in order to improve geographic access (Brown et al., 2010).

The third strand has however emerged more recently, and is generally viewed as an offshoot of the two foregoing traditions. It especially seeks to examine inequalities in population health. This strand of health geography rests on a premise that the way in which society is organized determines access to the means for achieving health such as health care and a reasonable standard of living leading to variations in health outcomes in certain individuals and groups (Curtis, 2004; Marmot and Wilkinson, 2006; Brown et al., 2010). As such there tends to be a higher incidence of certain diseases in certain groups than in others. This social and spatial patterning of morbidity and mortality can be

causally linked to differential access to health care, incomes, employment, nutrition or exposure to disease pathogens, toxins and carcinogens (Gatrell and Elliot, 2009; Luginaah, 2009; Krieger, 2011).

Intersecting with theoretical perspectives that pay attention to health inequalities are approaches that emphasize the subjective experiences of disease and personal meanings that individuals attach to the notion of illness. Located within the philosophical tradition of humanism, the interpretive approach focuses on the motivations that underpin an individual's health-related behaviour in order to tap into subjective concepts of health and illness, causes of ill-health, attitudes to health services and how these shape utilization of health care services in different populations (Eyles and Donovan, 1986). Yet, others have called attention to broader determinants of health by pointing to the role of societal structures such as gender, age, ethnicity and class in shaping population health in particular places (Kearns, 1993; Mayer, 2000). A key premise underpinning this approach is that material conditions within which people's everyday lives play out determine population patterns of morbidity and mortality. This perspective situates the understanding of health as shaped by broader social, political, geographical, and environmental processes that govern everyday practices of populations (Turshen, 1994; Craddock, 2000; Symth, 2008; McLafferty, 2010).

Gender considerations have special importance in this context. Studies have shown that while differences in exposure to disease risk and health outcomes between men and women reflect biological differences, these variations are also mediated by gender differences (Doyal, 1995; Payne, 2006). Finally, the cultural turn in health

geography has ushered in yet another vantage point to the changing perspectives of geographies of health. It takes the debates into the realm of the role of nexus between knowledge and power in the construction of health and disease. Post-structural ideas pivot on understanding the various, and sometimes contradictory, ways in which power is exercised in order to produce not only 'healthy bodies' or 'healthy citizens' but also 'unhealthy bodies' (Brown et al., 2010).

The shifting debates taking place in the broad sub-discipline of health geography, as summarized in the foregoing section, have also energized advances in theoretical perspectives pertaining of the understanding of the etiology of HIV/AIDS. While these debates encompass a broad range of issues, one of the key arguments concerns the dominant biomedical interpretation of how HIV/AIDS comes to infect and affect people, with its excessive focus on individual risk factors and sexual lifestyles (Krieger, 2006). These rationalistic ideas of HIV/AIDS tend to focus on behavioural correlates of disease risk and conceive vulnerability as resulting from multiple instances of personal risk, lack of accurate knowledge and poor decisions. While these perspectives have some validity, they nonetheless ignore broader social and political contexts which predispose people to the epidemic (Kalipeni et al., 2004). It has been argued, for example, that socioeconomic conditions are closely linked to vulnerability to the AIDS epidemic as they set in place the factors that constrain the possibilities for sexual behaviour and other health seeking lifestyles (Parker, 2001; King, 2009; Hunter, 2010). Issues of poverty, uneven economic development, migration, food insecurity, health care access, and gender relations, create variegated landscapes of risk that place certain groups of people at more

risk of HIV/AIDS than others. Again, gender relations are particularly important in the spread of the HIV/AIDS epidemic although the specific way in which they shape HIV/AIDS risk varies across social and spatial contexts. It is generally understood that women's unequal position in range of contexts generates certain sexual risk profiles that are markedly different from men (Payne, 2006). However, while the disproportionate vulnerability of marginalized groups to HIV/AIDS might be common, there are major inequalities within disadvantaged groups with respect to the actual pattern of risk individuals face (Payne and Doyal, 2010). For example, although better material position may play an important role in decision making, social norms and perceptions can have an overriding influence in constraining one's bargaining power in a range of other contexts such as livelihoods or terms of sexual exchange (Agarwal, 1997). Careful consideration of these factors informed by these theoretical perspectives can yield a more meaningful understanding of vulnerability to the AIDS epidemic. These perspectives also underscore the need for policy strategies to be sensitive to important differences that underpin disease risk between groups, including between men and women.

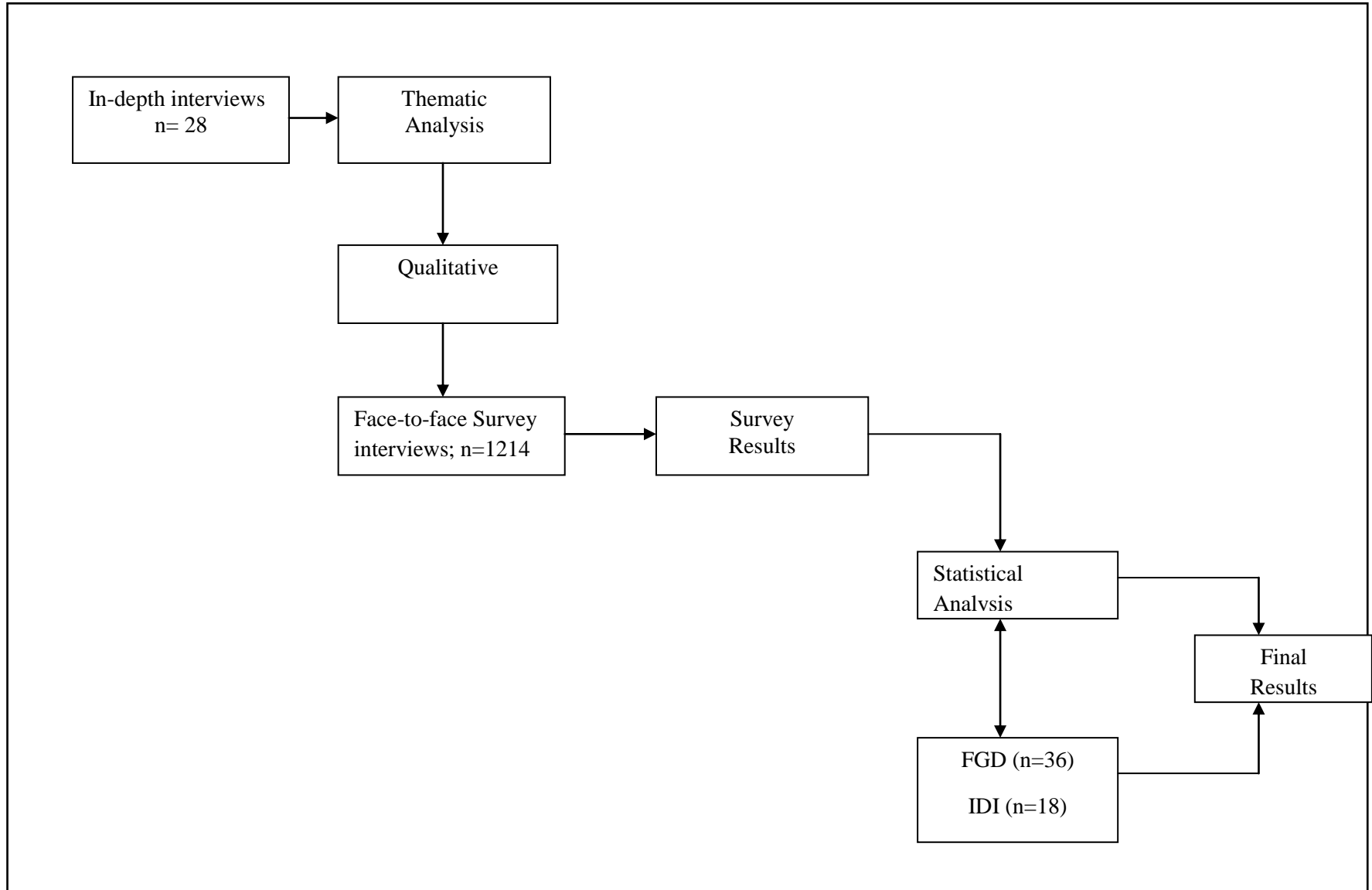
#### **1.4 Study Design**

A mixed methods approach was used to examine the vulnerability of orphans to HIV infection in Northern Malawi (see Fig. 1). The merits of integrating qualitative and quantitative methods are now widely appreciated in social science research (Creswell, 2005; Happ et al., 2006; Bryman, 2008). In this study, the first phase of data collection consisted of in-depth interviews with 32 adolescents. The aim here was to gain a deeper

understanding of local conceptions of youth sexuality and behaviour that shape their risk of HIV/AIDS. Based on the findings of these interviews, a survey questionnaire was formulated and administered to a random sample of 1214 youth respondents. The survey collected information on various demographic, cognitive, socioeconomic and behavioural aspects of the youth and their families. The survey was followed by focus group discussions (FGDs) and further in-depth interviews (IDI) in order to clarify the findings of the survey, and gain a detailed understanding of the social and political contexts that underpin sexual risk among youth in Northern Malawi. Thus, while the survey mainly focused on measurable categories of interest that bear on the HIV/AIDS risk among youth, the qualitative component pivoted on understanding the *how* dimension of sexual experience and risk, especially among young females.



Figure 1: Methodological framework



## 1.5 Organization of the thesis

This thesis consists of seven chapters including this introductory chapter. Chapter two provides a detailed discussion of the research context which provides contours of the social, economic, political and cultural landscape of the study. The chapter discusses the geographical setting, historical, demographic and socioeconomic landscape of Malawi, as well as Mzuzu City in the Northern region where the study took place. It also maps the epidemiological landscape of HIV/AIDS in Malawi, including up-to-date statistical measures capturing prevalence, incidence, scale and geographies of the orphan crisis, and other related impacts. Furthermore, the chapter scopes the HIV/AIDS policy environment, including other relevant social and economic life aspects which are bound up with the epidemic in Malawi. The next four chapters consist of four manuscripts already submitted for publication in various peer review journals. Although each of these manuscripts can be read on its own terms as a discrete piece, collectively they provide a comprehensive treatment of the study objectives and therefore serve to address the overall question that motivated this study: are adolescent orphans more vulnerable to HIV infection in Malawi and, if so, why?

The first manuscript (Chapter 3) focuses on the question of protective sexual behaviour of youth in Northern Malawi. It examines the factors which mediate uptake of voluntary counseling and testing (VCT) for HIV/AIDS which has become a frontline public health strategy for reducing the spread of HIV/AIDS in countries heavily affected by the epidemic, including Malawi (WHO, 2009; Obermeyer, 2009). The second manuscript (Chapter 4) measures age at first sexual intercourse in youth in Northern

Malawi, as well as how being an orphan mediates the time at which youth initiate sex. Time at first sexual intercourse is generally considered as a barometer of risky sexual behaviour among youth in heavily affected regions (Bongaart, 2007). The third manuscript (Chapter 5) deals with sexual risk-taking behaviour of adolescents (i.e. abstinence, condom use/non-use), and how the hazard varies between orphans and non-orphans. Special attention is paid to social and economic contexts that account for this variation and the gender differences in high-risk sexual behaviour. The fourth manuscript (Chapter 6) provides a detailed analysis of the social and spatial context shaping the risk of HIV/AIDS in youth. Particular attention is paid to the mediating role of a well-established and seemingly beneficial livelihood called *ganyu*. By using qualitative methods, this manuscript attempts to portray more vividly the circumstances which account for gendered vulnerability to HIV risk between orphans and non-orphans and, therefore, the highly varied and complex social and spatial contexts within which HIV/AIDS spreads in Malawi.

The main topic being asked and addressed in this thesis - the vulnerability of adolescents to HIV/AIDS in Malawi - is multifaceted and complex. It therefore engages with various issues and converges on a number of key themes. Hence, the final chapter (Chapter 7) follows through these issues and systematically pares them down into coherent arguments that point to key theoretical, methodological and policy contributions made by this study. The aim here is to discern a set of circumstances within which the vulnerability of adolescents to HIV infection emerges and thus demonstrate the theoretical and methodological contributions of this study to existing literature. The

section also suggests a new scope for policy for the attention of government and other HIV/AIDS stakeholders in Malawi.

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## CHAPTER TWO

### RESEARCH CONTEXT

#### 2.1 Introduction

This chapter begins with a background description of Malawi, the country where the study took place. It sketches the major historical events that, over the past century, have shaped the current socioeconomic and political landscape of Malawi, in order to provide the general context of the study. This overview also includes an outline of the changing epidemiological profile of HIV/AIDS, the orphan situation, and the evolution of key policy responses to the epidemic since it was first reported.

#### 2.2 Malawi's Historical Background

Malawi is a landlocked country in southeast Africa with an estimated area of 118, 484 km<sup>2</sup>. Twenty (20) percent of the country is covered by Lake Malawi which runs almost the entire length of the country. It is bordered by Tanzania to the north, Mozambique to the east and south, and Zambia to the west (see Figure 2).

Administratively, the country is divided into three regions; Northern, Central and Southern region, which are further subdivided into 28 districts. Malawi has a population of 14 million, representing thirteen ethnic groups.

Formerly called Nyasaland, Malawi was a British colony until 1964. Although it formally became a British Protectorate in 1891, a considerable number of European settlers started arriving in Malawi before the establishment of the colonial government. Through various means ranging from violent expulsions to colluding with local chiefs,

settlers alienated large tracks of fertile territory, especially in the Southern Region, which were subsequently ratified by the colonial state. Lacking any known mineral resources, Malawi was generally constructed as an ‘imperial slum’ in the colonial imagination, with a ready supply of labour for the domestic plantation sector in the Southern Region and, internationally, to the mining and estate economies in the Southern Africa labour-belt in South Africa and Zimbabwe (Potts, 2006; Pryor, 1990).

The perceived lack of mineral resource endowments required for a self-sustained level of economic growth forced the colonial government to govern Malawi as part of the Federation of Rhodesia and Nyasaland from 1954 until 1964 when the country gained independence under Dr. Banda, a Western trained medical doctor. However, the true democratic spirit that ushered in the political independence from the British was short-lived as Dr. Banda subdued democratic elections, following the cabinet crisis of 1966 and his eventual inauguration as the country’s ‘life president’ early in 1970 (Mhone, 1992; McCracken, 2000).

While the highly autocratic political system and the political abuses that accompanied them have been widely criticized, this highly centralized political system nonetheless afforded the Banda regime the political autonomy to pursue what was thought to be the needed austere economic reforms in order to uplift this predominantly agricultural economy from its pre-colonial economic stagnation (Harrigan, 2001). However, it is still highly debated as to whether these policies were actually needed, and more importantly, whether the economic inequalities exacerbated by Banda’s authoritarian system through rewarding his political allies really helped to bring this

country out of economic crisis. Against this backdrop critics argue that Banda's policies did not represent any major break from the colonial past as they generally favored the estate sector at the expense of peasant farming, even though the country registered an impressive overall economic growth rate of over 5 percent per annum soon after independence until the global economic downturn of late 1970s (Pryor, 1990; Kydd and Christiansen, 1982).

The oil shock of 1979 created severe inflationary pressures and also had a cascading effect on the country's debt burden, culminating into a record balance of payment crisis in 1980. These economic challenges, debilitating enough by themselves, were exacerbated by the civil war in neighbouring Mozambique. The humanitarian crisis induced by this conflict triggered an influx of over one million refugees from this former Portuguese colony. Even more crippling was that hostilities in Mozambique disrupted Malawi's external trade routes to the sea ports of Beira and Nacala on the coast of the Indian Ocean. The combined effect of these shocks fomented a zero percent economic growth in 1980 and negative growth rate in 1981 (Englund and Mapanje, 2001).

These setbacks coalesced with other internal problems. The excessive taxing of the smallholder peasantry in order to allocate land and economic benefits to large scale tobacco estates and government allies dramatically increased poverty among the majority of Malawians, making them particularly vulnerable these shocks (Mhone, 1992). In response to the foregoing set of circumstances, the Banda regime approached the International Monetary Fund (IMF) and the World Bank (WB) for financial assistance in order to stabilize the economy and restore macroeconomic growth. As a result Structural

Adjustment Programs (SAPs) – a package of neoliberal economic reforms promoted by the IMF not just in Malawi but throughout the Global South - were initiated in 1981. Being a predominantly agriculture-based economy, initial policy attention focused on liberalization of the agriculture sector. Prices of agriculture commodities were deregulated through, among other things, a radical reduction in the domination of Agricultural Development and Marketing Corporation (ADMARC) - a state owned company - over the buying and selling of farm produce from smallholder farms. This created scope for increased participation of the private sector traders in agriculture produce and input trading. Other related policy changes included removal of agriculture input subsidies, and liberalization of agriculture credit.

A number of reforms were also carried out in the health sector during the SAP period. Severe cutbacks in government spending on social services also affected the health sector and translated into a reduction in the number of doctors, nurses and paramedics. Public training programs for medical and nursing personnel suffered. The decline in real wages coupled with chronic lack of medical supplies culminated in low work morale among medical personnel leading to many doctors and nurses leaving the country to pursue their careers elsewhere in the region and overseas (Lwanda, 2002).

Adjustment programs in Malawi also provided more scope for private health service provision as reflected in the 1987 Medical Practitioners and Dentist Act. The aim was to broaden the mix of health providers in an effort to offset the service deficit created by government roll-backs (Ngalande-Banda and Simukonda, 1994). While more private health care providers joined the scene, the need for out-of-pocket patient fees severely

undermined access to health services among the poor, leaving a large section of Malawians increasingly reliant on the traditional medicine especially in the rural areas. But the introduction of private sector practice also fuelled further loss of health staff from the civil service itself (Ngalande-Banda and Walt, 1995; Lwanda, 2002).

More broadly, adjustment programs included privatization of state companies, civil service reform, liberalizing interest rates, and adopting a flexible exchange rate regime (Harrigan, 2001). However, despite what was perceived as a reasonably disciplined implementation of these reforms, economic growth was rather disappointing, and no real long-term economic stability was achieved. In fact, poverty in Malawi accelerated, but this was also accompanied by widening gap between the rich and poor (Chilowa, 1991). On the eve of Malawi's transition to democracy in 1992, the structure of the economy remained relatively unchanged and bore the semblance of its pre-colonial stature. Agriculture was still the mainstay of the economy, consisting of a considerable estate sector producing for export and peasant farming on which the majority of the population now precariously subsisted with overly diminished government support and access to markets, while simultaneously facing unstable commodity prices. The country's systemic vulnerability was exemplified by the 2002 famine which saw nearly 30 percent of the population at the verge of starvation (WDM, 2002). Believed to be out of proportion in its scale of starvation and social disruption to the actual level of harvest shortfall, the 2002 famine was induced by interplay of various ecological, political and economic factors, including drought, ill-conceived policy advice from the World Bank and IMF to sell off the country's strategic grain reserves, and corrupt elements in government ranks (Bryceson, 2006; de Waal, 2003).

### 2.3 Current situation

Nearly five decades after political independence, Malawi is still one of the poorest countries in the world with a per capita income of US\$220, equivalent to the purchasing power on the eve of independence (Harrigan, 2008). It is estimated that 65 percent of the total population of 14 million Malawians (up from 4 million at independence) live below the poverty line (Malawi government, 2005). Women not only experience higher rates of poverty than men but the degree of deprivation is also generally more extreme (Englund and Mapanje, 2001). The country also has one of the highest annual population growth rates in the world. Between the 1998 and 2008 national population and housing censuses, population grew at 2.8 percent annually, culminating into an upsurge of 32 percent over the period (Malawi Government, 2008). The Northern Region experienced the highest increase, with an inter-census growth rate of 3.3 percent compared to 3.1 percent and 2.4 percent in the Central and Southern Regions, respectively. Mzuzu City - where this study was conducted - had an annual inter-census population growth rate of 4.4 percent, nearly two times higher than that of Blantyre, the country's commercial capital (Malawi Government, 2008). Slightly over half (52 percent) of the population is still aged under 18 years. Set against a high adult mortality rate largely due to HIV/AIDS, this demographic shift is in part reflected in the country's changing dependency ratio. For example, over three years between 2006 and 2009 the dependency ratio rose from 1.02 to 1.17 (defined as the number of people aged below 15 years plus the number of those aged over 65 years, divided by those aged between 16 and 63) with implications for household welfare. Increasing dependency ratio is also linked to

a high fertility rate which although declining, still remains one of the highest in SSA at 6.1 (defined as the average number of children that would be born alive to a woman during her lifetime if she were to bear children at the prevailing age-specific rates) (Malawi Government, 2009). Until early 1980's, the Banda regime was indifferent to initiatives aimed at curbing new births because it was viewed that such policy was inappropriate for a country already overburdened with high infant mortality (Pryor, 1990). Although child-spacing programs were later introduced in 1982, and the uptake of contraception has considerably expanded alongside the scale-up of maternal and child health care programs, Malawi's fertility rate is also generally driven by less proximate background determinants such as high level of poverty, illiteracy (especially in women) and, ironically, heavy infant mortality.

Population growth over the years has immensely increased pressure on land, translating into average national population density of 139 up from under 100 in less than 2 decades. However, there are marked variations, with the Southern Region having the highest population density of 185 ranging down to the Northern Region's 69 (see Table 1). However, these regional figures mask important variations in population densities across districts. In contrast to the region's average population density, for example, Mzuzu has an estimated population density of 2,000 (see Figure 2). Within Mzuzu, Chibavi suburb - situated on flood prone state land that fades into squatter settlement west of the city - accounts for the largest section of the population. Out of an estimated total of 35,000 homes in Mzuzu City 10,000 are in Chibavi area where the majority of orphans in the city are also believed to live. In a context where livelihood systems are primarily tied to access to access to land, and yet the land tenure system itself continues to bear

inequalities rooted in the country's history, the recent population increase is fomenting new ecological pressures, social tensions and vulnerabilities (Kanyongolo, 2005; Chinsinga, 2011). This is evident by the fact that although 2 million smallholder farmers cultivate an average farm size of 3 hectares, the 30, 000 Malawian estate farmers plow between 10 and 500 hectares raising vexed questions about whether poverty and food insecurity can be improved on a sustainable basis in Malawi under the existing structure of land distribution (Kanyongolo, 2005).

Certainly, while this highly uneven land distribution is by no means the sole determinant of growing food insecurity among Malawi's smallholder families, it is undeniably an important factor in the causal chain of the ongoing food scarcity, especially in smallholder farmers. Despite a political discourse that emphasizes Malawi's status as a "hunger-free nation" there is certainly an expanding number of families who run out of food supplies before the next growing season.



<b>Table 1: Selected population characteristics</b>			
<i>Characteristic</i>	<i>Mzuzu City</i>	<i>Northern Region</i>	<i>National</i>
Sex ratio (number of males per 100 females)	106.4	94.3	94.7
Share of population in urban		13.3	15.3%
Population density	2791	63	139
Crude Birth Rate (# births/1000 population)	NA	39.9	39.5
Infants mortality	NA	NA	66
Under five mortality	NA	NA	112
15 years and older (mortality)	NA	NA	46%
Literacy	NA	77%	64%
Crude Mortality Rate (# deaths/1000 pop.)	NA	10	10
Household size	NA	5.2	4.6
Fertility rate	NA	NA	6.1

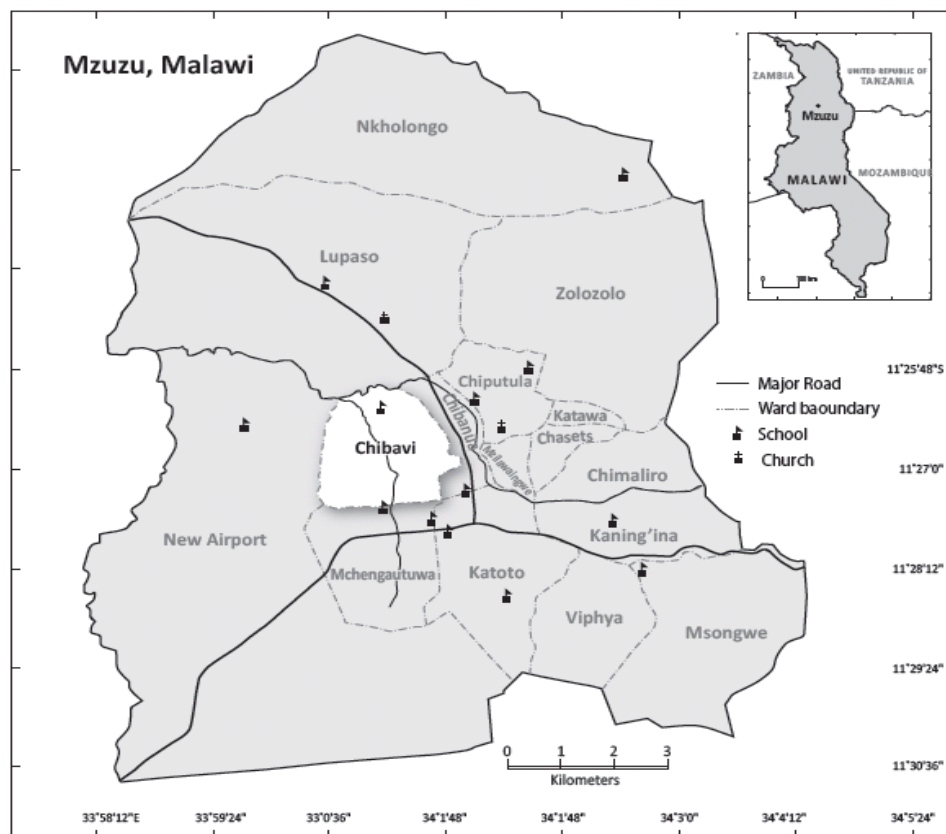
**Source: Malawi Welfare Monitoring Survey Report 2009**

Although peasant household responses to real and perceived food shortages are diverse and vary geographically, it is estimated that 45 percent of families only have two meals per day instead of the recommended 3 meals (Malawi Government, 2009). Underscoring the persistence of food insecurity and poverty, nearly 90 percent of smallholder farmers were forced to yield a share of their staple food in order to meet domestic outlays such as out-of-pocket health expenses and loan repayments. In fact, only 6 percent of households sold food because they had surplus production (Malawi Government, 2009). Food insecurity is particularly a serious problem among HIV/AIDS affected households in Malawi as such households tend to be headed by women or children, and therefore extremely poor (Masanjala, 2007; Magadi, 2011).

Consequently, there is persistence of the *Inverse Care Law* in Malawi where health care utilization remains highly correlated with socioeconomic status and geographic location. The well-off tend to be better placed to access health interventions

such as diarrhea and respiratory infections treatment, delivery by trained health personnel, immunizations, and antenatal care than the majority of the poor (Zere, 2007). It is estimated that only 26 percent of Malawians live within 30 minutes walking radius to a health facility and 75 percent of births are delivered by trained health personnel (Malawi Government, 2009).

**Figure 2: Map of Mzuzu City**



Source: UWO Geography Cartographic Section

Malawi's deteriorating socioeconomic conditions and impaired health infrastructure is reflected in the country's current under-five mortality rate of 133 per 1000 live births. Also reflecting the geographies of poverty and access to health services,

under-five mortality is 50 percent higher in rural than in urban areas (Malawi Government, 2004). While treatment for various health conditions can generally be obtained free of charge in public hospitals, distance to health facility and out-of-pocket expenses (e.g. transport) undermine access to care. In addition, illnesses can generate labour demands that can be difficult to reconcile in a primarily agricultural society, creating conflicts between domestic labour and health facility visitation thereby adversely affecting appropriate health care. For example, the majority of the 8 million malaria episodes Malawians experience per year, which accounts for 40 percent of all outpatient visits, occur between January and April, coinciding with a period that also requires high farm labour input. This has profound implications for food security and poverty in the country.

#### **2.4 Geographies of AIDS and the policy landscape**

Malawi has an estimated HIV prevalence of 12 percent (UNAIDS, 2008) which has remained fairly stable over the past few years. National response to AIDS started in 1985 after the first case of the virus was reported although a coherent policy framework was not put in place until 1989. Initial interventions focused on screening blood products and promotion of awareness about the ways to avoid contracting the disease and its fatal consequences (Malawi Government, 2003). Over time, these efforts have greatly expanded to include programs such as condom distribution, care and support of those living with the virus, prevention of mother-to-child transmission, HIV testing and treatment, and orphan care (Malawi Government, 2003). The introduction of multiparty democracy in the country in 1994 reduced government's monopoly over public policy

analysis (Englund and Mapanje, 2001). However, the handling of the HIV/AIDS epidemic under the leadership of the first democratic government was highly problematic. Apart from deregulating medical research, the government did little more than conducting and sponsoring sporadic public HIV/AIDS awareness events. The National AIDS Committee also suffered from underfunding. This minimalist and ambiguous stance created a climate conducive for the continued resurgence of traditional medicine (Kalipeni et al., 2004). The credibility of local medicine and traditional sexual precepts were particularly enhanced during this period as many people were beginning to be affected by an illness that they did not clearly understand and which the government apparently ignored. The establishment of the National AIDS Commission in 2002 was particularly vital for effective coordination efforts towards combating the epidemic. In the absence of an HIV vaccine, these efforts have understandably registered notable progress. For example, as noted in Table 3, there is nearly universal awareness and knowledge regarding HIV/AIDS transmission and effective ways of preventive methods (MDHS, 2010). Table 2 below shows selected HIV/AIDS awareness, knowledge and behaviour for the Northern Region compared to national trends.

<b>Table 2: Selected HIV/AIDS Awareness, Knowledge, and Behaviour indicators</b>				
Indicator	Northern Region		National Level	
	Men (percent)	Women (percent)	Men (percent)	Women (percent)
Ever heard about HIV or AIDS	98	99	99	99
Knowledge that condom prevents HIV/AIDS	83	67	66	66
Knowledge that limiting sexual intercourse to one uninfected partner prevent HIV/AIDS	83	87	66	66
Have had sex with 2+ sexual partners in past 12 months	9.4	0.5	9.2	0.7
Never married individuals reporting 2+ sexual partners in past 12 months	NA	NA	6.4	0.8
Never married individuals reporting condom use at last sexual act	NA	NA	51.4	63.2
Never had sex individuals reporting condom use as reliable HIV prevention measure	NA	NA	75.9	76.2

**Source: Malawi Demographic and Health Survey Preliminary Report 2010**

Malawi is also considered as a success story regarding the roll-out of the antiretroviral therapy which has a national coverage of over 200,000 clients. These initiatives are enshrined in the newly formulated Malawi HIV and AIDS Extended National Action Framework (NAF) for the period 2010 to 2012. Despite the recent successes in raising awareness, scale up of antiretroviral therapy, and relative stability in overall national prevalence (12 percent) over recent years, the current incidence of 1.6 percent is nonetheless high (Malawi Government, 2010). Several studies have noted that even though Malawi has made considerable strides in dealing with AIDS over the past decade, the epidemic remains generalized with certain groups of people (e.g. sex workers, long distance truck drivers) still markedly susceptible to new infections (Bryceson and Fonseca, 2006; Kalipeni and Ghosh, 2007; Mkandawire et al., 2011). Despite official

recognition of the multi-faceted etiology of HIV/AIDS, and the presence of attendant rhetoric in policy discourses, everyday practical action remains largely confined within the disciplinary realm of biomedicine (Kalipeni et al., 2004). The HIV/AIDS policy environment has also been marked by deep controversy, especially as it relates to the relative role of condoms in reducing the spread of the epidemic (Mkandawire et al., 2011).

Despite the introduction of antiretroviral therapy in 2004, and although the country has been widely hailed as a success story with respect to the scale-up of AIDS treatment, acute unmet ARV need, treatment regimen incompliance induced by poor nutrition continue to drive adult mortality in Malawi. Consequently, over 80,000 adults die from AIDS-related infections and nearly one in every 10 households experiences death of a member annually (UNGASS, 2010). This high prime-age death rate, coupled with a heavy infant and under-five mortality, has reduced life expectancy to 37 years. One of the impacts of the foregoing adult mortality is the large number of orphans, currently estimated at over 1 million, accounting for 15 percent of the total population (Malawi Government, 2009). The combined effect of declining life expectancy and increasing number of orphans culminate into a diminishing number of young adults who can support an expanding cohort of young and old leading to high dependency ratio. However, these demographic shifts have also fuelled changes in the family structure as manifest in variations in household size and composition supplanting the historic role male migrant labour has had as the key factor shaping the family institution. Although female-headed households had existed due to widespread male migration, it is estimated that 25 percent of households in Malawi are presently headed by women (Malawi Government, 2009).

Evidence has demonstrated that this trend is having adverse consequences for remaining family members, including placing them at increased risk of malnutrition. A multi-country study that included Malawi showed that there is a strong link between household practice of skipping a meal to cope with food shortages and being directly HIV-affected (Caldwell, 2005). Other challenges that orphans encounter include increased risk of sexual exploitation, child labour, discrimination, and reduced access to health care and education services (Pinapanich et al., 1999; Chirwa, 2002; Funkquist et al., 2007). A high dependency ratio is viewed as a rule-of-thumb marker of food insecurity in Malawi and therefore, a proxy for other related household welfare indicators (Malawi Government 2002).

Given the long latency period of HIV/AIDS the number of orphans in Malawi is expected to continue to rise. Even more worrying is the trend where an increasing share of youth is placed within families which are also vulnerable. As shown in Table 3, 40 percent of youth reside in female-headed homes which sharply contrasts with cultural political discourses that characterize women as wives and have implications for household welfare in a context where poverty is a highly gendered issue. In the particular context of Malawi, such households are more likely to be poor and overburdened by morbidity and mortality. It is also estimated that over 80 percent of orphans reside in homes whose household head has primary or no education at all (Malawi Government, 2009). Child migration, though not previously unknown, has become a vital coping strategy among the poor in the face of HIV/AIDS in Malawi thereby contributing increased household fluidity and geographic dispersal (Ansell and van Blerk, 2004).

<b>Table 3: Percent of total population persons aged below 20 years who are orphans by background characteristics</b>					
Background characteristic		Orphaned	Maternal	Paternal	Double
	Malawi	15	3	9	3
Sex	Male	15	3	9	3
	Female	15	2	9	3
Age	0-4	4	1	3	0
	5-9	11	2	7	2
	10-14	20	3	12	5
	15-20	26	5	15	8
Sex of household head	Male	8	2	3	3
	Female	40	4	30	6
Highest level of education completed by household head	None	20	3	12	4
	Primary 1-5	15	3	9	3
	Primary 6-8	11	2	7	3
	Secondary +	12	3	6	3
Marital status	Never married	40	15	8	18
	Married	7	2	3	2
	Divorced	15	3	8	4
	Widowed	15	3	8	4
Region of residence	N/Region	15	2	10	3
	C/Region	12	2	7	3
	S/Region	18	3	11	4

Source: Malawi Welfare Monitoring Report 2009

## 2.5 Summary

This chapter has described the geographic location and historical background of Malawi and the Northern Region that set the backdrop for the study. The set of historical circumstances that have been described in this chapter continue to shape not only the socioeconomic and political landscape of the country, but also the varied conceptions of



health and sexuality. These provide the socioeconomic and political milieu within which the spread of the HIV/AIDS epidemic has occurred and a backdrop for policies which have been mobilized responses to curb the further spread of the disease. The chapter concludes by highlighting the scale of the orphan problem in Malawi, the unfolding dimensions of vulnerability and why it remains a challenge.

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## **CHAPTER THREE**

### **VOLUNTARY TESTING FOR HIV AMONG ADOLESCENTS IN NORTHERN MALAWI: IS ORPHAN STATUS A FACTOR?**

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### Abstract

This paper examines correlates of self-reported voluntary counseling and testing (VCT) for HIV/AIDS among adolescents in Malawi where the poor account for the majority of those who live with the disease. Results of multivariate logit models show that being an orphan is an important predictor of low likelihood of HIV testing in Northern Malawi. In male adolescents, being a paternal (OR = 0.53) and double (0.86) orphan are significantly associated with lower likelihood of HIV testing while in young females being a paternal orphan predicts lower odds of HIV testing (OR = 0.64) relative to non-orphans. In young females, having secondary education or higher (OR=3.34) and residing in same house as biological siblings (OR=1.86) predict a high likelihood of testing for HIV/AIDS while living in a food insecure household is associated with reduced odds of testing. In male youth, a history of alcohol use predicts lower odds (OR= 0.25) of testing. However, orphan disadvantage with respect to HIV testing persists after controlling for theoretically relevant covariates. When set against public health benefits of HIV testing, these inequalities cast doubts over the actual overall dividends of the VCT program in Malawi and also raise searching questions about new fault lines of the epidemic in a country already encumbered with twin crises of orphans and HIV/AIDS.

**Key words:** Adolescents, orphans, HIV testing, Northern Malawi

### 3.1 Introduction

This paper examines the uptake of voluntary counseling and testing (VCT) for HIV among adolescents in Northern Malawi. Counseling and testing for HIV refers to a process in which individuals voluntarily receive guidance to enable them make a decision to know their sero- status (UNAIDS, 2000). VCT has become an essential strategy for HIV/AIDS prevention and control in heavily-affected regions. Knowing your HIV/AIDS status can lower an individual's risk of HIV through increased motivation to initiate and maintain safer sexual practices. As individuals who get tested for HIV/AIDS also undergo counseling, VCT can also reduce HIV/AIDS related stigma, especially among high risk populations (UNAIDS, 2008; Granich et al., 2009; Sweat et al., 2000).

Testing for HIV/AIDS is therefore important for youth as they are regarded as being at particularly heightened risk of HIV/AIDS because they tend to lack adequate and correct knowledge about how to prevent sexually transmitted infections (Zulu et al., 2002; De Cock et al., 2006; UNAIDS, 2008). Some studies indicate that counseling and testing for HIV among youth can provide them with an opportunity to evaluate their sexual lifestyles, leading to adoption of risk-reduction strategies (Horizons, 2001; Munthali, et al. 2006; WHO, 2009).

Despite this recognition, testing for HIV/AIDS remains low in SSA. For example, only 40 percent of those presently infected with HIV/AIDS are aware of their sero-status (WHO, 2009). Various factors account for the low level of testing. For example, distance to testing sites, lack of knowledge of where to test for HIV/AIDS and



cost are some of the main factors that continue to undermine testing in the region (Tenkorang and Owusu, 2010; WHO, 2007).

Beyond the well-known physical and economic barriers, some studies have also tried to identify more specific determinants of testing especially as they relate to life circumstances of young people. MacPhail et al. (2008), for instance, reported that worries pertaining to possible negative reactions from parents and peers in case of an unfavorable test result and a misconception that testing was meant for symptomatic individuals hampered VCT among youth in South Africa. Similar concerns were also observed in Burkina Faso (Obermeyer et al., 2009). In Botswana, Steen et al. (2007) found that a history of sexually transmitted disease predicted testing in youth. In Uganda Nuwaha et al. (2002) established that perceptions regarding the quality of testing services coupled with the influence of a sexual partner shaped decisions to test. Other studies have also shown that a history of drugs and alcohol consumption is an important predictor of testing (Murphy et al., 2002; Miller, 2002). Underscoring the role of social values, Luginaah et al. (2005) found, among other things, that religious mores and expectations mediated decisions to testing in the Upper-West region of Ghana. In Mali, widespread reservations about the very existence of HIV/AIDS considerably undermined testing decisions (Castle, 2003). Furthermore, perceived quality of interaction with provider and assurances of confidentiality have all been found to be linked to uptake of testing among young people (Boswell and Baggaley, 2002; Horizons, 2001; Stanley and Matinga, 2004).

The growing public health significance of VCT explains why testing has become a cornerstone of HIV prevention and control in Malawi, where 12.7 percent of the estimated 14 million people already live with the virus (Malawi Government, 2010).

Although the national prevalence has remained relatively stable over the past few years, the current national incidence of 1.6 percent is high (Malawi Government, 2010). Studies have shown that the HIV/AIDS epidemic in Malawi is driven by worsening poverty, where over 60 percent of the population lives below the poverty line, with persistent food insecurity, gender inequalities and a strained health care system (Malawi Government 2005; Theobald and Simwaka, 2008).

In addition to the foregoing, Malawi's changing demographic profile also complicates efforts to contain the spread of the epidemic. Given that young people tend to engage in more risky sexual behaviour, the fact that fifty-two percent of the population in Malawi is now aged below 18 years has generally raised a specter of increased HIV/AIDS spread (Malawi Government, 2008). These concerns are especially important in a context where 15 percent of this young cohort has lost at least one biological parent (Malawi Government, 2010).

The public health significance of VCT especially in the context of a changing demographic profile and HIV/AIDS risk landscape is reflected in the urgency with which the Malawi government has conducted the scaling up of testing services. Since the introduction of free rapid testing in 2006, for instance, a total of 716 testing centers have been set up (Malawi Government, 2010). In addition to routine health facility-based testing, VCT is now generally available in communities through more innovative approaches such as static and mobile clinics, outreach consultations and door-to-door visits at no cost to end-users. Reflecting expanding access, for example, over 1 million first-time testers voluntarily took an HIV test in Malawi in 2009 alone (Malawi government, 2010).

Despite considerable success in making testing services more widely available, uptake of VCT still remains low in some sections of the population. For instance, despite comprising the largest section of the population, only 11 percent and 14 percent of youth under 18 years tested for HIV/AIDS in the year 2009 (Malawi Government, 2010). Furthermore, despite being provided at no financial cost to the end-user, testing for HIV in Malawi remains concentrated among the relatively well-off sections of the population (Malawi Government, 2010). Apart from exceptionally high levels of testing in women of children-bearing age - due to routine HIV screening at antenatal clinics - testing for HIV/AIDS in Malawi has disproportionately been patronized by groups of people such as those formally employed, the better educated and the wealthy (Kamoto et al., 2008; Makwiza et al., 2009; Malawi Government, 2010). While recent increases in the number of people testing for HIV is generally commendable and therefore essential for HIV/AIDS prevention in Malawi, the pattern of VCT uptake is nonetheless problematic especially given that it is poor Malawians who account for the majority of those currently living with the virus (Piot et al., 2007; Madise et al., 2007). In this study, we examine correlates of voluntary testing for HIV/AIDS in youth in Northern Malawi with a specific focus on orphans. It is hypothesized that being an orphan is an important predictor of low likelihood of HIV testing and that this relationship will persist after controlling for other theoretically relevant covariates.

### **3.2 Methods**

Data for this study were collected between May and December 2009 from adolescents in Mzuzu City in Northern Malawi. Mzuzu is the third largest urban centre in

Malawi, located 400 km north of Lilongwe, the capital city. The city covers an estimated area of 76 km.<sup>2</sup> Emerging from a small tung farm (a tree from which edible oil is produced) of 8000 people in 1940, Mzuzu grew to a population of 128,000 in 2008 (Malawi Government, 2008). Although high fertility rates explain much of this population growth, rural-urban migration and immigrants from Tanzania also greatly augment this population pressure (Potts, 2006). As the northern region's economic center, Mzuzu has a specialist hospital, tobacco auction floors, an expanding industrial and financial sector, a beverage factory, flea market, several public and private secondary schools, vocational colleges and a public university.

The sampling frame for the study was constructed from enumeration data for the 2008 Malawi Population and Housing Census from which a random sample of 1253 male and female adolescents was selected. Sampling directly from the general population helped to ensure that both in and out of school adolescents had comparable chances of being part of the study sample. All youth aged between 12 and 18 years were eligible for survey interview; 12 years being the approximate lower cutoff age for adolescence (Spear, 2000) and 18 years being upper age limit for an orphan (UNICEF, 2004). Survey interviewers were recruited from Mzuzu University based on their ability to effectively communicate in both English and *Tumbuka* (local language). Interviewers were trained in survey administration. The present analysis excludes 39 surveys which had missing data on age, sex, parental status, resulting in 1214 cases for final analysis.

### *3.2.1 Measures*

The dependent variable in this study, 'Ever tested for HIV?' was measured by asking respondents: 'I don't want to know the results, but have you ever voluntarily tested for HIV/AIDS?' The focal independent variable, orphan status, consisted of four categories: non-orphan, maternal orphan, paternal orphan and double orphan. This information was obtained by asking respondents: 'Are both your biological mother and father alive at the time of the survey?' If the respondent answered 'no', they were asked 'Which of your parents is not alive?' Participants reporting loss of only a mother were coded as 'maternal orphans' only, those indicating loss of father were coded as 'paternal orphans' only, and those losing both mother and father were coded as being 'double orphans'.

Two single-item indicators measuring knowledge about HIV/AIDS are used. The first variable is constructed from responses to questions as to whether abstinence and condom use are effective strategies for HIV prevention. Respondents who answered 'yes' have been coded as '1' and '2' otherwise. The variables capturing HIV/AIDS transmission myths has been created using Principal Component Analysis (PCA) from responses to questions asking whether HIV/AIDS can be transmitted through supernatural means, kissing and mosquito bites. Responses have been coded '1' if youth answered 'yes' and '2' otherwise. Factor loadings for these measures range from 0.73 to 0.83 (Cronbach's alpha = 0.65) with higher scores on the scale representing rejection of these myths.

Knowing a place where one can get tested for HIV/AIDS has been coded as '1' if respondent mentioned a valid HIV/AIDS test site and '2' if they did not know a source or mentioned an invalid site. Being treated at hospital for the most recent illness has been coded '1' if respondent received treatment from a health facility during their most recent illness and '2' if the respondent sought treatment elsewhere (e.g. traditional healer). A single-item indicator is used to capture alcohol consumption. Respondents indicating that they take or had ever taken alcohol in the 3 months preceding the survey have been coded as '1' and abstainers coded '2'. Due to recall problems, this study did not ask questions to distinguish between binge and non-binge drinking.

Four questions were asked to capture household food insecurity status. These included: whether in the past 4 weeks youth had ever gone without preferred food; with a smaller than usual amount of food; with fewer meals than usual; and without any food. Using PCA, the four questions load on a single latent construct, with factor loadings ranging from 0.78 to 0.87 (Cronbach's alpha =0.68). Higher values on the scale indicate increased vulnerability to food insecurity.

Three additional variables are used in this analysis to tap into social support at household level, each examined independently. The first variable relates to responses to the question on parental or guardian mentoring of children; 'Do your parents/guardians share their life experiences with you? Similarly, this variable has been coded Yes=1 and No=2. The second examines whether respondents lived in the same house with biological siblings. Sibling co-residence has been coded Yes =1 and No= 2 (reference category). We also control for education level of the household head: primary and secondary school = 0 (reference), and higher =1.

### *3.2.2 Analytic techniques*

This study uses binary logit models to estimate the relationship between orphan status on HIV testing, controlling for other theoretically relevant covariates. Binary logistic regression is appropriate because our dependent variable is a binary categorical variable (Tabachnick and Fidell, 2007). We built separate models for male and female youth as past research has found gender differences in factors associated with HIV testing (Obermeyer and Osborn, 2007).

## **3.3 Results**

### *3.3.1 Bivariate analysis*

Table 4 below presents sample size and odds ratios of HIV testing for adolescents by gender built with each independent variable. For young men, the odds of testing are lower in paternal (OR= 0.80) and double (OR=0.79) orphans while in young women the odds are lower in paternal orphans only (OR=0.66). Knowing that sexual abstinence and using a condom can reduce HIV/AIDS risk and rejecting HIV transmission myths (i.e. that HIV/AIDS can be transmitted by mosquitoes, kissing and supernatural means) are not significantly associated with HIV testing. However, having a secondary level of education predicts increased testing in both young males (OR=3.34) and females (OR=3.60). Being treated at a health facility during the most recent illness (OR=1.80) and living in the same household with biological siblings (OR=1.49) are associated with increased odds of HIV testing in females only while being mentored by a parent or guardian is significantly associated with increased odds of testing in young

males (OR=1.84). Knowing a valid HIV/AIDS test site is also significantly associated with testing in both young males (OR=1.97) and females (OR=2.98). However, a history of alcohol drinking predicts low incidence of testing in both young males (OR=0.34) and females (OR=0.28).

Food security status and education level of household head are not significantly associated with HIV testing at bi-variate level. Nonetheless, the two variables were included in the multivariate analysis based on their theoretical relevance.



<b>Table 4: Bi-variate Odds Ratios of HIV testing in adolescents in Northern Malawi</b>				
Independent variables	Males (n=573)		Female (n=641)	
	n(%)	OR (CI)	n(%)	OR
Orphan status- Non-orphan (ref)	373 (65.1)	1.00	421 (65.7)	1.00
Maternal	36(6.4)	0.97 (0.74-1.37)	39 (6.1)	0.907(0.88-2.69)
Paternal	101(17.6)	0.80(0.55-0.98)*	128 (20)	0.663(0.37-0.96)*
Double	63 (11)	0.79(0.51-0.99)*	53(8.3)	0.817 (0.13-1.71)
Age				
Below 15 years (ref)	265 (46.3)	1.00	339(52.9)	1.00
Above 15 years	308 (53.7)	4.83(3.30-7.07)*	302(47.1)	4.667 (3.30-6.6)**
Abstinence				
No (ref)	59 (10.3)	1.00	90(14.0)	1.00
Yes	514(89.7)	1.066(0.89-1.28)	551(86.0)	0.956(0.82-1.12)
Condom				
No (ref)	301 (53)	1.00	389 (60.7)	1.00
Yes	272(47)	1.184(0.95-1.47)	252(39.3)	0.956(.86-1.49)
Transmission myths	573	1.183(0.95-1.46)	641	1.137(0.88-1.45)
Education				
Primary (ref)	274 (47.8)	1.00	281(43.8)	1.00
Secondary/above	299(52.2)	3.338(1.21-5.55)*	360(56.2)	3.602(2.53-5.12)**
History of alcohol -No (ref)	82(14.3)	1.00	611(95.3)	1.00
Yes	491(85.7)	0.338(0.21-0.55)**	30(4.7)	0.277(0.13-0.60)*
Knows valid test site - No (ref)	243 (42.4)	1.00	393(61.3)	1.00
Yes	310 (57.5)	1.979(1.02-4.55)*	248(38.7)	2.981(2.21-4.31)*
Treated health facility- No (ref)	115 (20.1)	1.00	178(27.8)	1.00
Yes	149 (26.0)	1.611(0.97-2.67)	141(22.0)	1.800(1.33-2.86)*
Guardian mentoring - No (ref)	272 (47.5)	1.00	119(18.6)	1.00
Yes	301(52.5)	1.843(1.08-3.93)*	522(81.4)	1.264(0.83-1.93)
Resides with siblings - No (ref)	28 (5)	1.00	32 (5)	1.00
Yes	545(95)	1.246(0.85-1.81)	609(95)	1.488(1.01-2.08)*
Food secure	573	1.149(0.97-1.35)	641	1.088(0.92-1.27)
Educ of h/head- Primary (ref)	452(88.9)	1.00	544(84.8)	1.00
Secondary and above	121 (21.1)	0.887(0.34-2.02)	97(15.1)	0.589(0.23-1.52)
Significance: *p-value < 0.05; **p-value <0.01				

### 3.3.2 Multivariate analysis

Table 5 presents six multivariate models, three each for male and female adolescents. The first model estimates the effect of orphan status and HIV/AIDS knowledge variables on testing for HIV/AIDS. The second model examines the effects of individual level attributes, education level, knowledge of where to test, history of alcohol, and being treated at a health facility on testing. The final model controls for parent and/or guardian mentoring, residence with biological siblings, education level of head of household and household food security on HIV testing.

The results show that being an orphan is an important predictor of testing for HIV in both male and female adolescents. Male paternal orphans (OR= 0.79) and double orphans (OR =0.86) are less likely to undergo testing for HIV than non-orphans. Female paternal orphans are less likely to report having tested for HIV/AIDS (OR= 0.64). However, knowing that abstaining from sex or consistently using a condom is a valid strategy for preventing HIV/AIDS, and rejecting transmission myths are all not significantly associated with testing for HIV/AIDS in the multivariate models.

**Table 5: Odds Ratios of HIV testing among adolescents in Northern Malawi**

Independent variables	Males			Females		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<i>Parental status</i>						
Non-orphan (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Maternal	0.99 (0.88-1.61)	0.96 (0.88-1.66)	0.91 (0.77-1.61)	0.87 (0.47-1.07)	0.87 (0.47-1.07)	0.83 (0.57-1.07)
Paternal	0.79 (0.51-0.98)*	0.69 (0.45-0.98)*	0.79 (0.53-0.98)*	0.47 (0.21-0.85)*	0.47 (0.29-0.91)*	0.64 (0.41-0.92)*
Double	0.88 (0.52-0.95)*	0.88 (0.57-0.98)*	0.86 (0.54-0.91)*	0.98 (0.74-1.67)	1.01 (0.84-1.77)	0.99 (0.84-1.89)
<i>Knowledge</i>						
No (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Abstinence	1.01 (0.82-1.32)	0.98 (0.72-1.34)	0.98 (0.72-1.34)	0.85 (0.72-1.13)	0.74 (0.58-1.33)	0.76 (0.51-1.12)
Condom	0.86 (0.46-1.55)	0.89 (0.51-1.92)	0.89 (0.33-1.91)	0.78 (0.12-1.83)	0.80 (0.12-1.71)	0.83 (0.47-1.59)
Transmission myths	1.04 (0.82-1.31)	1.04 (0.82-1.32)	1.04 (0.82-1.32)	1.51 (0.83-2.99)	1.32 (0.78-2.25)	1.32 (0.77-2.66)
<i>Educa. – No/Primary (ref)</i>		1.00	1.00		1.00	1.00
Sec and above		1.37 (0.75-2.49)	1.37 (0.75-2.49)		3.24 (1.18-5.40)**	3.34 (1.92-5.56)**
<i>Age - Less than15 (ref)</i>		1.00	1.00		1.00	1.00
Older than 15		2.32 (1.21-5.79)**	2.43 (1.23- 5.61)**		2.00 (1.02-3.67)**	3.34 (1.87-5.88)**
<i>Alcohol - No (ref)</i>		1.00	1.00		1.00	1.00
Yes		0.26 (0.09-0.69)**	0.25 (0.09-0.69)**		0.66 (0.53-1.04)	0.68 (0.49-1.08)
<i>Knows test site – No (ref)</i>		1.00	1.00		1.00	1.00
Yes		1.59 (0.84-5.45)	1.79 (0.80-4.33)		1.09 (0.46-3.03)	1.70 (0.51-3.88)
<i>Treated h/facility- No (ref)</i>		1.00	1.00		1.00	1.00
Yes		1.79 (0.92-3.05)	1.17 (0.92-3.07)		1.84 (1.13-3.19)*	1.87 (1.12-3.16)*
<i>Mentoring – No (ref)</i>			1.00			1.00
Yes			1.42 (0.68-3.35)			2.98 (1.18-5.23)*
<i>Co-residence – No (ref)</i>			1.00			1.00
Yes			1.98 (0.98-3.08)			1.86 (1.09-3.24)*
<i>Food insecure</i>			0.98 (0.73-1.57)			0.61 (0.49-0.91)*
<i>H/h head educ.- P/S (ref)</i>			1.00			1.00
Higher			1.63 (0.96-2.81)			1.02 (0.71-1.88)
Log likelihood	-365.783	-143.229	-111.634	-411.792	-182.923	-127.234
Wald $\chi^2$ (df)	21.44 (6)**	50.92(12)**	52.21(16)**	21.30 (6)**	52.07 (12)**	61.13 (16)**
Pseudo R <sup>2</sup>	0.031	0.188	0.215	0.026	0.142	0.164

Significance: \*p-value &lt; 0.05; \*\*p-value &lt;0.01

In model 2, individual level attributes are entered. Female adolescents with secondary school education or higher are more than three times more likely to report testing for HIV/AIDS than those with primary or no education (OR=3.34). However, level of schooling is not a significant predictor of testing for young men. Having a history of alcohol consumption predicts low likelihood of testing for male youth (OR= 0.25). The association between alcohol and testing for HIV lost significance for female youth in the multivariate models. Although knowing a valid source of HIV/AIDS test is associated with testing in both genders at bi-variate level, the variable loses significance in the multivariate analysis. However, being treated at a health facility for an illness is associated with increased likelihood of testing in female youth only (OR=1.82) than being treated elsewhere or not seeking treatment at all.

Model 3 controls for the effect of household-level characteristics on HIV/AIDS testing. While guardian and parental mentoring of male youth has a significant effect on the likelihood of testing in the bi-variate analysis, its effect changes and the variable now becomes significantly associated with testing in female youth in the multivariate analysis. Thus, young women rather than men are more likely to report testing for HIV (OR= 2.99) when they are regularly mentored by a parent or guardian. Residing in the same house with biological siblings maintains its positive relationship with testing in female youth in the multivariate analysis. Young women are nearly two times (OR=1.86) more likely to report having tested for HIV/AIDS when they live in the same home as their natal siblings than when they live separately. Adolescent girls who live in a household reported to be food insecure are also associated with lower likelihood of testing (OR= 0.61) in the multivariate analysis.

However, orphan disadvantage with respect to testing for HIV/AIDS persists throughout the multivariate models.

### **3.4 Discussion and Conclusion**

The results from multivariate analysis show that orphan status is an important predictor of testing for HIV in Malawi. Paternal, maternal and double orphans are all less likely to test for HIV/AIDS than their non-orphan peers.

Level of education is positively associated with testing for female youth and not for male youth. Education is a gender sensitive predictor of risk-reduction behaviour in Malawi because of existence of sharp differences in functional literacy between males and females (Malawi Government, 2005). As these findings draw attention to differences in the levels of protective behaviour rooted in variations in general education, they also suggest the need to view women's education as a foothold for HIV/AIDS prevention and control in Malawi. Hence strengthening policy aimed at promoting the enrolment and retention of girls in school, especially young female orphans, can play a critical role in promoting protective sexual behaviour and help to reduce the spread of HIV/AIDS in Malawi.

The importance of alcohol consumption as an inhibitor of HIV testing in males is noteworthy. Although bottled liquor is expensive and unaffordable to many Malawians, other alcoholic beverages are readily available at cheap prices. Most notable is locally-distilled high potent liquor (*kachasu*) widely consumed in urban areas which is increasingly implicated in poor health-seeking practices, including risky sexual behaviour (Mkandawire et al. 2011). Alcohol consumption not only impairs reason, leading to risky sexual behaviour (Luginaah, 2008; Freeman, 2008; Kalichman et al., 2008) but can also lead to poor judgment on a

decision to test for HIV/AIDS. In fact, Campbell (2004) noted that peer drinking networks can serve as arenas where poor health-seeking behaviour is venerated. Therefore, enforcing by-laws aimed at curbing juvenile drinking can play an important role in HIV prevention among youth in Malawi.

The finding that young women who are treated at a health facility are also more likely to test for HIV/AIDS points to the benefits of having a consistent access to health care services. Generally, utilization of health care services is associated with various attendant benefits, including providing links to other services such as life skills education or youth friendly sexual and productive health services (UNICEF, 2006). Consequently, those who are unable to seek care during an illness or resort to unorthodox providers, such as traditional healers stand to forgo these benefits. Given that the majority of people in Malawi do not have ready access to health facilities on account of economic cost, geographic distance or socio-cultural barriers (Malawi Government, 2010; Zere et al., 2007) this finding suggests an urgent need for the government to expand health care services if people are to take full advantage of the recent VCT scale-up in Malawi.

The apparent beneficial effects of both child mentoring and co-residence on testing for HIV/AIDS as evident in this study have profound implications for living arrangement of youth in Malawi. It is generally argued that caregiver attention, monitoring and support can lead to adoption of sexual risk reduction strategies (Miller, 2002; Cluver and Gardner, 2007). In addition, being surrounded by close friends and significant others can make initiation and sustainment of otherwise difficult positive behaviour relatively easy (Hallman, 2005). While regular interaction between youth and guardians can provide scope for parents to informally exert social norms and social control on sexual behaviour of children in culturally appropriate

ways, ready access to familial support or peers can also encourage HIV/AIDS testing (Horizon, 2001; Adeneye et al., 2006). This finding suggests the need for the Malawi government policy to reinforce the existing policy, which aims at fostering orphans within the kinship network.

While literature on the links between food and HIV testing is still rare, the finding that food insecurity is linked with low testing in the particular context of Malawi is disturbing. Though not directly comparable, the notion that being food insecure is associated with decreased likelihood of testing nonetheless resonates with findings of studies from other regions in Malawi which have drawn attention to close connections between food insecurity and HIV/AIDS. For example, acute food shortage in the Southern Region lakeshore district of Mangochi coincides with a period of high *usipa* (a fish available in Lake Malawi, *Engraulicypris sardella*) which offers income generating opportunities for the poor. The increase in competition among women for processing and trading *usipa* however results in increased instances of transactional sex in this male-dominated fish industry (Nagoli et al., 2010). Beyond physiological need, acute household food shortage can create anxiety and stress and this psychological pressure can compete with or even undermine critical health-seeking behaviour (Tarasuk, 2001). This stress can lead to a situation where although people might be aware of benefits of VCT, competing rationalities pertaining to everyday survival can restrain them from testing for HIV/AIDS.

Findings of this study may be limited by potential reporting bias - respondents might have provided socially desirable responses. However, attempts to minimize this potential bias included gender and age-group matching of interviewers and respondents. This practice has been shown to promote trust and more honest self-reports of intimate personal

accounts (Poulin, 2010). Another limitation is that the use of cross-sectional data precludes from drawing conclusive causal inferences. Nonetheless, findings of this study remain useful with respect to addressing part of existing gaps in literature regarding factors associated with VCT among youth in Malawi, especially the question of unusually low uptake of testing among orphans. Since VCT remains a cornerstone of the national response to HIV/AIDS epidemic in Malawi, the persistence of low access to testing in orphans raises vexed questions in a country already struggling to contend with HIV/AIDS and orphans crisis.



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## CHAPTER FOUR

### ORPHANHOOD STATUS AND TIME TO FIRST SEX AMONG ADOLESCENTS IN NORTHERN MALAWI

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### Abstract

**Context:** Few studies have examined the unique role of orphan status on the time to sexual debut in sub-Saharan Africa. This study examines the effects of orphan status on the timing of first sexual intercourse among youth in Malawi.

**Methods:** Log-normal models in survival analysis are applied to survey data collected from 1214 adolescents in Mzuzu, Northern Malawi.

**Results:** Being an orphan is a significant predictor of age at first sex. Male double orphans experienced first sexual intercourse earlier than their male non-orphan peers. Female maternal and paternal orphans had their sexual debut faster than their non-orphan counterparts. Living in a household perceived to be food insecure or separately from siblings exposed girls to early sexual debut. Young males who have close relatives that regularly visit them delay sexual debut and young women who live in an extended family setting also report slower timing to first sexual intercourse. The introduction of social support variables (having close friends, close relatives and living in the same household with natal siblings) accounted for the orphans' disadvantage.

**Conclusion:** To delay sexual initiation and reduce HIV risk among orphans in Malawi policy efforts should focus on enhancing factual knowledge about HIV/AIDS, household food security, and social support, including measures to guard against dispersal of families with deceased parents.

**Key words:** orphanhood, Northern Malawi, first sex, HIV/AIDS

## 4.1 Introduction

Early initiation of sexual activity among young people (e.g. at 15 years or less) is generally considered to be associated with high risk of HIV infection (Desgrees du Lou, 1999; Akwara et al., 2003; Tenkorang et al., 2009). This risk is generally attributed to adolescents' lack of adequate and correct knowledge about how to prevent sexually transmitted infections (STIs), including HIV/AIDS, coupled with their inability to successfully negotiate for safer sex at this stage of the life course (Hulton et al., 2000; Zulu et al., 2002). For example, in South Africa, Harrison et al. (2001) found that youth who began having sex before the age of 15 were subsequently less likely to use condoms and more likely to have multiple casual sexual partners. In Zimbabwe, Hallet et al. (2007) reported that women with an earlier sexual debut were more likely to be infected with HIV due to exposure to higher number of sexual partners in comparison to their age-mates. A study by Akwara et al. (2003) in Kenya also indicated that youth were one and half times more likely subsequently to have multiple sexual partners and to have sex without condoms if their first sex occurred as early as 15 years. In fact, Bongaart (2007) found a significant association between time to first sex and HIV infection in sub-Saharan Africa (SSA). Thus, evidence so far shows that delayed sexual onset is an important marker of positive sexual behavioural change in regions affected by the HIV/AIDS epidemic (UNAIDS, 2009; Slaymaker et al., 2009).

While some studies have examined the correlates of age at first sex and attendant risks amongst adolescents in general (Zaba et al., 2004; Hallman 2005; Hallet et al., 2007; Cooper et al., 2007), few have investigated the unique role that being an orphan plays in shaping



sexual risk (UNAIDS 2008; Mmari et al., 2009). A few studies have examined to varying degrees the distinctive ways in which orphanhood affects the timing of sexual onset and sexual risk (e.g. Gregson et al., 2005; Thurman et al., 2006; Birdthistle et al., 2008; McGrath et al., 2009). For instance, McGrath (2009) found that maternal death was associated with earlier sexual activity for female youth in rural South Africa. In an urban residential area in Zimbabwe, Birdthistle et al. (2008) found that maternal and double orphans were particularly at risk of initiating sex earlier, and that double orphans were less likely to use a condom during the first sexual act. Although the relationship between orphanhood status and sexual behavior is being documented in other parts of sub-Saharan Africa, not much is known about the situation in Malawi. The only known study to have examined age at first sex in Malawi was conducted by Munthali et al. (2006). Using life table analysis, the study reported that male youth have an earlier median age to first sex than females. However, the study did not examine the role of parental status.

This paper contributes to the literature by exploring the link between orphanhood status and timing to first sexual intercourse among young people in Northern Malawi. It is hypothesized that orphans (maternal, paternal and double) will experience sexual debut earlier than non-orphans, controlling for other theoretically relevant covariates. We also consider gender-specific models given that past research has reported differences in sexual behaviors and HIV prevalence among males and females (Tenkorang et al., 2009; McGrath et al., 2009).

Recognizing that previous studies have stressed the need to understand sexual risk in its broader context (Craddock, 2000; Campbell, 2004), the socioeconomic environment is captured in this study through an examination of the influences of household food security,

given that some children may be led by food insecurity to resort to high risk coping strategies (Thurman et al., 2006; Eaton et al., 2003). For example, Thurman found that youth from poor households were more likely to report earlier age at first sex than those from wealthier families.

Beyond the question of food security, the issue of who mainly is responsible for food provision within the household has received independent consideration in the literature. Studies have shown childhood responsibility for household provision of food present has detrimental effects on physical and psychosocial well-being (Foster and Williamson, 2002). It is expected that youth who live in food insecure households and are themselves are responsible for provision of food will be vulnerable to exploitative sexual relationships (Hallman, 2005)

Studies have shown that social support can facilitate adoption of sexual risk reduction practices (Miller, 2002; Tenkorang, 2004; Cluver and Gardner, 2007). For example, Miller (2002) found that greater parent and caregiver connection protected adolescents from the risk of pregnancy and other related sexual risks. Thus youth who live in close proximity with supportive relatives and natal siblings, and have close friends generally are expected to refrain from risky sexual activities including delaying first sexual intercourse than those more remotely connected with their relatives.

Socio-psychological models of health behaviors emphasize the relevance of knowledge factors to risky sexual behaviors (Fisher and Fisher, 1992). While some studies find knowledge about HIV/AIDS to be strongly related to sexual risk aversion (Abma et al., 2003; Mueller et al. 2008) others find no significant relationship (Akwara et al., 2003;

MacGrath et al., 2009). In addition, HIV/AIDS transmission myths undermine correct knowledge about sexual risk and the adoption of safe sex behaviours (Campbell, 2004; Castle, 2003). This study also controls for both HIV/AIDS knowledge and transmission myths.

This study also controls for household structure, given that past research has found that differences in household organization have implications for access to resources that can in turn shape general wellbeing and sexual behaviours of youth (Nyamukupa and Gregson, 2005; Miller, 2002). For example, although some studies have found risky sexual behaviour among youth residing with both parents (e.g. Meeker and Ahmed, 1986), others argue that there is an even much greater risk of indulging in risky sexual behaviors in youth residing in single parent households (Miller, 2002) and that such risks may vary by the gender of household head (LaFont and Hubbart, 2007).

## **4.2 Context**

Malawi provides a particularly appropriate context for examining the question of age at first sex not only because the country has one of the highest HIV/AIDS prevalence in the world (UNAIDS, 2009), but also because it has one of the youngest populations. More than half the population is aged below 18 (Malawi Government, 2008). It is estimated that 14 percent of this cohort has lost one or both parents, of whom 58 percent lost their father, 23 percent lost their mother and 19 percent lost both parents (Malawi Government, 2005). The majority of these orphans are concentrated in the urban areas. Malawi is also one of the world's poorest countries with 65 percent of the people living on less than US\$2 per day (Malawi Government, 2005). The rapid spread of HIV/AIDS from national prevalence of 2 percent in 1986 when the virus was first reported to the current level of 12.7 percent

(UNAIDS, 2009) has contributed to the swift increase in the number of orphans. There are over one million orphans in Malawi.

Literacy level is low in Malawi. The current 65 percent literacy level is characterized by stark gender differences where 78 percent of men are literate while only 52 percent of the women can read and write (Malawi Government, 2005). The overwhelming majority of people in the country still lives in rural areas and subsist on agriculture although an upsurge of rural-urban migration has been noticed over the past two decades (Malawi Government, 2008). Although agriculture is the mainstay of the economy, household food insecurity, caused by declining soil fertility, changing weather patterns, acute land shortage and poor agriculture and food security policies, persists (Harrigan, 2008).

The northern region of Malawi, where this study was conducted, has a population of 1.7 million, accounting for 13 percent of national population (Malawi Government, 2008). The region's HIV prevalence of 8 percent ranks second after the southern region (17 percent) and adult mortality remains high. For instance, one in six households in the region experienced death of an adult member, 65 percent of whom were people aged 25 or older. The region's dependency ratio is at par with the national average of 1.1 (Malawi Government, 2005)

### **4.3 Study Methods**

Data for this study were collected between May and December 2009 in Mzuzu city in Northern Malawi. Enumeration data from the 2008 Malawi Population and Housing Census (the country's most recent census) were used to construct a sampling frame of

households from which a random sample of 1214 adolescent male and females aged between 12 and 18 years were selected for survey interview. The choice of the age range for the study sample was to facilitate a direct comparison between adolescent orphans and non-orphans. Thus 12 years is the approximate lower age limit for adolescence (see Spears 2000) and 18 as the upper age limit for orphanhood (UNICEF 2004). Sampling directly from the general population ensured that both in-school and out-of-school adolescents stood comparable chances of being represented in the study sample. The survey was administered by a group of ten male and female interviewers from a local university (Mzuzu University) who demonstrated good communication skills in both English and Tumbuka (local language). These interviewers were trained prior to the survey in data collection, including on the imperative to exercise courtesy as well as composure when handling sensitive questions. Interviewers and interviewees were matched during the interviewing process based on gender and age-group. The present analysis excludes 39 surveys with erroneous and/or missing entries on age, sex, and parental status, resulting in 1214 cases for the final analysis.

### *3.3.1 Measures*

To examine time to first sex, the study adapted questions from the Demographic and Health Survey. The dependent variable, age at first sex, was measured using the question: ‘At what age did you first have sexual intercourse, meaning full penetration?’ In response respondents gave their complete ages at their sexual debut. The focal independent variable in this analysis, orphanhood status, consists of four categories; non-orphan, maternal orphan, paternal orphan and double orphan. This information was obtained by asking respondents; ‘Are both your biological parents (mother or father) alive at the time of the survey?’ If the

respondent answered 'no', then they were asked 'Which of your parents is not alive?'

Participants recording loss of only a mother have been coded as maternal orphans only, those indicating loss of father have been coded as paternal orphans only whereas those who lost both mother and father have been coded as double orphans.

Two single-item indicators measuring knowledge about HIV/AIDS are used in this analysis. The first variable has been constructed from responses to the question as to whether abstinence is an effective strategy for preventing the transmission of HIV. Similarly, for the second variable, respondents were asked as to whether using a condom during sexual intercourse was an effective strategy for HIV prevention. Respondents who answered in the affirmative to these questions have been coded '1' and '2' otherwise. Transmission myths have been created using Principal Component Analysis (PCA) from responses to questions about whether HIV/AIDS can be transmitted through supernatural means, kissing and mosquito bites. Responses have been coded '1' if youth answered in the affirmative and '2' otherwise. Factor loadings for the measures range from 0.73 to 0.83 (Cronbach's alpha = 0.54) with higher scores representing rejection of myths.

Four questions were asked regarding vulnerability to food insecurity at the household level. These included whether in the past 4 weeks prior to the survey youth had ever gone without liked food, with smaller than usual amount of food, with fewer meals than usual, and without any food. Using PCA the four questions load on a single latent construct with factor loadings ranged from 0.78 to 0.87 (Cronbach's alpha =0.51). Higher values on the scale indicate increased vulnerability to food insecurity.

In addition to food security, youth were also asked whose responsibility it was to ensure food was available in the household. Response categories for this variable include 'Parents=1', 'Sibling=2', 'Respondent =3' and 'Relatives =4' with 'Parents' as the reference category.

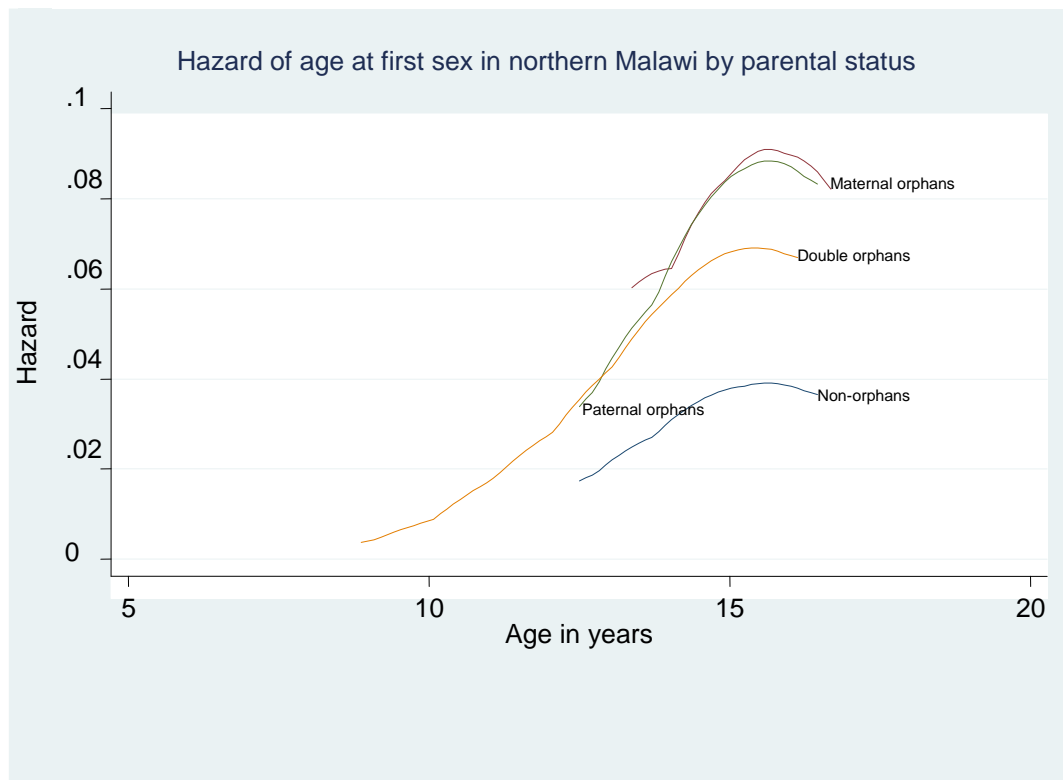
Variables capturing social support include questions asking the number of close friends a respondent had (coded One friend =1, Between 2 and 5 = 2, More than 5=3), whether the respondent live in the same house with their biological siblings (coded Co-residence =1 and Separate Residence = 2) with co-residence as reference category. Respondents who had close relatives who visited them have been coded as Yes = 1 and No = 2 and the structure of the household in which the respondent lived have been coded as Female-headed= 1, Male-headed= 2, Nuclear = 3, Extended = 4 and Child-headed = 5.

#### *4.3.2 Data analysis*

A log-normal hazards model is used to examine the independent effect of orphanhood status on the time to first sex while controlling for other theoretically relevant covariates. The log-normal model is chosen over other parametric models because the underlying distribution of the hazard function in this study sample approximates a normal distribution (see smoothed hazard in Fig 3). The log-normal model parameterizes in accelerated failure time (AFT) metric and estimates directly time to first intercourse (Lawless, 1982; Royston, 2001). Using Stata we obtain time ratios that show how early or late different categories of orphans experience first sexual intercourse, relative to non-orphans (reference category). Time ratios of magnitudes of less than one signify initiating sex earlier, while time ratios greater than one indicate slower timing or initiating sex later (see Table 5 and 6).

Separate models are built for boys and girls to consider how our covariates differentially affect time to first sex in different orphan gender groups. Frailty is introduced into the models to account for unobserved heterogeneity between individuals within the sample and obtain more statistically robust parameter estimates.

**Figure 3: The hazard function of age at first sex by gender in Northern Malawi**



## 4.4 Results

### 4.4.1 Bi-variate Analysis

Table 6 presents the sample size, median age at first intercourse and time ratios from the hazard models built with each independent variable.



<b>Table 6: Bi-variate hazards of age at first sex in orphans in Northern Malawi</b>				
<b>Independent Variable</b>	<b>Male</b>		<b>Female</b>	
	N(%)	TR (95% CI)	N (%)	TR (95%CI)
<b>Orphan status</b>				
Non-orphan (ref)	373(65.1)	1.00	421(65.7)	1.00
Maternal orphan	36(6.3)	.972(.90-1.04)	25(6.1)	.901(.85-.96)**
Paternal orphan	101(17.6)	.964(.92-1.01)	128(20)	.922(.89-.95)**
Double orphan	63(11.0)	.929(.88-.98)*	53(8.3)	.981(.92-1.04)
<b>Knowledge</b>				
<i>Abstinence</i>				
No (ref)	59 (10.3)	1.00	90 (14)	1.00
Yes	514 (89.7)	.431 (.07-2.62)*	551(86.0)	1.582 (.32-7.82)*
<i>Condom</i>				
No (ref)	301 (52.5)	1.00	389 (60.7)	1.00
Yes	272 (47.5)	.085 (.03-.23)**	252 (39.3)	0.047(.031-.23)**
<i>Myths</i>	573	1.180 (.85-1.63)	641	.949 (.46-1.94)
<b>Food</b>				
<i>Food security</i>	573	.991 (.59-1.65)	641	.247 (.15-.41)**
<i>Food provision</i>				
Parent/Guardian (ref)	458(79.9)	1.00	515(80.3)	1.00
Sibling	74(12.9)	.931(.87-.98)*	67(10.5)	1.061(1.01-1.11)*
Respondent	17(3.0)	.900(.82-.99)*	13(2.0)	.913(.86-.97)*
Relative	24(4.2)	.962(.86-1.08)	46(7.2)	.978(.92-1.03)
<b>Social support</b>				
<i>Friends</i>				
1 close friend (ref)	25(4.4)	1.00	51(8.0)	1.00
More than 1 less than 5	149(26.0)	1.022(.94-1.11)	217(33.9)	.991(.93-1.04)
More than 5	389(67.9)	1.070(.99-1.16)	355(55.4)	.993(.94-1.04)
<i>Close relatives</i>				
No (ref)	545(95.1)	1.00	609(95)	1.00
Yes	30(4.9)	1.127(1.081.18)**	32(5)	1.139(1.09-1.18)**
<i>Siblings residence</i>				
Co-resident (ref)	545(95.1)	1.00	609(95)	1.00
Separate residence	28(4.9)	.950(.91-.98)*	32(5)	.969(.94-.99)*
<i>Household structure</i>				
Female-headed (ref)	96(16.8)	1.00	118(18.4)	1.00
Male headed	45(7.9)	1.059(.98-1.14)	25(3.9)	1.009(.92-1.10)

Nuclear	146(25.5)	1.074(1.01-1.14)*		181(28.2)	1.013(.92-1.06)
Extended	270(47.1)	1.039(.99-1.09)		308(48.0)	1.050(1.01-1.20)*
Child-headed	16(2.8)	.93(.84-1.02)		9(1.4)	1.202(1.03-1.39)*
<b>Median AFS</b>	14.1			15.3	
Significance: * p-value < 0.05, **p-value <0.01					

For young males, being a double orphan is associated with faster timing to first sex whereas paternal or maternal female orphans are relatively younger when they first have sexual intercourse. Knowing that abstinence can prevent HIV/AIDS is associated with faster time to first sex in young males and slower time in females, while knowledge that using a condom can prevent HIV/AIDS transmission is associated with earlier sexual debut in both males and females. Rejecting HIV/AIDS transmission myths is associated with slower time to first sex in males and faster time in females.

Being food insecure is associated with earlier sexual initiation in both males and females. Male and female adolescents who bear responsibility for their own food provision also report becoming sexually active earlier than when the food in the household was being provided for by parents or guardian. Male adolescents who have their siblings provide food for them also experience their sexual debut faster. On the contrary, female adolescents who have their siblings provide food for them initiate sex later. Both young female and male respondents who have a close relative who regularly visits them delay sexual onset. On the other hand, not living in the same residential unit with natal siblings is associated with early sexual debut in both male and female adolescents. Living in a nuclear family is associated

with delayed sex in boys while for girls, residing in an extended family and child headed family provide protection against early sex.

#### **4.4.2 Multivariate Analysis**

Six multivariate models are fitted as shown in Table 7, three each for males and females. The first model examines the effects of orphan status and knowledge about HIV/AIDS on the timing of sexual onset. The second model adds variables capturing food security, while the third model controls for social support variables. All the three models also control for unobserved heterogeneity.

Being an orphan is a significant predictor of time to first sex. Male double orphans experience first sexual intercourse 7.5% ( $Z=-2.65$ ,  $p<0.05$ ) earlier than male non-orphans. Similarly, female maternal and paternal orphans experience their sexual debut 9.7% ( $Z= -3.49$ ,  $p<0.001$ ) and 7.6% ( $Z= -4.42$ ,  $p<0.001$ ) faster than non-orphan counterparts, respectively. Rejecting that a condom can prevent HIV/AIDS is associated with slower time to first sex in females only by 1% ( $Z=2.12$ ,  $p= <0.05$ ) while rejecting HIV/AIDS transmission myths is associated with slower time in males.

**Table 7: A hazard analysis of age at first sexual intercourse for males and females in Malawi**

Independent Variables	Male			Female		
	Model 1 TR (95% CI)	Model 2 TR (95% CI)	Model 3 TR (95% CI)	Model 1 TR (95% CI)	Model 2 TR (95% CI)	Model 3 TR (95% CI)
<b>Orphan status</b>						
Non-orphan (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Maternal	.9712 (.89-1.04)	.985(.91-1.06)	.978(.90-1.05)	.903(.85-.95)**	.915(.86-.97)*	.968(.91-1.03)
Paternal	.963(.92-1.01)	.970(.92-1.02)	1.001(.95-1.06)	.924(.89-.96)**	.958(.92-.99)*	.993(.95-1.04)
Double	.925(.87-.98)*	.941(.88-.1.00)*	.979(.92-1.04)	.983(.92-1.04)	1.000(.95-.1.05)	1.037(.95-1.04)
<b>Knowledge</b>						
No (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Abstinence	1.012(.95-1.08)	1.001(.95-1.07)	1.018(.95-1.09)	.956(.91-1.00)	.954(.91-.1.00)*	.959(.91-1.00)
Condom	1.036(.99-1.08)	1.034(.99-1.08)	1.016(.97-1.06)	1.06(1.02-1.09)**	1.059(1.03-1.09)*	1.049(1.01-1.08)*
Transmission myths	1.01(1.00-1.02)*	1.012(1.00-1.02)*	1.012(1.01-1.03)	1.01(.99-1.03)	1.004(.98-1.98)	1.002(.98-1.02)
<b>Food security</b>						
<i>Availability</i>		.996(.98-1.02)*	.989(.97-1.01)		.966(.95-.98)**	.969(.95-.99)**
<i>F/ responsibility</i>						
Par/Guardian (ref)		1.00	1.00		1.00	1.00
Sibling		.939(.89-.99)*	.956(.91-1.01)		1.065(1.01-1.12)*	1.059(1.00-1.12)*
Respondent		.909(.82-1.01)	.950(.85-1.05)		.964(.90-1.03)	.986(.91-1.07)
Relation		.969(.86-1.09)	.957(.85-1.08)		.964(.91-1.02)	.939(.89-.99)*
<b>Social Support</b>						
<i>Close friends</i>						
1close friend (ref)			1.00			1.00
More than 1 than 5			1.025(.942-1.12)			.983(.94-1.03)
More than 5 friends			1.062(.98-1.11)			.975(.93-1.02)

<i>Has close relatives</i>						
No (ref)			1.00			1.00
Yes			1.123(1.08-1.72)**			1.125(1.08-1.17)**
<i>Sibling residence</i>						
Co-resident (ref)			1.00			1.00
Separate residence			.973(.93-1.02)			.963(.93-.99)*
<i>Household structure</i>						
Female-headed (ref)			1.00			1.00
Male-headed			1.124(1.03-1.22)*			1.005(.91-1.10)
Nuclear			1.041(1.03-1.22)			1.001(.95-1.06)
Extended			1.032(.97-1.09)			1.112(.96-1.06)*
Child-headed			.954(.85-1.06)			1.139(.99-1.31)
Sample size	573	573	545	641	641	607
Number of failure	175	175	169	156	156	146
Log pseudo	-91.797061	-87.382076	-60.03994	-37.433612	-24.21174	2.9204716
Model Sig (Wald)	14.81(6)*	21.48(10)*	68.13(18)**	45.83(6)**	65.38(10)**	91.49 (18)**
Frailty	0.17 (0.01)**	0.16 (0.02)**	0.15 (0.02)**	0.13 (.01)**	0.13 (0.03)**	0.12 (0.03)**
Significance: * p-value < 0.05, **p-value <0.01						

Even when variables capturing food security are controlled for in model 2, the effects of orphan status on time to first sexual intercourse is retained in both males and females, although these effects are marginally attenuated. Being food insecure is associated with faster timing (TR=3.4%) to sexual onset for females ( $Z=-3.86$ ,  $p<0.001$ ) and only marginally (TR<1%) for males. Males who have their sibling provide food for them in the household have faster timing to first sex (TR= 6.1%,  $Z=-2.50$ ,  $p<0.05$ ). For females, however, having a sibling provide food in the household slows down time to first sex ( $Z=2.45$ ,  $p<0.05$ ).

Finally, in model 3 social support variables are entered (see Table 2). Having a close relative who regularly visits is associated with slower timing to first sex for both males and females (TR=12.2%,  $Z=5.24$ ,  $p<0.001$ ) and (TR=12.5%,  $Z=5.93$ ,  $p<0.001$ ), respectively. Female adolescents not living in the same household with biological siblings have faster timing to first sex (TR=3.7%  $Z= -2.23$ ,  $p<0.05$ ) while males and females living in male and female headed households have slower timing to first sex, respectively. It is important to note that when social support variables are entered into the model, the orphanhood disadvantage for both males and females vanishes and loses statistical significance. This means that social support variables offset the disadvantageous effects of orphanhood status with respect to time to first sexual intercourse.

#### **4.5 Discussion**

Of the three indicators measuring knowledge, only factual knowledge related to condoms among females maintains significance in the multivariate models. The finding that females without the knowledge that a condom can reduce the risk of HIV/AIDS

transmission have slower timing to their first sexual experience seems counterintuitive. However, it may be that adolescents who do not trust condoms or are generally unaware of reliable alternative ways of preventing HIV/AIDS may be overly risk averse such that they may resort to countering risk of contracting the virus by delaying sexual onset.

The significant relationship between household food security and sexual risk in this study demonstrates the mediating role of food in shaping HIV/AIDS risk. Findings of this study support studies from settings both within and outside of Malawi. From within the country, for example, Bryceson and Fonseca (2006) reported the practice of exchanging sex for food among peasant women in semi-urban areas of Lilongwe, the capital city. Women in this area were particularly driven into transaction sex to meet their household food needs. Elsewhere, Zulu et al. (2002) similarly reported that the presence of an acute household food shortage was a major reason why women resorted to risky sexual encounters such as multiple sexual partners in a slum residential area in Nairobi, Kenya. Food insecurity can lead to increased HIV risk through different pathways. Even though scope for precocious sexual behaviour cannot be ruled out, practical concerns and pressures linked to immediate survival needs among orphans can make otherwise risky sexual practices seem relatively inconsequential especially in a context where effects of such actions seem distant and uncertain. In coping with food shortage, orphans may not only strategize about how to bridge their current food deficit (Devereaux, 2001). They may practice triage, adopting first strategies that defer adverse consequences and delaying those strategies which exacerbate current vulnerability. Thus orphans engaging in sexual activities may not necessarily be oblivious to sexual risks involved but they may be compelled to take difficult decisions in order to survive. Risky sexual behaviour emerges

within the context of extremely limited choices. Therefore, interventions to improve household food security can delay sexual onset and help to prevent the further spread of HIV/AIDS in Malawi.

Both the availability of household food supply and who actually shoulder the overall responsibility for supplying the food in the household are important. Consistent with research that argues for the need to pay more attention to factors beyond individual behaviour in explaining sexual risk (Hallman, 2005), our study shows that when overall responsibility for household food provision rests with a fellow sibling, as opposed to a parent or relative, boys engage in sexual intercourse earlier. This particular finding suggests that premature assumption of adulthood responsibility can increase risky sexual behavior as a means of coping. However, other explanations can also account for the relationship between household food security and sexual risk. For example, as nutrition is a recurrent physiological need, constant worries about how to find food can reduce self-worth, which can in turn motivate hazardous personal behaviour, including risky sexual encounters (Tarasuk, 2001; Ssewamala et al., 2010).

By contrast, our study also shows that when the burden of food provision rests with another sibling other than the respondent, girls delay sexual onset. This particular finding can be explained with recourse to emerging research from SSA which argues that as pressure on the extended family network intensifies children continue to be drawn into caring roles in ways that do not necessarily resonate with ideal notions of childhood as time of play (Evans and Becker, 2009). In many parts of SSA, children are perceived as social actors, and therefore expected to contribute to household wellbeing. For instance,



evidence from western Kenya suggests that communities which subscribe to a view of children as social actors, where social systems to support youth to meet these expectations have been developed, children's participation in domestic roles is neither a burden nor resented. Notwithstanding the foregoing, participation in domestic economies can also be empowering for children, given opportunities that such roles present for development of life skills, sense of pride, self-discipline, resilience and positive social image (Skovdal et al., 2009). However, the disadvantaged situation of orphans continues to entail considerable physical, psychological and educational costs for children.

Depictions of children which downplay their contributions to household functioning and care for other family members may be misrepresentations. It is better to understand vulnerability within its particular socio-cultural and political context. The finding that sibling responsibility for food provision has opposite effects in males and female argues for building separate statistical models by sex/gender. The provision of food by other siblings does not dissuade male adolescents from initiating sex earlier in this study. This finding might stem from the fact that in Malawi boys are expected to engage in economic ventures outside the home while girls are largely confined to domestic arena to perform household chores (Lloyd and Grant, 2005). These gendered expectations can mediate the relationship between household food security and sexual risk. In view of this, prevention policy should be sensitive to the extent to which the vulnerability of orphans emanating from changes in domestic division of labour varies by gender.

The findings that both male and female adolescents with close relatives that regularly visit them delay their sexual debut and females that reside in a different house from their biological siblings initiate sex earlier point to the pivotal role of social support in buffering sexual risk in youth. The attenuation of the time to first sex in orphans once social support variables have been controlled for in the models underscores the importance of social support in warding off HIV/AIDS risk in vulnerable populations. Maintaining strong emotional relationships with orphans and displaying supportive attitudes can provide the much-needed love, sense of belonging, and can reduce anxiety and thus facilitate adoption of safer sexual behaviour (Hallman 2005; Miller 2002). Close relationships between children and parents/guardians can also moderate peer perceptions about sexual norms and mitigate sexual risk-taking intentions. Likewise, the finding that female youth living in extended families delay transition to sex can be explained by relative abundance of psychosocial support such family environments tend to confer. The extended family system, although undeniably strained and sometimes unreliable given its potential systematically to discriminate among its beneficiaries (Baylies, 2002; Thurman et al., 2008) remains a vital source of emotional and material support for vulnerable children (Evans and Becker, 2009). Even the negative effects of economic and material hardship are likely to diminish significantly when orphans have a profound sense of belonging. Being loved among orphans can in turn reduce stigma and provide the motivation required to cope with difficult life circumstances (Evans and Becker, 2009). That the lack of social support accounted for so much of orphan disadvantage is an endorsement of the current HIV/AIDS policy in Malawi which has resolutely advocated fostering children within kinship network (Malawi Government, 2003).

Findings and conclusions of this study have potential limitations. Firstly, the models do not control for ethnicity and religion as the survey did not include questions on these demographics. Tensions along ethnic lines have recently sharpened in Malawi following reintroduction of quota system - where the number of students selected into public secondary and tertiary education institutions is tied to district population rather than strictly based on merit (see Nyasa Times January, 2010). It was apparent during questionnaire pre-testing that many respondents were reluctant to give information on their personal religious and ethnic backgrounds because people in northern Malawi, where the study took place, generally believed that the quota system was politically motivated and targeted the region which has allegedly had historic advantage in the country's education system. Given that religious denomination and ethnic identities generally coincide with regional/political boundaries, and that our study population almost entirely consisted of school-going youth directly affected by the new policy, insisting on collecting such sensitive information would compromise overall quality of data. More importantly, the need to uphold the ethical principle of non-maleficence prevailed over our research interests (UNAIDS, 2007).

Findings of this study may also have been affected by potential cultural sensitivity associated with discussing sexual matters. An inclination to provide socially desirable responses, especially in young women, cannot be ruled out, given that social norms in Malawi tend to be more accepting of boys having premarital sex than girls (Poulin, 2010). However this bias may have been attenuated by the gender and age-group matching of interviewers and respondents adopted to promote openness and trust. In addition, using interviewers who were familiar with local dialect and cultural norms allowed use of

language which carried local discourses around intimate relationships, minimizing potential withholding (Mensch et al., 2008). Furthermore, use of questions from previously tested instruments may have curbed bias and inconsistency. Another potential limitation is that by using cross-sectional data we are unable to draw causal inferences between age at first sex and focal independent variables (Willet and Singer, 2003). Nonetheless, findings of this study may advance the literature on vulnerability of orphans and guide HIV/AIDS prevention policy, and being a foothold for future longitudinal studies.

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## **CHAPTER FIVE**

### **LOST IN THE SHUFFLE: FEMALE ORPHANS VULNERABILITY TO HIV/AIDS IN NORTHERN MALAWI**

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### Abstract

*Objectives:* Although a growing body of research has linked youth with risky sexual behaviour, few studies have especially focused on orphans as a distinct group despite their unique circumstances of having lost one or both parents. We therefore examined the net effect of orphan status on self-reported sexual risk-taking in youth in Northern Malawi.

*Methods:* Using data collected from Mzuzu city in Northern Malawi (n=1214) we used ordered complementary log-log models to determine the effect of being an orphan on sexual risk-taking controlling for theoretically relevant covariates.

*Results:* The study indicates that being an orphan is an important predictor of high risky sexual behaviour (not abstaining or not using a condom). However, high sexual risk-taking behaviour of male orphans disappear after controlling for variables capturing socioeconomic status, suggesting that orphans' risky sexual practices are linked to structural disadvantage. However, although female orphans disadvantage is attenuated it nonetheless persists, raising concerns of varied sexual risk within the orphan cohort.

*Conclusion:*

Findings of this study suggest that risky sexual behaviours of orphans in Malawi may be rooted in their socioeconomic disadvantage. However, the persistence of risky sexual behaviour in female orphans casts doubt on the adequacy of existing strategies, suggesting that policies aimed at preventing HIV/AIDS among orphans should be located within a broader strategy that also addresses the particular needs of female orphans.

**Keywords:** orphans, HIV/AIDS, sexual risk-taking, Northern Malawi

## 5.1 Introduction

This paper examines the pattern of sexual behaviour among youth in Northern Malawi with a particular focus on orphans. Sexual abstinence, partner reduction (fidelity) and condom use remain essential policy defenses against the spread of HIV/AIDS in countries heavily affected by the epidemic (UNAIDS 2010).

Although current estimates point to relative stability in the prevalence of HIV/AIDS at the global level and declining trends in some regions (WHO, 2010; Bongaart et al., 2011), celebration of these successes is tempered by concerns that appreciably high levels of new infection remain in other settings. For example, in 2009 approximately 2.7 million people were newly infected with the virus in SSA alone, the majority of which were concentrated in marginalized groups such as refugees, migrants, or sex workers where an unusually high level of risky sexual behaviour persists (UNAIDS, 2010).

Malawi is one of the countries in SSA where the spread of HIV/AIDS epidemic continues. Although prevalence has remained relatively stable over the years, 12.7 percent of 14 million Malawians presently live with the virus (Malawi Government, 2010). Given that youth tend to engage in high risk sexual behaviour, efforts to combat HIV/AIDS are compounded by the fact that Malawi has one of the largest adolescent cohorts in the world in percentage terms. Youth aged below 18 years account for 52 percent of total population in Malawi and the country's median age currently stands at 17 years (Malawi Government, 2008; UNICEF, 2010). Recognizing that youth tend to engage in more risky behaviour, government policy continues to emphasize sexual

abstinence and safer sexual behaviour among young males and females as highlighted in the country's current HIV and AIDS Extended National Policy Action Framework. The government has also stepped up efforts to promote HIV/AIDS awareness, condom supply and availability of HIV testing services (Malawi Government, 2010). The impetus to curb HIV transmission in young people rests on the understanding that risky sexual behaviour among this group can catalyze and worsen the spread of the HIV/AIDS epidemic in the country.

Against a backdrop of worsening socioeconomic conditions the majority of Malawi's adolescent cohort continues to contend with poor access to food and nutrition, health care, hygiene and sanitation (Zere et al., 2007; Moleni, 2008). These challenges are especially exacerbated for orphans who constitute 15 percent of this group. There are over one million orphans in Malawi (Malawi Government, 2009a). As part of a broader strategy to deal with the orphan crisis, the government embarked on a free primary education and continues to promote strategies aimed at ensuring that orphans are primarily fostered within the extended family network (Malawi Government 2003).

The persistently high HIV/AIDS prevalence rate in Malawi also means that these young Malawian men and women continue to grow up and become sexually active in an environment that has the risk of acquiring the HIV virus in addition to the usual risks of pregnancy and sexually transmitted infections (STIs). Against this backdrop, it has been noted that many new HIV infections occur among youth in Malawi. In fact, it is estimated that 6 percent of the 15-24 age group lives with HIV/AIDS (Malawi Government, 2010).

High levels of HIV/AIDS prevalence in Malawi co-exist with high levels of knowledge about HIV/AIDS among the general population. Today's youth in Malawi are the first generation in the country's history to be availed free primary education. As a result these young men and women tend to be better educated than their parents. Attesting to this milestone, for example, nearly all youth know the ways through which HIV/AIDS can be transmitted (Malawi Government, 2009a). Furthermore, the Malawi Demographic Health Survey (2010) reported that 71 percent and 73 percent of young females and males, respectively, correctly state that using a condom is a reliable method of HIV/AIDS prevention and 84 percent know that limiting the number of sexual partners to one uninfected sexual partner can prevent the HIV transmission (MDHS 2010).

To contribute to the understanding of why sexual behaviour in Malawi has not changed in accordance with knowledge about HIV/AIDS, this study examined factors associated with sexual risk-taking in adolescents in Northern Malawi. It is hypothesized that orphan status was an important predictor of more risky sexual behaviour, and that this effect would vary between male and female orphans after controlling for theoretically relevant covariates.

## **5.2 Study design and procedures**

This study was conducted between May and December 2009 in Mzuzu City in Northern Malawi. We used the 2008 Malawi Population and Housing Census for Mzuzu City to construct a sampling frame from which a random sample of 1253 adolescents was selected. As the main aim was to directly compare patterns of sexual behaviour between adolescent orphans and non-orphans, we selected those between the age of 12 years as the

lower age limit for adolescence (see Sinha et al., 2008) and 18 as the upper cut-off, as international conventions define orphans as under 18 years old (UNICEF, 2004). The use of census data enabled us to sample directly from the general population thereby ensuring that both in and out-of-school youth stood comparable chances of being part of the study sample. The survey was administered by a group of ten male and female undergraduate students recruited from Mzuzu University. Interviewers were selected based on competency in communication skills in both English and Tumbuka (the local language) and intimate familiarity with local culture. Interviewers were trained in survey administering prior to the survey.

### **5.3 Data Measures**

The dependent variable for this study is conceptualized as risky sexual behaviour, which is the main cause of the spread of HIV/AIDS in SSA (UNAIDS, 2010). This variable has been created from questions about respondents' sexual encounters, principally on whether the respondent had ever had sex (specifically full penetration). If they had had sex, the respondent was asked whether they had used a condom during their most recent sexual act. The variable 'sexual risk-taking' has thus been coded 'no risk-0' for respondents who reported having no previous sexual intercourse (virgins), 'low risk-1' for youth who reported having sex but used a condom at their most recent sexual act, and 'high risk-2' for those who reported having sex but did not use a condom at their most recent sexual act. Reported condom use at the most recent sexual act is considered to be a reliable predictor of sexual risk and has been used in a number of studies (Madise et al., 2008; Tenkorang et al., 2010).

The main independent variable, orphan status, consists of four categories; non-orphan, maternal orphan, paternal orphan and double orphan. These categories were obtained by asking respondents the question; “Are both your biological parents (mother or father) alive at the time of the survey?” Respondent who answered ‘no’ were asked a follow up question; “Which of your parents is not alive?” Respondents who reported loss of mother only were coded as maternal orphans; those who indicated loss of a father only were coded as paternal orphans; those who indicated losing both mother and father were coded as double orphans.

In keeping with rational behaviour models of health such as the Information and Behavioural Model (IBM) which emphasizes the role of accurate information in influencing sexual practice (Fisher and Fisher, 1993), this study uses two single-item indicators to measure correct basic knowledge about HIV/AIDS. The first measure has been constructed from responses to the question: “Can abstinence effectively prevent HIV/AIDS transmission;” the second question asked whether “consistent condoms use is an effective strategy for HIV prevention.” These have been coded ‘1’ if responses were in the affirmative and ‘2’ otherwise. In addition, we include variables capturing HIV/AIDS transmission myths computed using responses to questions about “whether HIV/AIDS can be transmitted through supernatural means, kissing and mosquito bites”; coded ‘1’ if youth answered in the affirmative and ‘2’ if otherwise. This measure has been computed using Principal Component Analysis (PCA), factor loadings ranged from 0.73 to 0.83 (Cronbach’s alpha = 0.64), with higher scores representing rejection of myths.



Emerging studies suggest links between acute food shortage at the household level and sexual behaviour in SSA (Bene et al., 2008; Nagoli et al., 2010). To understand this issue, four questions were asked to determine vulnerability of the household in which the respondent lived to food insecurity. The measure capturing household food security includes responses to questions as to whether in the 4 weeks before the survey youth had ever: (1) gone with smaller than usual amount of food; (2) gone with fewer meals than usual; (3) gone without food they liked, or (4) gone without any food. Using PCA the four questions load on a single construct and factor loadings ranged from 0.78 to 0.87 (Cronbach's  $\alpha = 0.61$ ). Higher values on the scale represent increased vulnerability to food insecurity.

Education level can influence sexual risk as it is hypothesized that individuals who have relatively higher level of education may be better informed about HIV/AIDS, exhibit accurate risk perceptions and therefore take necessary steps to prevent or reduce attendant risk compared to those with lower levels of education (Zellner, 2003; UNAIDS, 2003). However, other studies have shown a positive relationship between education and risky sexual behaviour (Booyesen, 2004; Dinkelman et al., 2008). Yet others have found no significant association (Meekers, 1994; Akwara et al., 2005). We also control for respondent's level of education in this study, coded '1' if they had attained primary education (reference category) and '2' for secondary level or above. Education level of head of household has been coded '1' primary or no education (reference category), '2' if secondary level, and '3' if a guardian or parent's highest level of education is college or university. Although the effect of education on adolescent sexual risk can be confounded by various factors, it remains an important proxy for household socioeconomic status. It

is expected that youth who reside in households with higher socioeconomic status will be low sexual risk takers compared to those in low socioeconomic status (Ssewamala et al., 2010).

The study also considers the effect of various household structures on sexual risk-taking given the Malawi government's current emphasis on fostering of orphans within the wider kinship. Studies have shown that different household structures are generally associated with varying abilities to provide protection to foster children in Sub-Saharan Africa (Foster et al., 2005; Evans and Becker, 2009). Household structure of the household in which the respondent lived has been coded 'Extended' = 4 'Female-headed' = 3, 'Male-headed' = 2, 'Nuclear' = 1 (ref category).

#### **5.4 Analytical Methods**

Ordered regression analysis is used to examine the effects of relevant covariates on the likelihood of engaging in risky sexual behaviours since our study's dependent variable, 'sexual risk-taking', is a multinomous ordered categorical variable. However, although the dependent variable is ordinal, the cases are unevenly distributed between the three gradations of sexual risk (see Table 7). This implies that the standard logit link function that assumes symmetrical distribution of responses categories produces biased parameter estimates under these conditions (Huettman and Linke, 2003). In order to obtain more robust parameter estimates we use the complimentary log-log link function. A positive regression coefficient indicates a positive relationship between the dependent variable and the covariate. Given that the dependent variable is coded '0=No risk', '1=Low risk' and '2=High risk', a positive coefficient will mean falling into a higher

order category, i.e. sex with higher risk; the exponentiation of which would mean youth are more likely to engage in sex with high risk. On the contrary, a covariate with a negative coefficient means falling into lower order categories, i.e. sex with 'no risk' compared to 'low risk' or alternatively into 'low risk' compared to 'high risk'. The exponentiation of which implies youth are less likely to engage in risky sexual behaviours.

## **5.5 Results**

Results of bi-variate analysis between our dependent variable (sexual risk taking) and each of the independent variables shows that in both young males and females, being an orphan is an important predictor of more risky sexual behaviour (see Table 7). Male paternal and double orphans are more likely to engage in more risky sexual behaviour than non-orphans. In young females, maternal and paternal orphans are more likely to engage in more risky sexual behaviour.

<b>Table 8: Bi-variate odds ratios of HIV sexual risk-taking in adolescents in Northern Malawi</b>				
Independent variables	Males (n=573)		Female (n=641)	
	n(%)	OR (CI)	n(%)	OR
Parental status- Non-orphan (ref)	373(65)	1.00	421(66)	1.00
Maternal	36(6)	1.57(0.87-3.60)	39(6)	2.39(1.02-4.90)*
Paternal	101(18)	1.82(1.58-3.6)**	128(20)	2.72(1.90-3.90)*
Double	63(11)	2.39(1.59-3.60)*	53(8)	1.65(0.93-2.92)
Age Below 15 years (ref)	308(54)	1.00	302(47)	1.00
Above 15 years	265(46)	0.20(0.14-0.30)*	339(52)	0.13(0.08-0.19)*
Abstinence No (ref)	59(11)	1.00	90(14)	1.00
Yes	514(89)	1.25(0.74-2.12)	551(86)	0.89(0.58-1.38)
Condom No (ref)	301(53)	1.00	389(61)	1.00
Yes	272(47)	2.06(1.51-3.79)*	252(39)	2.38(1.72-4.26)*
Transmission myths		1.08(0.41-4.31)		1.34(0.17-8.28)
Education Primary (ref)	274(48)	1.00	281(44)	1.00
Secondary/above	299(52)	2.56(1.82-4.49)*	360(56)	2.82(1.95-4.08)**
HH Edu Primary/None(ref)	164(29)	1.00	176(28)	1.00
Secondary	264(46)	0.75(0.54-1.04)	184(28)	0.76(0.53-1.10)
College/Univ.	144(25)	0.52(0.44-0.80)*	281(44)	0.69(0.46-1.05)
Food Security	573	1.21(0.89-3.86)	641	1.21(0.89-3.86)
HH structure Nuclear (ref)	146(25)	1.00	181(28)	1.00
Female	96(17)	2.31(1.42-3.78)*	118(18)	1.01(0.66-1.56)
Male	61(11)	2.24(1.29-3.88)*	34(5.3)	0.79(0.37-1.67)*
Extended	270(47)	1.78(1.17-3.73)*	308(48)	0.67(0.46-0.97)*
Significance: *p-value< 0.05; **p-value<0.01				

The aim here is to discern how this effect changes when we subsequently control for other theoretically relevant variables. Of the three variables tapping into knowledge, knowing that using a condom consistently can prevent HIV/AIDS is associated with more risky sexual behaviour in both male and female youth.

Age also emerges to be an important predictor of sexual behaviour, with those older than 15 years less likely to engage in more risky sexual behaviour in both male and female orphans. A respondent's level of education is also correlated with sexual behaviour. In both young males and females, having a secondary level of education or above predicts more risky sexual behaviour. However, education level of head of household is negatively correlated with sexual behaviour. Young men who live in households whose heads reportedly have a college or university education are less likely to engage in high risk sexual behaviour. The structure of the household in which youth live also predicts sexual behaviour. Living in a female-headed household is associated with more risky sexual behaviour for young men. While in both male-headed and extended family settings predict higher chances of more risky sexual behaviour with young men, these family environments predict lower chances of more risky behaviour in young women.

Three models each are built for young men and women in the multivariate analysis (Table 9). The first model examines the effects of parental status and knowledge about HIV/AIDS on sexual risk-taking. The second model controls for socioeconomic and demographic variables. These include respondent age, respondent education, gender of household head, highest education level of the household head and household food

security status. The third model adds household food security and structure to the analysis.

**Table 9: Sexual risk-taking models for male and female adolescents in Northern Malawi**

Variable	Male			Female		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
<b>Parental status</b>						
Non-orphans (ref)	1.00	1.00		1.00	1.00	1.00
Maternal	2.389*	1.325	1.185	2.780*	1.930*	1.825*
Paternal	1.117	1.402	1.093	3.695*	2.276*	1.222
Double	2.148*	1.256	1.149	2.932**	1.600	1.557*
<b>Knowledge</b> Abstinence - Yes	1.197	1.033	0.626	0.707	0.587	0.594
No (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Condoms - Yes	0.456*	1.627*	1.596*	2.544	1.627*	2.751*
No (ref)	1.00	1.00	1.00	1.00	1.00	1.00
Transmission myths	1.051	1.002	1.123	0.910	1.018	1.234
<b>Respondent education</b>						
Primary (ref)		1.00	1.00		1.00	1.00
Secondary & above		0.935	1.347		1.747*	1.652*
<b>Respondent age</b>						
Under 15 years (ref)		1.00	0.00		1.00	1.00
16 years and over		0.225*	0.231*		0.120***	0.127***
<b>Head of household education</b>						
College/University		1.839*	1.851*		1.196	1.100
Secondary level		1.386	1.393		0.934	0.893
Primary or none (ref)		1.00	1.00		1.00	1.00
<b>Household Food security</b>			1.111			1.828*
<b>Household structure</b>						
Extended			1.505			0.533*
Male-headed			1.836*			0.409
Female headed			1.774*			0.437
Nuclear (ref)			1.00			1.00
Pseudo R2	0.09	0.24	0.27	0.14	0.32	0.37
-2 Log Likelihood	95.47	542.26	643.10	102.88	511.95	681.81
Cut 1	1.256	1.745	1.809	1.562	1.615	2.698
Cut 2	2.014	3.566	3.755	1.875	2.245	4.152
No. observations	573	573	573	641	641	641

Significance: \* p-value&lt; 0.05; \*\* p-value&lt;0.01

The results of the multivariate models show that parental status is an important predictor of sexual risk-taking in both adolescent women and men (see Table 5.2). Male paternal and double orphans and female maternal, paternal and double orphans are all more likely to engage in high risky sexual behaviour. Correct knowledge that consistent condom use can prevent HIV/AIDS is associated with high risk sexual behaviour in both females and males. Like in the bi-variate analysis, a respondent's age remains as a significant predictor of risky sexual behaviour in the multivariate models; those older than 16 years are less likely to be associated with more risky sexual behaviour than those younger.

After controlling for age, respondent education level becomes significantly associated with sexual behaviour, but only in young girls; young girls with secondary level of education and above are more likely to engage in more risky behaviour than those with primary or no formal education. Similarly, living in a household whose guardian or parent has a college or university level of education predicts a higher chance of risky sexual behaviour in young men relative to those who live in households whose head had primary or no formal education. Household food insecurity status is associated with more risky sexual behaviour in young women only. When socioeconomic and demographic variables are controlled for in the second model (age, respondent's level of education, and head of household level of education) the odds of sexual risk-taking in male maternal and double orphans are attenuated and lose significance. Thus, male orphans are no longer more likely to engage in more risky sexual behaviour.



In the final model we control for the effect of household structure on sexual risk-taking. Male adolescents who resided in a male or female-headed household are associated with higher odds of engaging in high risk sexual behaviour than those who live in a nuclear family. In the female model, young females who live in an extended family are less likely to engage in high risk sexual behaviour compared to those in a nuclear family. However, even though the odds of high sexual risk-taking are attenuated in female orphans after controlling for household structure in the final model, risky sexual behaviour nonetheless persists in this cohort.

## **5.6 Discussion and Conclusions**

Overall, the results of this study indicate that orphan status is an important predictor of more risky sexual behaviour among adolescents in Malawi. With the exception of male paternal orphans, all other groups of male and female orphans are more likely to engage in more risky sexual behaviour (not abstaining or not using a condom) than their non-orphan counterparts.

With respect to the mediating role of cognitive factors, correct knowledge that HIV can be prevented through abstinence is associated with more risky sexual behaviour. This sounds counterintuitive when viewed in light of rational behavioural theories such as the Health Belief Model which posits that access to accurate information can facilitate adoption of health risk-reduction behaviour (Fisher and Fisher, 1993). Also, this finding does not necessarily resonate with current government policy of mainstreaming HIV/AIDS instruction in the country's primary and secondary school curricula in order to provide mass awareness about the epidemic to youth (Kadzamira et al., 2001).

Nonetheless, there are alternative plausible explanations for this seemingly peculiar finding. Studies have shown that although accurate knowledge about HIV/AIDS is certainly essential, information in itself may not provide sufficient protection against risky sexual behaviour (Kalipeni et. al. 2004). In fact studies from other settings in SSA region suggest that even though people might be aware about HIV/AIDS they can nonetheless engage in risky sexual behaviour for various reasons including poverty, low self-esteem, unequal power relations, or lack of hope that the future holds promise (Campbell et al., 2005; Ssewamala et al., 2010). This calls for the need to empower vulnerable groups through various interventions such as life skills education, access to economic resources, recourse to sexual and reproductive health services, or availability of legal support. Such forms of empowerment can permit vulnerable groups such as orphans to gain command over sexual relations and can provide motivation to practice safer sexual behaviour (Kalipeni, 2000)

This study also indicates that young women with a secondary level of education or above are more likely to engage in high risk sexual behaviour relative to those with primary or no education. This finding contradicts certain studies from other settings such as Zimbabwe which have found that high level of educational attainment leads to better understanding and skills required to more effectively act on health messages and confers a sense of self-confidence necessary to abstain or negotiate for safer sex (Birdthistle et al., 2009; UNAIDS, 2009). While education can certainly increase young women's control over personal decisions relating to sexuality other studies have pointed to the overriding influence of cultural norms. For example, Chimbiri (2007) found that a perception that a condom is an intruder in the bedroom greatly constrain women's ability to negotiate for

safer sex in Malawi. Thus, while policies promoting young women's education are definitely vital, they need to be complimented by strategies that address wider forces which limit young women's ability to protect themselves.

High risk sexual behaviour of young males who live in households with highly educated guardians also contradicts the widely held assumption that high socioeconomic status is necessarily protective against sexual risk. Although decent socioeconomic circumstances can certainly confer protection against risky sexual behaviour (e.g. Ssewamala et al., 2010) some studies have also shown that high social status (as conferred by education, income) can contribute to increased risk for HIV/AIDS in Malawi (Lwanda, 2003). In a context where more than 60 percent of the population lives below the poverty line and less than 1 percent hold a university degree (Malawi Government, 2009), individuals from better-off backgrounds may not only be admired, but such people can easily use their privileged status to extort sexual favours thereby exposing themselves to HIV/AIDS risk. The exceptionally high death rate of health workers, teachers and former migrants largely due to HIV/AIDS in Malawi (Harries et al., 2002; Chirwa, 2004) suggests that while a relatively high class position can be protective in certain instances, it can also have the opposite effect of predisposing individuals to HIV/AIDS in a range of other contexts.

While the finding that young females who live in food insecure households also engage in high risk sexual practice is generally consistent with qualitative studies in some parts of the country (Bryceson, 2006; Nagoli et al., 2010), this finding nonetheless reveals critical policy shortfalls in the particular context of Malawi. Despite a political discourse

that emphasizes Malawi's status as a hunger-free nation, many Malawians are still unable to grow or purchase sufficient food and experience acute food shortages at the household level. Encumbered by chronic unemployment, high disease burden (due to HIV/AIDS and malaria), and intensifying poverty, up to 43 percent of households in Malawi have only 2 meals per day (Malawi Government, 2009).

The high risk-taking behaviour of male youth who live in single-parent households (male or female-centered) raises grave concerns in view of the high adult mortality in Malawi. Although the scale-up of antiretroviral therapy (ART) has proceeded at an impressive pace, continued existence of a large number of undiagnosed HIV cases, social (e.g. stigma) and geographic barriers to the life-saving therapy, and nutritional-related challenges to proper compliance with ART among other factors continue to undermine efforts to reduce this mortality (Zachariah et al., 2006). Consequently, more than 80,000 adults die annually from HIV/AIDS-related illnesses (Malawi Government, 2009). However, the protective effect of an extended family household in young women is noteworthy. Although the extended family system is certainly under great strain, some researchers have argued that the structure is creatively responding and adapting with varying degrees of success (Chirwa, 2002; Abebe, 2007). Notions of clan ownership of children which incorporate flexible parenthood are still prevalent in Malawi. The sense that there is a network of close relatives concerned with one's wellbeing can confer the mental fortitude necessary for youth to desist from acting on risky sexual intentions. This finding seems to vindicate Malawi government's policy of fostering orphans within the extended family network.

In conclusion, this paper has explored sexual risk-taking behaviour of youth with particular focus on orphans. While orphan status is associated with more risky sexual behaviour in both male and female youth at the bi-variate level, this effect changes in young males only after controlling for HIV/AIDS knowledge, demographic, and socioeconomic variables in multivariate models. Thus, high risk sexual behaviour disappears while female orphans' disadvantage persists. In part, findings of this study point to the notion that poor material circumstances underpin more risky sexual behaviour in orphans. This means that perceived differences in HIV/AIDS prevention behaviours between orphans and non-orphans in Malawi, reflects variations in access to social and material support between the two groups rather than intrinsic differences *per se*.

At the same time, the persistence of more risky sexual behaviour in female orphans after controlling for HIV/AIDS, knowledge, respondent level of education and variables tapping into socioeconomic status does not necessarily mean that these variables are unimportant for sexual risk-taking among females. Indeed, the government of Malawi has been promoting these strategies which remain important for HIV/AIDS prevention in general (Malawi Government, 2009b). In the absence of a cure for HIV/AIDS, the government has put tremendous effort into raising awareness about the epidemic, its dangers, modes of transmission and ways of preventing it. Over the years the government has also emphasized the need to keep children in school as evident by the introduction of the free primary education around early 1990s (Malawi Government, 2009b). In addition, efforts have also been directed at poverty alleviation as reflected in the Malawi Poverty Reduction Strategy Paper (MPRSP), with particular focus on the poorest of the poor (Malawi Government, 2006). Furthermore, since the Malawi Orphan and Vulnerable

Children Policy was launched in 2003, emphasis by the government and NGOs has been placed on fostering orphans and vulnerable children within the extended family network as well as on building the economic capacity of families affected by HIV/AIDS to look after these children (Malawi Government, 2003).

The persistence of high risk sexual behaviour in female orphans nonetheless raises profound questions regarding the adequacy of these policies in addressing the particular situation of female orphans. Findings of this study certainly show that existing policies which hinge on promotion of awareness, supply of condoms, education, household food security, and fostering within extended family network are important measures for addressing the needs of youths in Malawi and buffering them from the risk of HIV/AIDS. However, the persistence of high risk sexual behaviour among female orphans also reveals that these strategies in themselves may be inadequate for addressing the particular vulnerability of a cohort that is both female and orphaned.

This study may be limited by potential reporting bias where respondents may have provided socially desirable responses – underreporting in young females and over-reporting in young males (Smith and Watkins, 2004). However, gender and age-group matching of interviewers and respondents and the use of previously tested survey questions may have helped to elicit more valid responses (Poulin, 2010). This study nevertheless greatly contributes to the understanding of vulnerability of orphans to HIV/AIDS in Malawi. In particular, it has shown that overall orphans are at risk of HIV/AIDS relative to non-orphans. However, there are important inequalities between them suggesting dissimilar ways in which being an orphan is mediated by other forms of difference thereby shaping sexual risk differently between males and females.

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**CHAPTER SIX**

**GROWING UP ALONE: VULNERABILITY OF ORPHANS TO HIV/AIDS IN  
NORTHERN MALAWI**

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### Abstract

This paper seeks to contribute to the raging debate as to why orphans may be at heightened risk of HIV/AIDS in heavily-affected regions through the lenses of a well-established, informal and ad hoc labour relation known as *ganyu*. Based on findings of a qualitative study conducted in the township of Chibavi in Mzuzu City in Malawi the paper argues that although *ganyu* has deep roots in the country's colonial legacy and a contemporary semblance of an escape from deprivation, this livelihood strategy was generally closely linked with an emergent practice of sexual exchange between those with the means to recruit workers and those who offered themselves to perform the work. However, this study also shows that oversized domestic roles that orphans were generally encumbered with in the context of extremely deprived living conditions propelled them into particularly protracted *ganyu* engagements outside the confines of homes. While labouring in the neighbourhoods their acute sense of poverty coalesced with the stigma of being an orphan and the shame of doing work for others. These dynamics contributed to orphans' unequal incorporation into *ganyu* relations and in ways that particularly magnified their risk of HIV/AIDS. Drawing on disciplinary perspectives from political ecology of health, this study adds to current understanding of the forces that govern the vulnerability of orphans to HIV/AIDS as configured by place environments, and also grapples with why current policy thinking does not reflect these shifts in a country with one of worst HIV/AIDS epidemics. The paper also makes relevant policy recommendations.

*Key words:* HIV/AIDS, poverty, orphans, *ganyu*, Northern Malawi

## 6.1 Introduction

Emerging concerns indicate that the large number of orphans coming of age in sub-Saharan Africa (SSA) without one or both natal parents may be more likely to engage in more risky sexual behaviour therefore might be more vulnerable to HIV/AIDS infection (Thurman et al., 2006; Palermo and Peterman, 2009; Birdthistle et al., 2009; UNICEF, 2010). Yet, very few studies have examined the specific contexts of this risk. While epidemiological analyses which dominate theoretical explanations of the hypothesized trend certainly provide valuable insights about patterns of sexual behaviour between orphans and non-orphans, these approaches fail to adequately account for the social and political contexts in which this vulnerability might occur. This paper sets out to examine how the risk of HIV/AIDS among orphans may be intertwined with a longstanding livelihood locally known as *ganyu* in Northern Malawi.

*Ganyu* is a casual and ad hoc on or off-farm labour contract, paid in cash or kind (Whiteside, 2000). Although it remains greatly under-researched, some studies have indicated that *ganyu* is an essential safety-net among poor communities in rural areas where the majority of poor Malawians live, and that its significance has dramatically increased over the past two decades largely against a backdrop of declining household food security and intensifying poverty (Englund, 1999; Mtika, 2001; Takane, 2005). However, despite a presumption that *ganyu* is a mutually beneficial labour relation, recent studies have also found that *ganyu* relations are increasingly assuming a patron-client orientation, and therefore sometimes exploitative (Englund, 1999; Bezner-Kerr, 2005). As *ganyu* recruiters may be self-interested individuals whose primary motive for hiring

workers may rest on protecting or increasing personal wealth, the highly exploitative contractual terms that these patrons often offer to those who perform it have been found to accentuate the inequalities between the poor and the rich (Englund, 1999).

Consequently, the idea of performing deeds for others connotes destitution, contributing to relegation of *ganyu* to the status of escape from extreme poverty and gradually making it a livelihood associated with poorest sections of Malawi society (Munthali, 2002; Dorward et al., 2006).

Despite the apparent unraveling of *ganyu* from the fabric of welfare relations, not many known studies have examined the implications of its changing orientation, especially in relation to the spread of HIV/AIDS among the poor in Malawi who still depend on it as a source of livelihood . A notable exception is the study by Bryceson (2006) in rural Lilongwe, Malawi's capital city. Among other things, this seminal study revealed that women contending with a severe food crisis during Malawi's 2002 famine encountered *ganyu* contracts that sexually compromised them as they laboured on farms of well-off families in this rural community. Under pressure as de facto household food providers these women conceded to sexual proposals of men who offered them *ganyu* and that they were ill-prepared to bargain the terms of sexual liaisons because of poverty and hunger. Their subordinate position coupled with the random nature of these sexual encounters especially exposed them to risk of HIV/AIDS (Bryceson, 2006).

In this paper, we examine how *ganyu* was linked with the risk of HIV/AIDS among youth in Northern Malawi with particular focus on orphans. Drawing on theoretical perspectives from health geography (political ecology of health) the paper

explores how orphans were uniquely incorporated into *ganyu* contracts, and how these uneven labour relations generally mediated the risk of orphans to HIV/AIDS differently relative to youth from other families within the context of Mzuzu city in Northern Malawi. In doing so we seek to further the understanding of factors which underpin the spread of HIV/AIDS in Malawi, and make a theoretical contribution on how vulnerability to the epidemic is shaped by place context.

The paper proceeds firstly with an outline of Malawi's present HIV/AIDS landscape and then goes on to provide a summary of historical origins and contemporary meanings of *ganyu*. Both these sections set the context for the paper. Theoretical perspectives drawn from political ecology of health are then advanced which underscore the need to pay attention to place contexts that underpin variations in population exposure to disease epidemics (Kearns, 2003; McLafferty, 2010). Methods used to collect and analyse data are then outlined, followed by results which demonstrate how despite being an important livelihood *ganyu* disproportionately magnified HIV/AIDS risk among orphans in this particular social and spatial context of Mzuzu city. The paper then wraps up with a discussion and conclusions which among other things points out that although the risks presented by *ganyu* in relation to orphans were found to be real, the true nature and extent of this hazard remain largely obscure from policy attention.

## **6.2 Malawi's HIV/AIDS landscape**

Malawi is not only one of the poorest countries in the world, but also has one of the highest HIV/AIDS prevalent rates. With more than 60 percent of people living below the poverty line, about 12.7 percent of the country's estimated 14 million people live with



the AIDS virus (Malawi Government, 2010). Apart from eroding already meagre economic gains, high disease burden and rapidly receding life expectancy, yet another outcome of the HIV/AIDS epidemic in Malawi has been the relentless rise in the number of orphans. It is estimated that Malawi has more than one million orphans, with the number of girls marginally higher than boys (Malawi Government, 2009a).

Although the majority of Malawians still live in the rural areas the majority of these orphans are however in urban areas. While the exact number of these children remains unknown it is estimated that nearly one in six youth aged below 20 years in Mzuzu city are orphans and live in especially difficult and unstable circumstances (Malawi Government, 2009a). Female-headed households foster an estimated 67 percent of the country's orphan population in Malawi (Malawi Government, 2009a). Yet, the guardians of the majority of households where these orphans continue to be placed tend not only to be elderly but also relatively less educated (Malawi Government, 2010). For instance, only 11 percent of households currently fostering are headed by parents or guardian with at least primary level of education. Furthermore foster households also tend to be HIV/AIDS-affected, and are mostly headed by a surviving parent without ability to meet even the basic needs of the children, including food (Malawi Government, 2009a).

However, high HIV/AIDS prevalence in Malawi oddly exists with nearly universal awareness pertaining to basic facts about HIV/AIDS (Malawi Government, 2010). The fact that HIV/AIDS prevalence has not changed in accordance with knowledge about the disease has fed the impetus among researchers to seek explanations as to this apparent paradox. Reniers and Tffaily (2008), for instance, argue that

widespread practice of polygamy contributes to the spread of AIDS because polygamous men have high propensity to engage in extra-marital affairs. Similarly, Helleringer and Kohler (2007) found that sexually active Malawians were generally connected to large sexual networks thereby contributing to the spread of HIV/AIDS. Pointing to the role of cultural norms, Chimbiri (2007) argued that a misconception that a condom was an intruder in marriages hampered HIV/AIDS prevention efforts in the married population while Chirwa (1997) noted a practice of multi-partnered sex among foreign-based male Malawians to deploy their cosmopolitan lifestyles with the aim of extorting sex. The role of alcohol in fuelling the spread of HIV/AIDS in Malawi has also been documented, with particular attention to locally distilled high potent yet readily accessible liquor (*kachasu*) (Mkandawire et al., 2011). While not exhaustive, these studies underscore the varied and, oftentimes, gendered contexts within which the epidemic plays out in Malawi.

### **6.3 Ganyu: historical origins and contemporary meanings**

Malawi, a landlocked country located in Southern part of Africa, is a former British colony (Malawi Government, 2008). Due to lack of known mineral resources, Malawi was uniquely incorporated domestically as supplier of cheap labour for export-oriented farming by colonial settlers in the Southern Region of the country, and externally as migrant labour reserve for estates and mining in the Southern Africa labour-belt.

A short-term informal contractual labour arrangement, *ganyu* evolved from the context of colonial agriculture in the Southern Region of the country (Kandawire, 1979; Vaughan, 1987). The establishment of plantations created unprecedented demand for manual labour which was met through temporary male labour migration from upcountry

areas such as the Northern region and from cross-border districts in neighbouring Mozambique. Underscoring close links between migration and colonial estate economy, migrant labour comprised more than 50 percent of total labour force on European plantations (Leroy, 1983). In addition to displacing natives in order to pave way for European settlement and agriculture, the colonial government's introduction of a hut tax further drove large sections of the population into the plantation economy as cheap labour (Palmer, 1986).

Initially labour relations on estates were typically governed through a rental system called *thangata*. Under the *thangata* system, tenants laboured for one month as a rent payment for 'squatting' on the farm, and a second month in lieu of colonial government tax. As both months were served during the rainy season, this arrangement directly undermined food production on native Africans' farms (Kandawire, 1978; Palmer, 1986). Coupled with wanton harshness of estate owners *thangata* became a very unpopular labour regime. Therefore, although the system continued on the farms, it was complemented by other labour arrangements such as the *ticket* system where labourers completed twenty-six working days over a seven-week period or *chitando* which specifically mobilized itinerant migrant labour from neighbouring Mozambique.

*Ganyu* emerged in the 1930s but quickly rose to prominence mainly due to the labour deficit induced by World War II conscription. Unlike *thangata* which was imbued with notions of coercion and typically mobilized adult males, *ganyu* was more flexible and ephemeral in duration. Under *ganyu* labour was contracted to perform large amounts of monotonous work such as picking tea or ripe coffee beans rapidly and on short notice.

Therefore women and youth dominated *ganyu* and payment was in cash or in-kind or both (Pachai, 1974)

It is widely believed that worsening poverty and food security in Malawi accounts for the resurgence of *ganyu* over the past two decades (Bryceson, 2006; Bezner-Kerr, 2005). Economic stagnation in part brought by Structural Adjustment Programs (SAPs) and recurrent food crises in Malawi have greatly undermined livelihoods of many Malawians thereby making *ganyu* an important source of livelihood among the poor (Whiteside, 2000; Shah et al., 2002; Munthali, 2002). However, contemporary notions of *ganyu* encompass wide-range of social relations that extend beyond the traditional view of farm labour, especially in urban areas. Thus, *ganyu* has many faces including odd jobs such as baby-sitting, house cleaning, laundry, sweeping house compounds, pounding, milling, molding bricks, cooking, landscaping, fuel wood gathering, and house-help by poor households seeking cash or material support from well-off households (England, 1999; Whiteside, 2000).

#### **6.4 Theoretical Perspectives**

Although various theoretical approaches have been advanced to understand the spatial spread of disease epidemics, three modes of disease diffusion are commonly used by health geographers – contagious, hierarchical and relocation (Cliff and Hagget, 1998). Contagious diffusion occurs when disease spread follows commuting flows and social interaction networks, leading to expanded local concentration of the disease outbreaks. On the other hand hierarchical and network diffusion lead to geographic relocation of a

disease over longer distances into previously uninfected regions (Earickson and Meade, 2010).

More recently, Cliff and Hagget (2006) further refined and developed these concepts. According to Cliff and Hagget (2006), the 'swash' refers to a period of rapid geographic expansion followed by a 'backwash' which is a gradual and uneven receding of the disease. According to Cliff and Hagget (2006), the backwash phase is characterized by persistence of disease in certain sections of populations before finally dying out.

While disease diffusion modeling provides valuable insights into geographic spread of disease and can facilitate appropriate and timely policy responses to disease epidemics, these approaches nonetheless fail to adequately reflect the social, political and economic contexts which underpin the spread of disease. In an effort to fill part of this gap, health geographers are increasingly drawing on the political ecology of disease theory, which argues that while the presence of pathogens is necessary for disease spread, it is nonetheless not a sufficient condition for its transmission (McLafferty, 2010). It has been argued that different groups of people tend to face different exposure to disease, possess unequal abilities to cope and resist infection, and have dissimilar access to treatment (McLafferty, 2010). To that end the concept of vulnerability has proved critical in understanding why some populations tend to experience high disease prevalence relative to others. Vulnerability refers to people's ability to resist, cope with, and recuperate from unfavourable shocks (Watts and Bohle, 1993; Adger, 2005). This concept has proved useful in illustrating that exposure to disease is closely linked with poverty and other processes that isolate people from support systems and undermine their ability to effectively respond to the threat presented by a disease. In part, the concept of

vulnerability explains why people remain at high risk of infection to disease in the face of adequate information about the disease. Even then not all poor people are equally vulnerable to disease. Vulnerability to disease is also contingent on the ability of people to access both formal and informal safety-nets existing in particular social and spatial contexts and use them to enhance their capacity to cope with ill-health (Craddock, 2000; McLafferty, 2010). As resource access is contingent on a wide range of factors including gender, the concept of vulnerability provides scope for understanding how varying degrees of social disadvantage can translate into disparate population disease risk and susceptibility profiles. These ideas provide scope for understanding, for instance, that while the disproportionate vulnerability of women to HIV/AIDS might be common, there are major inequalities between women themselves in relation to the exact disease risk they face on everyday basis. One of the key factors influencing women's variations in vulnerability to disease risk and health outcomes is the differences in the kinds of resources that they have at their disposal in their environment (Payne and Doyal, 2010). Structural factors shaping health risks therefore explain health inequalities in health outcomes between different social and economic groups including, for instance, paid employment, availability of social support and caring responsibilities (Payne, 2006). Relative to those in developed countries, children in developing countries are particularly affected by the notion of paid work and domestic responsibilities as they are culturally expected to contribute to household wellbeing, with profound implications for their physical and psychosocial health and prospects for education (Evans and Becker, 2009).

In this respect political ecology of health theory provides scope for better understanding of the complex interplay between these social, economic, political and

cultural processes and how they ultimately predispose some groups to diseases differently from others (King, 2010). The theory also attempts to link changes taking place in local environments such as childhood responsibilities to social and economic transformations taking place at various spatial and temporal scales, and how these conditions interact to usher in new infections or reconfigure the spread of existing epidemics in the context of particular places. For example, weak state policies and poor funding priorities, public health infrastructure can interact with inequalities linked to gender, class and age which can in turn shape disease risks differently between and within different groups of people (Schoepf, 2001).

### **6.5 Study Context: Mzuzu City**

The study was conducted in Mzuzu, Malawi's third largest city located 400 km north of Lilongwe, the capital city. Mzuzu City covers an area of 76 km<sup>2</sup>. The population grew from 8000 at the country's independence in 1964 to 128,000 in 2008 (Malawi Government, 2008). However, an unofficial estimate puts the figure at double as much due to expanding informal settlements. Mzuzu's annual population growth rate of 4.0 percent since 1998 is comparable to Lilongwe (4.3 percent) but higher than Blantyre (2.8 percent), the country's largest city (Malawi Government, 2008). Immigration from surrounding districts, the other two regions and a continued influx of Tanzanians mainly drives population expansion in Mzuzu.

Being the regional economic and political hub, Mzuzu has a specialist hospital, tobacco auction floors, a budding industrial and financial sector, a beverage subsidiary, a flea market and hosts several secondary schools, vocational colleges and a university,

with students drawn from the wider region. However, the city's planning policies continue to bear a colonial legacy where housing was tied to employment, with city dwellers generally viewed as temporary residents leading to population increase outstripping housing stock (Pennant, 1990). Hence, large swaths of informal housing characterize the city's landscape. Likewise, formal employment growth has not kept pace with the city's population growth. Only 40 percent of people are in formal employment resulting in large sections of residents subsisting on informal economic activities (Malawi Government, 2005; Jimu, 2008).

The study site is Chibavi area, a high density suburb situated on flood-prone state land that fades into a squatter settlement west of Mzuzu City. Chibavi is the most populous area in Mzuzu with over 10,000 homes. It is not only home to the majority of orphans in Mzuzu but many poor families in the city reside there and, hence, it provides a convenient site for this study. A recent study showed that only 9 percent of residents in the area have annual income levels comparable to the country's per capita income of US\$ 270 (Manda, 2009). Worsening poverty has paved the way for a vibrant informal economy with activities ranging from hawking, vending, brewing, and sewing, to bicycle transportation and public displays of magic. Although Mzuzu is economically less developed than Lilongwe and Blantyre, enclaves of privilege nonetheless exist in the city, resulting in noticeably spatial variations in levels of affluence. Gated suburbs such as Chimaliro and Mapale inhabited by well-off employees and businessmen sharply contrast with Chibavi where homes typically resemble a squatter settlement. Many houses are cobbled from unburned bricks and without piped water, electricity and road network and inhabited by the urban poor. The availability of affordable, yet poor quality, housing



accounts for the dynamic population mix and the broad spectrum of the poor in this area. For example, residents displaced from more affluent neighbourhoods through job loss or death of a breadwinner are drawn into Chibavi by prospects of cheap rentals and relative ease of erecting informal shelter. Likewise, new immigrants from rural areas seeking a foothold in Mzuzu tend to saturate Chibavi (Jimu, 2008).

## **6.6 Methodology**

This study is set in the context of post-colonial Malawi where national development efforts have been characterized by the fight against worsening poverty and HIV/AIDS epidemic, and the mounting wave of orphans. As a case-study design lends itself well to gaining deeper insights into a phenomenon, individuals, or events (Miles and Huberman, 1994) this approach was deemed appropriate for disentangling the meaning of *ganyu* as well as its links to HIV/AIDS among youth within the context of Chibavi area of Mzuzu City in Northern Malawi. The study was conducted between October and December 2010. In order to gain a broader understanding of the links between *ganyu* and HIV/AIDS the study first conducted three (3) Focus Group Discussions (FGDs) with local leaders (n=18) in Chibavi area. These participants consisted of men and women who by virtue of their respective positions in this community were considered to be better informed about the problem of HIV/AIDS especially as it related to youth. These included traditional chiefs (2), religious leaders (2), HIV/AIDS peer-educators (3), representatives of the community-based child care centre (CBCC) (3), Health Surveillance Assistants (HSAs) (3), People Living with HIV/AIDS (PLWAs)(2) and foster parents (3). The ages of key informants ranged from 27 to 60 years and they came

from varied educational backgrounds as reflected in the different roles they played in the community. While some had little formal education (the lowest was Grade 5) others such as Health Surveillance Assistants (HSA) which are government employees had post-secondary and professional training in disease surveillance, child growth monitoring and nutrition. HIV/AIDS peer educators are typically youth with post-primary education but with added hands-on training in sexual behaviour change communication and life skills education.

Views of local leaders formed the basis of In-depth Interviews (IDIs) with young women aged between 12 and 18 within the context of a subgroup sampling design. A subgroup sampling design lends itself well to the comparison of voices of two or more groups with respect to a particular issue of interest (Onwuegbuzie and Leech, 2007). In order to compare the views and experiences of orphans and non-orphans with respect to *ganyu* two sub-samples one each of orphans (n=18) and non-orphans (n=18) were obtained by purposefully sampling from a list of 807 female youth in the area. A recently established Youth Centre kept a full register of all youth (807) which they used for on-site as well as outreach HIV/AIDS activities such as awareness, testing counseling and behavioural change and life skills. In order to include respondents from a wide range of backgrounds maximum variation criteria was used to guide inclusion of respondents into the sample within both the orphan and non-orphan groups (Strauss and Corbin, 1990). In both orphan and non-orphan groups, particular attention was paid to education levels of respondents and their parents/guardians, size of the household in which the respondent lived, employment status of parents/guardians, and home ownership. Within the orphan group special consideration was paid to the gender of any surviving parent to ensure that

maternal, paternal as well as double orphans are all represented in the sample. In the particular context of SSA these categories of orphan-hood are generally associated with varying degrees of economic and psychosocial vulnerability although the exact effect is mediated by other factors such as extent of kinship available in particular place contexts (Foster et al., 2005).

Both FGDs and IDIs were conducted in participants own home settings and tape-recorded with their consent. Findings from key informants interviews and FGDs of orphans and non-orphans were analyzed using Nvivo 7. Nvivo has software capabilities that facilitate comparisons of data analyzed from distinct subgroups.

## **6.7 Results**

The findings presented below demonstrate various ways in which sexual risk is embedded with *ganyu* in urban northern Malawi. They are organized in five themes. Quotations from transcripts are used to contextualize these themes and ground arguments. Participants' pseudonym, gender, marital status, age and education are provided at the end of each quotation.

### *Gangu – lifeline for the orphans*

Findings from FGD and IDI indicated that *ganyu* seekers invariably came from extremely poor households, usually headed by women or widowers. Many of these families tended to receive safety-nets such as fertilizer, seed, food, and education grants from the government and religious organizations. However, participants also observed that these transfers, especially those from the government, had dwindled or became

erratic over the years. The residents' particularly precarious existence and their predilection for *ganyu* was tied to the state of being disconnected from kinship support, as a middle-aged widow who also fostered three children remarked:

The notion of *generosity* is alien where the mores of this town are generally concerned. Everything, including *chigwada* (cassava leaf) which [in the village] you freely pick from any one's farm without consent is expensive. We have to *taka-taka* (enterprise) everyday and everyone must work to bring home something however small (Beatrice, F, 46, Widow, PE)

Although many other families were generally poor, the specific trajectories and exact nature of deprivation was perceived to markedly vary. The extremely vulnerable comprised of families lacking adult labour, with chronically ill members, which directly undermined their capacity to pursue any meaningful livelihoods. Participants also indicated that families fostering a large number of children had uniquely daunting circumstances. Participants also drew on local markers to describe the inferior status of such families in this community. Understandably, extremely vulnerable families faced complex problems that whatsoever support they received government, church groups or NGOs was inconsequential, as it only touched the surface of these challenges. For example, there were well-known instances where these families had received support in the form of farm inputs (fertilizer and maize seed) but subsequently mortgaged these items to better-off families. Extreme deprivation, inability to meet health care needs of family members, perceived risk of rainfall failure, or lack of access to labour or land simply pushed them into relinquishing the very resources they needed for future livelihood security. For similar reasons, these families reportedly tended to over-depend

on *katapila* (informal credit) which, while circumventing their short-term economic problems, further tipped them into *ganyu* contracts as they struggled to repay exorbitant interests while at the same time trying to sustain the wellbeing of household members. This was surmised by an orphaned respondent who also revealed that her mother was on antiretroviral treatment:

We borrowed money to pay her (mother) hospital bills but the doctor also said she should eat well. I have been doing *ganyu* for the past months to repay this debt otherwise I will not be able to go back and borrow again if she falls ill again. I also try to reserve some of it to buy nsima (maize) meal and relish for her...She is very delighted although she complains that I am still too young for this responsibility (Eliza, F, 18, PE)

Accounts of community leaders revealed that the perceived overdependence of families affected by HIV/AIDS on *ganyu* was the main reason why *ganyu* was increasingly becoming synonymous with being an orphan. This view was emphasized by a community leader who was working as a volunteer counseling and encouraging people in the area to test for HIV/AIDS. He insisted that although poverty was not a new issue to this area, the current reach and level of deprivation especially among HIV/AIDS-affected had strikingly surpassed historical levels:

This area has always been poor. But I have never seen this many orphans looking for *ganyu* before. Each time I think about what must be happening in homes where these children come from, I get deeply troubled. I even lose appetite ... (Joseph, M, 50, CDW)

*Orphanhood and ganyu treadmill*

To talk about real inter-household material inequalities among the poor, especially in a context where 65% of the population lives below the poverty line might seem somewhat odd. Yet, among those living in daunting situations on everyday basis even perceivably small differences in social status can play a vital *emic* role in buffering risk through increased self-esteem. The significance of a positive self-image, howsoever modest, in bestowing psychological stamina to confront livelihood challenges in populations beleaguered by the HIV/AIDS epidemic has been confirmed from another study in the SSA region (see Schatz, 2011). Yet, participants in this study indicated that orphans can easily be distinguished from non-orphans in the present day Malawi, as remarked by one participant:

Every reasonable parent wants their child to be able to read a *newspaper* and write a *letter* (local metaphors for literacy). So, if a child is doing *ganyu* while others are in school, then something must be awfully wrong with the home where they come from (Alfred, F, 37, PE, M).

In addition to more intense spatial routines among orphans, participants also drew on behavioural markers to differentiate orphans from non-orphans. Although *ganyu* contracts were verbal, with terms of trade contingent on ability to negotiate, participants stated that orphans generally presented an overly contrite demeanor and were unduly subservient in their deeds. Yet, it was also stated that orphans were too timid in bargaining for pay-rates upon completion of *ganyu*. Some studies have suggested that the level of social stigma may not considerably vary between orphans and non-orphans in

mature HIV/AIDS epidemics because a large proportion of the latter have also lost close relatives (e.g. see Kaggwa and Hindin, 2010). However, the foregoing underscores the varied psychosocial disposition between the two groups in the context of this community. However, it was pointed out that these behavioural attributes also reflected orphans' realization that a 'cordial relationship' with *ganyu* recruiters was indispensable for their 'survival', with 'prospects of being hired in the future dependent on current conduct'. The apparently reserved attitude among orphans should also be understood in a cultural context where being too desperate for money can be interpreted as 'self-interest' or 'greed'. Therefore, sentiments such as 'just pay me anything' were reportedly very common among orphans. However, this does not only underscore orphans' diminished self-image, but also the highly skewed nature of *ganyu* relations on which their everyday survival vastly depended. This idea was forcefully encapsulated by a young woman who recounted why she had 'good luck' finding *ganyu*:

*Pamsasa saipitsa!* (being overly keen with short-term benefits (especially money) can foreclose important favours in the future) - My grandmother always reminds me. (June, O, 16, PE)

On-the-spot pronouncements such as *ndine wamasiye ndithandizeni* (I am orphan, please help me) have reportedly become routine salutations for drawing empathy of *ganyu* patrons. But, again, the recoiled posture also underlined the subaltern status of orphans in *ganyu* relations in this city.

*Ganyu, sexual entrapment and HIV/AIDS risk*

How doing *ganyu* which was widely seen as vital if not the main source of income for the poor was also perceived to contribute to increased incidence of sexual exchange for some individuals relative to others sparked a heated debate among participants. This issue involved tracing how *ganyu* patrons and seekers ‘come together’ in ways that amplify sexual risk for orphans. Participants acknowledged that it was not uncommon for better-off neighbours to offer *ganyu* to children from poorer families out of kindness with ‘no strings attached’. However, others argued that it would be naïve to take such acts of generosity at face value, especially from ‘strangers’ given growing sense of self-interest in this city. Consequently, getting hired to do *ganyu* was associated with an ‘extra service’ - a reality both literary and figuratively linked with those in extreme destitution especially orphans. This was underscored by a woman who had been living with HIV/AIDS for 10 years and worked in the area as a voluntary counselling and testing (VCT) counsellor:

We grew up accustomed to *ganyu*; that was how we bought school uniform and paid school fees. But no-one asked for anything. Your neighbour’s daughter was your own, but now no-one will give you *salt or soap* (basic necessities) without expecting you to scratch their back. I did not get HIV/AIDS from *ganyu*; my husband gave it to me (Olga, F, PLWA, 54, PE).

Especially, if you have no father... Everyone will respect you if you have parents, even if they are paupers. But if you don’t have your own parents, you are a *deer* (freebie) (Pike, M, HSA, 37, SE).



The alleged tendency among some *ganyu* recruiters to manipulate *ganyu* seekers and weave sexual demands into these contracts prompted calls to ‘keep girls in homes’. As cultural discourses in Malawi generally portray women who habitually wander about as ‘loose’ (Bezner-Kerr and Mkandawire, 2010) it was not surprising that participants thought that the notion of a teenage girl working outside her own domestic space was practically considered as a ‘gift’. While acknowledging that pressure to make ends meet generally thrust youth from poor families into perpetual *ganyu* seeking and performing, they also argued that the mere idea of allowing a young girl to perform domestic deeds otherwise meant for a housewife in a ‘stranger’s home’ amounted to a ‘set-up’ for both parties to the *ganyu* contract. This observation raised the question as to who was ultimately to blame:

While we mourn our daughters we should not forget that not all bwanas (recruiters) have bad motives. We should realize that without *ganyu* many families would starve in this area. In fact in some cases it is relatives in hiring homes rather than the hirers themselves who take advantage (Francis, Community volunteer, 55, PE)

Although the view that *ganyu* was bound up with sex was widely acknowledged, others added that there were also other less obvious yet critical ways through which *ganyu* endangered the lives of many orphans in the area:

When our daughters labour in these homes they realize that maybe the family drinks tea with milk or eat *Christmas* at everyday (metaphor for rice and chicken)

and they start looking for ways of finding these things. (Maggie, F, 44, Widow, PE)

Doing deeds in better-off homes did not only make *ganyu* workers more conscious of their own impoverished conditions but also aggravated the social stigma associated with doing *ganyu*. To insulate themselves from humiliation some orphans sought piecework in far-off neighbourhoods. However, a profound sense of shame also led some guardians to prefer to send children to seek *ganyu* as surmised by a respondent:

Money aside...it is wrong for someone of my age to roam around in the neighbourhood seeking *ganyu*. In fact, people might even think that I am after their husbands. I rely on my children because they don't draw as much attention.

(Brenda, 45, F PE)

However, it was also observed that *ganyu* engagements with unfamiliar patrons and far-off neighbourhood networks greatly increased the risk of manipulation. An informant argued that "if you personally know them, they rarely say anything stupid."

The relative scarcity of *ganyu* was compounded by lack of information about potential *ganyu* recruiters. Although some orphans stated that they relied on grapevine from sympathetic neighbours and friends, the ad hoc availability of *ganyu* meant that youth had to scour through neighbourhoods, paying unsolicited visits to homes and 'begging' for *ganyu*. Reportedly, they used markers such as presence of a brick wall or a fence as indications of better-off homes where *ganyu* would be available.

However, respondents indicated that they faced constant risk of dog bites, shame of being mistaken for a ‘thief’, or chastised by patrons irritated by orphans’ drop-in visits. An informant confirmed that “while people certainly sympathized with families sending these children, constant hounding by *ganyu* seekers can be really annoying”. He pointed to a tendency by ‘these children’ to use different tactics to exert moral pressure on prospective patrons especially a practice of *ganyu* seekers to ‘refuse’ to take leave of the premises of potential recruiters until offered ‘something’ to do, at times forcing hirers to fabricate tasks for them in order to avoid disparagement. To shield themselves from ‘harassment’ presented by *ganyu* seekers, posters announcing *palibe ntchito* (no job) or *chenjerani ndi a galu* (beware of dog) adorned front gates of better-off homes.

Thus, physical demands involved in searching for *ganyu* coupled with social stigma meant that well-off families with alternative survival means were less enthused about *ganyu*, generally leaving it to children. However, the everyday routine of *ganyu* seeking and performing also meant that parents and guardians had to contend with loss of control over the spatial mobility of children:

Under the pretext of *ganyu* girls now simply sneak out to meet men. Parents find it difficult to rebuke them because they depend on these children. For example, how do you expect a frail or chronically ill widow to discipline her daughter on whom she depends for almost everything, including when she wants to visit the bathroom? So what I have noticed is that many girls find themselves *doing these things* simply because they live in homes where there is no parent in the strict sense of a father and mother (Gad, 47, SE, Health Surveillance Assistant)

In general participants agreed that children who lived in homes which had ‘parents’ who exercised control on them tended to be ‘more restrained’ although some participants also bemoaned that cash-earning children were generally beyond parental reproach.

Accounts of youths themselves were generally consistent with the views of local leaders. Although cultural norms in Malawi tend to be less tolerant of premarital sex in young women (Smith and Watkins 2005) participants nonetheless talked fairly openly about their own as well as others’ experiences. While this might be attributed to guarantees of confidentiality made to participants prior to discussion, the relatively liberal and relatively individualistic cultural context of the city might also have played a considerable part.

Generally, youth conceded that it was not uncommon to encounter patrons who also wanted ‘something else’. While they generally had prior experience with *ganyu*, their extent of involvement apparently varied, with orphans more likely to seek and take up piecework. In addition their personal attitudes towards *ganyu* also differed significantly as emphasized by a young female participant:

*Ganyu* is common, especially among those who just grow up alone. But *ganyu* is useless and can jeopardize your future; I’d rather sell *mandasi* (donuts) at the market than do *ganyu* for someone. If no-one buys them I can as well eat them up myself but if you do *ganyu* you have completely *sold* yourself (Justina, 14, SE)

Another informant remarked she would not let her parents know if she did *ganyu* even if the patron was someone they knew well. Growing nervousness among parents in this area with respect to *ganyu* was also highlighted by an informant who stated her parents always

demanded explanation for any money or material in possession from people other than family members, including ‘friends’.

Nearly all orphaned informants also acknowledged that there was growing antipathy toward *ganyu* in the area. A few indicated that their foster parents had warned them against ‘doing deeds for strangers’ as reported by an orphan who stated her mother assured that she would never let her do *ganyu* as long as she was alive. However, many of them argued, ‘it is very easy to ridicule *ganyu* if your parents feed you’. Divergent attitudes toward *ganyu* between the two groups were also underscored by an informant who argued that being the oldest in family making sure that there is *soap and salt* (basics) was rather a personal matter. Consistent with these views a participant who had been doing *ganyu* for the past 3 years since her father died argued:

I am not saying that it is a good thing but what would you do if you had your entire family to feed? Just think about what it means feeding 6 people in this city as a child...plus your mother who is on-and-off (chronically ill) (Maria, 17, SE)

The above disclosure provides scope for more critical appreciation of orphans’ motivation for participating in *ganyu* despite well-known risks. Nearly all orphans also expressed a sense of insecurity and vulnerability that rested on the realization that they lacked the kind of parental support that other children in the area enjoyed. A respondent argued that it is this profound sense of defenselessness that made them cling to *ganyu*:

Obviously I don’t like doing *ganyu*. I no longer go to school regularly and when I do I feel very tired. I could stop doing *ganyu* if there was someone that I knew we could rely upon (Upendo, 17, SE).

However, the notion that they performed *ganyu* deeds for the benefit of family members also invoked the impression of making a personal sacrifice for the good of kinsmen, an issue that challenged the moral judgment and stigma associated with *ganyu*. As a result orphaned participants were generally less judgmental about *ganyu*, including the notion of yielding to ‘other tasks’. An informant related to these views by referring to her own experience. She revealed that her mother and sick sister have always appreciated her *ganyu* endeavours since the time when relatives came and took away all the property left behind by her father after his death 2 years ago:

Sometimes the *temptation* is really intense but I am always strong. So I understand why so many girls in this area who also don’t have any relatives find themselves caught up. It is hard to think about life or tomorrow, when there is nothing at home, not even porridge for the child (Zili, 19, PE)

The above discussion shows the complex relationship between *ganyu* and HIV/AIDS risk among orphans relative to non-orphans.

## **6.8 Discussion and Conclusions**

Although current estimates point to relative stability in the spread of HIV/AIDS in Malawi as evident in the leveling off of prevalence over the years, findings of this study seem to agree with emerging concerns that, concealed in this overall picture, are considerable variations in vulnerability to the epidemic, with disadvantaged groups faring the worst (UNAIDS, 2010). In this study the links between orphan status, poverty and vulnerability to HIV/AIDS in the context of *ganyu* was particularly evident. While

usually being shunned by better-off families due to worsening terms of trade, *ganyu* is simultaneously gaining popularity among those who lack alternative livelihoods, due to especially those directly affected by HIV/AIDS (also see Munthali, 2002; Shah et al., 2002). However, findings of this study suggest that the continuing erosion of *ganyu*'s longstanding welfare orientation rendered it a vital catalyst for the further spread of HIV/AIDS among orphans in the particular context of Mzuzu City.

Findings of this study also demonstrate that young orphaned women were generally overburdened by domestic caring responsibilities and these roles propelled them into *ganyu* contracts outside the confines of their homes. While in the public space seeking *ganyu*, a profound sense of shame associated with the act of doing menial work for others coalesced with the stigma of being an orphan. The interplay between these two forces underpinned their unequal incorporation in *ganyu* relations with implications for HIV/AIDS risk. In addition, their extended searches for *ganyu* as they traversed space to far-off neighbourhoods and encountered unfamiliar patrons in the socio-spatial context of this city markedly increased and prolonged their risk of exposure to HIV/AIDS. The nexus between material circumstances and social position within the socio-spatial context of Mzuzu City was manifest in ways that particularly magnified the risk of HIV/AIDS among orphans. The idea of embodied social inequality, where individuals incorporate social experience, including not only economic disadvantage but also social relations (Krieger, 2001) explains apparently varied HIV/AIDS risk milieus and profiles of orphans and non-orphans. This particular finding implies that Malawi's expanding orphan population constitutes a potential new fault-line for further spread of HIV/AIDS

epidemic. The presence of a large and vulnerable population can catalyze explosive spread of epidemics (Wang et al., 2010; McLafferty, 2010).

However, to foreground the role of structural disadvantage in mediating the risk of HIV among orphans does not purport to frame them as in passive sexual servitude of *ganyu* patrons. As these sexual liaisons were a source of reprieve from deprivation, orphans also actively sought these networks and consciously made efforts to embed themselves into them in order to secure future guarantees of material benefits despite the risks entailed. For example, while maintaining a modest posture in *ganyu* pay rate negotiations was seen as an indication of stigma of being an orphan, the fact that others also saw this as some sort of maneuvers to win future favours from *ganyu* patrons underscores the extent to which orphans' agency was also involved but nonetheless within very confined structures.

Although the consignment of individuals to discrete HIV/AIDS at-risk categories can be problematic because people tend to have multiple and shifting identities (Kalipeni et al., 2004), orphans have generally not been portrayed as especially vulnerable to HIV/AIDS in policy debates in Malawi (see Malawi HIV and AIDS Extended National Policy Action Framework 2009). Public discussions, though often couched in highly moralized terms, have instead mainly focused on 'prostitutes' and relatively mobile groups such as truck drivers (Kaler, 2003; Bezner-Kerr and Mkandawire, 2010). In the particular context of this study, the everyday geographies of orphans, especially in the context of the private domestic spaces where they laboured as *ganyu* labourers coupled with the relative anonymity afforded by an urban vortex, may serve to further obscure



them and the sexual hazards from the public purview and policy debates. Unsurprisingly *ganyu* continues to fall under the radar of policymakers in Malawi. For example, *ganyu* does not feature as a distinct risk milieu in the current Malawi HIV and AIDS Extended National Policy Action Framework (Malawi Government, 2009b). Further, even though there is growing recognition about the potential exploitative nature of *ganyu*, being a well-established inter-household labour relation *ganyu* continues to have the appearance of a mutually beneficial safety-net and therefore still remains popular especially among those without meaningful alternative livelihoods in Malawi. Again, this may account for its apparent neglect in HIV/AIDS policy thinking and debate in Malawi. However, the fact that *ganyu* continues to be so important in the lives of the destitute also means that policy responses to deal with the hazards *ganyu* presents must be located within a broader strategy that also seeks to improve and diversify the livelihood options of those whose lives are dependent it.

In conclusion, this paper sought to shed more light on the vulnerability of orphans to HIV/AIDS infection in Malawi. It has demonstrated how the systematic disarticulation of *ganyu* relations from the fabric of its longstanding role as a safety-net and its interpenetration with the practice of sexual exchange has particularly magnified the risk of HIV/AIDS for orphans. This paper has shown how the individual disadvantage of orphans shaped by conditions within the private arena of their households foregrounds the unequal relations outside their homes and contributed to an increased risk of HIV/AIDS. By examining forces that underpin the vulnerability of orphans to HIV/AIDS in Malawi, as evident through greater deprivation and inequalities related to social position, this study asserts that the risk to HIV/AIDS in marginalized populations in Malawi cannot be

effectively addressed within existing theoretical and policy frameworks which emphasize increased awareness about the epidemic but rather through a broad based strategy that simultaneously deals with structural disadvantage.

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## **CHAPTER SEVEN**

### **SUMMARY AND CONCLUSIONS**

This chapter summarizes the major findings of this dissertation, its theoretical and methodological contributions with regard to vulnerability of orphans to HIV/AIDS. It also provides a discussion of the implications of the study for policy and practice. The chapter concludes by highlighting relevant issues for further research.

#### **7.1 Introduction**

This study aimed to examine the vulnerability of adolescent orphans to HIV/AIDS in Malawi. Emerging studies from sub-Saharan Africa have generally painted a mixed picture regarding whether orphans are actually more vulnerable to HIV/AIDS infection than non-orphan peers. For example, while some researchers have found considerable association between orphan status and more risky sexual behaviour (Birdthistle et al., 2008; Nyirenda et al., 2010; Robertson et al., 2010) others have found little or no relationship (Beegle and Krutikova, 2007; Palermo and Peterman, 2009). Therefore, the assumption that orphans engage in more risky sexual behaviour and therefore, are more vulnerable to HIV/AIDS risk does not always reflect the reality on the ground.

It has been suggested that the apparent lack of consensus around supposed orphan vulnerability mainly rests on the fact that orphans risky sexual behaviour may in fact depend on place setting (Palermo and Peterman, 2009). Indeed in places where evidence supporting this hypothesis has in fact been found, the factors accounting for increased propensity for more risky sexual behaviour in orphans varied across social and spatial



settings. For example, Birdthistle et al. (2008) argued that coerced sex and low levels of education accounted for orphan disadvantage in the particular context of Zimbabwe. In East Africa, Juma et al. (2007) and Makame et al. (2002) reported that psychological distress and hopelessness seemed to contribute to orphans' poor sexual decision making in Nyanza Province in Kenya and in Dar es Salaam in Tanzania, respectively. Yet others have surmised that ambiguous findings that pervade literature on this question actually indicate the need for researchers to employ appropriate combinations of theoretical frameworks and research approaches in order to more effectively capture experiences of orphans. Despite the perceived variations in the forces that govern vulnerability of orphans to HIV/AIDS, it is nonetheless agreed that more risky sexual behaviour in orphans represents one of the most problematic dimensions of orphan vulnerability with potential profound consequences for the spread of HIV/AIDS (Gregson et al., 2005).

In view of the on-going polarization, this research combined quantitative and qualitative research methodologies in order to examine the vulnerability of orphans to HIV/AIDS infection in the particular context of Malawi, where over one million youth under the age of 18 years have already lost one or both biological parents (UNAIDS, 2010). The primary objectives of the research were as follows:

1. To examine whether vulnerability to the HIV/AIDS epidemic in adolescents varies by parental status and gender in Northern Malawi;
2. To assess the levels of protective sexual behavior in adolescents in Northern Malawi, and determine whether these practices vary by parental status;

3. To examine the determinants of sexual risk-taking behaviour in adolescents in Northern Malawi and explore whether they vary by parental status and gender;
4. To explore the social and spatial contexts within which HIV/AIDS risk in adolescents arise in Northern Malawi and discern how this milieu shapes the risk differently for orphans and non-orphans.

## **7.2 Summary of findings**

### ***7.2.1 Objectives one, two and three: pattern of protective/risky sexual behaviour between orphans and non-orphans***

Quantitative approaches were used to determine the levels of protective sexual behavior, determinants of sexual risk-taking, and whether the pattern of sexual behaviour significantly varied by gender among orphans (see Chapters 3, 4, 5).

Using binary logistic regression models, the findings of this study show that being an orphan predicts lower likelihood of undertaking voluntary counseling and testing (VCT) for HIV/AIDS in Malawi where VCT is now more widely available to the general population at no cost to the end user. In both young men and women, orphans are less likely to volunteer to test for HIV/AIDS compared with non-orphans. The low uptake of VCT in this group persists after controlling for HIV/AIDS knowledge, education, sibling residential arrangement, and household food security status. In addition to these inequalities in likelihood of testing, the apparent negligible role of knowledge about HIV/AIDS on the decisions of youth to test is notable. Also noteworthy is the significant association between household food insecurity and low VCT uptake. However, disturbing is the negative relationship between alcohol consumption and VCT given that although

imported beverages are generally expensive, other locally distilled liquors are widely and cheaply accessible in Malawi.

Clear sexual behaviour disparities also emerge between orphans and non-orphans with respect to the question of onset of first sexual intercourse. Using survival analysis we obtain time ratios to demonstrate that being an orphan is an important predictor of early onset of sex in both young men and women. The age at which youth initiate sex is generally considered to be a barometer of risky sexual behaviour and therefore vulnerability to HIV/AIDS (Bongaart, 2007). Research has demonstrated that young men and women who initiate sex earlier are exposed to more sexual partners over their life course, and are relatively less likely to use a condom in subsequent sexual encounters (Akwara et al., 2003). Furthermore, living in a food insecure household is also associated with early onset of sex in young women and, marginally, for young men. However, in both sexes, orphans' disadvantage with regard to early sexual debut is attenuated and loses significance after controlling for variables tapping into social support. In particular, residing in the same household with biological siblings, having relatives that regularly visit youth and having more close friends was found to account for orphans' early sexual debut in the multivariate models.

In addition to orphan disadvantage in the uptake of VCT and early initiation of sexual intercourse, this dissertation has also demonstrated that orphans are generally high risk-takers compared with non-orphans. Although, sexual abstinence and consistent condom use are widely promoted as cornerstones of HIV/AIDS prevention among youth in Malawi (Malawi Government, 2010), this study reports that orphans are less likely to

abstain from sex, and when they engage in sexual intercourse they are less likely to use a condom compared with non-orphans. However, the high risk sexual behaviour of male orphans disappears in the presence of variables controlling for socioeconomic status, while female orphan risky sexual behaviour persists.

### ***7.2.3 Objective four: social and spatial context of differential propensity of risky sexual behaviour***

The focus here is to disentangle the factors that account for the gendered vulnerability to HIV/AIDS (see Chapter 5) - female orphans to be high-risk takers even after controlling for theoretically relevant covariates tapping into socioeconomic status. An interpretative methodology is used in order to gain an in-depth understanding of the qualitative factors that thrust female orphans into high risk sexual behaviour. Findings from this study show that *ganyu*, a well-known source of livelihood/income among the poor especially families affected by HIV/AIDS, with deep roots in Malawi's colonial history is also closely associated with a practice of sexual exchange between those with the means to recruit workers and those who perform the work. While desperately searching for *ganyu* in order to obtain cash to meet their own and families survival needs, female orphans more easily concede to 'additional tasks' demanded by those who recruit them. The study shows that extreme poverty and the stigma of being an orphan underpin these young women's subordinate incorporation into *ganyu* relations, make them more vulnerable to sexual manipulation, thereby magnifying their risk of contracting HIV/AIDS. The study also points out that *ganyu*'s long historic roots in Malawi coupled with the fact that it still is an important livelihood for the poor lead to pervasive lack of critical appreciation of the sexual risks that it presents to vulnerable groups such as

orphans. Consequently, hazards of *ganyu* and its links with the spread of the epidemic in Malawi generally remain in relative obscurity from policymakers.

### **7.3 Contributions of the study**

#### ***7.3.1 Theoretical contributions***

This study contributes to an understanding of variations in patterns of sexual behaviour between orphans and non-orphans in Malawi where the HIV/AIDS epidemic, now in its third decade, is characterized by a large number of orphans and high rates of adult mortality. Part of the reason why different researchers have found conflicting evidence regarding the links between orphan status and sexual risk may be due to the fact that findings are generally sensitive to multivariate statistical models and also depend on place settings (Palermo and Peterman, 2009).

In view of this concern, and to lend credence to proposed contributions of this study to existing literature, this dissertation approaches the question of vulnerability to HIV/AIDS in the particular context of Malawi by adopting a more nuanced theoretical conception of sexual risk. As knowledge of HIV status provides youth with the opportunity to evaluate their sexual lifestyles and adopt risk-reduction lifestyles (Horizons, 2004; WHO, 2010), the question of self-reported VCT is examined (Chapter 3). In chapter 4, sexual risk in young people is theorized as the time it takes before they initiate their first sexual intercourse because existing theory suggests that delayed onset of sexual intercourse is an important indicator of positive sexual behaviour change in regions heavily affected by HIV/AIDS (Bongaart, 2007). In chapter 5 the theoretical

formulation of sexual risk is broadened and include notions of sexual abstinence, condom use or non-use at last sexual intercourse which according to UNAIDS are vital indicators of risky sexual behaviour (UNAIDS, 2008). Findings of all these three analyses are fairly consistent and the picture that emerges strongly suggests that orphans face a pattern of risk of HIV/AIDS that is markedly different from non-orphans in the particular context of Northern Malawi. Based on these analyses, it can be surmised that, in addition to a wide range of daunting challenges which orphans continue to face in Malawi, including diminished schooling prospects, poor access to health care, food and nutrition, and stigma (Malawi Government, 2010; Zere et al., 2007), this cohort is also generally more vulnerable to HIV/AIDS infection compared with non-orphans because they exhibit an elevated propensity for high sexual behaviour. In addition, there are also important differences between male and female orphans in the levels of risks as well as the specific factors that shape this risk.

In addition to casting some light on the variations in the extent of HIV/AIDS risk between orphans and non-orphans, and the gendered pattern of this vulnerability, this study has also attempted to shed light on the socio-spatial context within which this sexual risk emerges. Household food security status, child residential arrangement, and education levels of adolescents themselves as well as those of their parents/guardians emerged as critical correlates and were associated with varying propensities for risky sexual behaviour. These findings, therefore, add to emerging literature (e.g. Operario et al., 2007; Nyamukupa et al., 2008; Birdthistle et al., 2009) that is beginning to pay relatively more attention to considerations of how variations in material or life circumstances are associated with sexual health in different populations with a special

focus on orphans in SSA. In contributing to the understanding of how variation in vulnerability to disease risk is conditioned by place environments (Kearns, 1993; Mayer, 2000; King, 2010), this study has demonstrated the ways in which a well-established labour relation (livelihood) called *ganyu* shapes the HIV/AIDS risk landscape for female orphans differently from those of non-orphans in the context of Mzuzu City. Each of the foregoing theoretical contributions is briefly explained below.

#### ***7.3.1.1 Household food security status***

This study points to the importance of food security in shaping other aspects of human wellbeing beyond immediate compromised nutritional intake (Tarasuk, 2001). In Malawi, household food insecurity carries a particular symbolic meaning that closely associates it with destitution (Bryceson, 2006). Consequently, mental stress related to social stigma of hunger means that household food insufficiency can potentially compete more directly with other rationalities, further reinforcing compromised health seeking behaviour such as testing for HIV/AIDS and an increased tendency for risky sexual practice. This finding represents a marked departure from theoretical explanations associated with rational health behaviour models (e.g. The Health Belief Model) that emphasize a lack of accurate knowledge about HIV/AIDS as a predisposing factor (Becker, 1974). While previous studies have linked food security status at the household level and high risk sexual behaviour among women in Malawi and elsewhere in SSA (Bryceson and Fonseca, 2006; Bene and Merten, 2008; Nagoli et al., 2010), this study contributes to this literature by demonstrating that orphans may be rendered more vulnerable to HIV/AIDS through early sexual intercourse or low uptake of VCT if placed

in food insecure households. Thus, this study contributes to an understanding of why HIV/AIDS continues to spread amidst a high level of awareness about causes, modes of transmission and prevention, as well as the dangers of the disease. This is especially important in the particular case of Malawi where high levels of awareness about HIV/AIDS coexists with high levels of risky sexual practices.

### ***7.3.1.2 Social support***

The role of social support in buffering sexual risk emerged as a particularly interesting contribution to the understanding of the vulnerability of orphans to HIV/AIDS. Since Malawi was constructed as a labour reserve during the colonial era, and therefore supplied migrant labour to domestic plantations owned by European settlers and externally to mining complexes in Southern Africa labour-belt, this created a legacy of a fluid household (Tellengen, 1999; Potts and Bowyer-Bower, 2004). Thus, while household fluidity is not necessarily new to the country, studies have nonetheless generally pointed to various negative consequences of disruptions brought about by changes in household composition stemming from migration of household members. These include undermining household food security, emergence of alcohol consumption culture and the spread of HIV/AIDS (Chirwa, 2004; Bezner-Kerr, 2005; Mkandawire et al., 2011). However, no known studies have particularly examined the implications of family dispersal on the sexual risk taking behaviour of orphans who resided in a different household from their biological siblings. Hence, the finding that such youth may be associated with early onset of sex and low likelihood of testing is an important contribution to the existing body of knowledge.



The gravity of this particular finding rests on the fact that migration (including child migration) has intensified in recent years in Malawi due to a number of factors including as a coping strategy in response to growing food insecurity and negative impacts of HIV/AIDS and (Ansell and Young, 2004). Yet, as the findings of this study suggests, uncritical portrayal of child migration as a strategy for coping with disruption brought about by HIV/AIDS can produce negative consequences for orphans. These perspectives should therefore be tempered by the reality that relocation of family members can also undermine health seeking behaviour.

### ***7.3.1.3 Education as protective/predisposing factor***

The apparently ambiguous relationship between education and sexual behaviour is particularly noteworthy. Findings of this study show that youth whose parents and guardians have a high level of education attainment are also high risk-takers, contradicting a widely-held assumption that the spread of HIV/AIDS in Malawi is necessarily attributed to poor socioeconomic status. It is generally understood (including this study) that poor health-seeking behaviour and other personal lifestyles detrimental to health tend to cluster in populations with low socioeconomic status. This trend is explained in terms of the fact that poor socioeconomic circumstances predispose people to more risky and health debilitating circumstances. In addition, those who occupy lower positions in the socioeconomic hierarchy tend to be more resistant to positive behaviour change (Syme et al., 1992). While these arguments are certainly valid, high social status as conferred by education or otherwise can also have the opposite effect of contributing to increased risk for HIV/AIDS in certain instances. Although the poor account for the

majority of those presently living with HIV/AIDS in Malawi, the notion that the epidemic is in part driven by acute economic inequalities also means that the rich are not absolutely invulnerable. In fact, in a context of widespread poverty, those from better-off backgrounds may not only be admired but such people can more easily exploit their social standing to obtain sexual favours thereby exposing themselves to HIV/AIDS (Lwanda, 2003). This particular finding points to the need to understand vulnerability to HIV/AIDS in its proper social and political context.

#### ***7.3.1.4 Gendered vulnerability to HIV/AIDS***

Findings of this dissertation also add to our understanding of the gendered nature of vulnerability to HIV/AIDS among orphans in Malawi. The persistence of more risky sexual behaviour in female orphans after controlling for variables tapping into socioeconomic status points to the idea that while both male and female orphans are vulnerable to the HIV/AIDS in Malawi, there are important differences in terms of how they are actually affected. Furthermore, these findings demonstrate that although young women are generally disproportionately vulnerable to HIV/AIDS there are also major differences in the risk pattern between the women themselves (Payne and Doyal, 2010). Variations in vulnerability to HIV/AIDS within the young women's group are particularly manifest in Chapter 6. In this chapter, we examined how female orphans' unequal incorporation into *ganyu* relations is mainly underpinned by extremely poor living conditions in which they live in the particular spatial context of Mzuzu City. A notable study previously pointed to the role of *ganyu* as a medium of HIV/AIDS risk among women in general (Bryceson, 2006). However, Bryceson's study did not examine the

unique situation of orphans. In addition, the links between (sexual) health and place - and therefore the specific context of vulnerability- were not considered. This dissertation contributes to filling part of this gap in the literature by showing that although *ganyu* is a well-established safety-net with long roots in the country, this livelihood strategy's continuing disarticulation from the fabric of social labour relation or livelihood in the particular spatial context of Mzuzu City contributes to increased exposure of orphans to HIV/AIDS. In addition, findings of this study underscore why young orphaned females remain highly vulnerable to HIV/AIDS in the face of widespread knowledge about the disease.

### **7.3.2 Methodological contributions**

This dissertation makes some methodological contributions by demonstrating the value of combining qualitative and quantitative approaches. In this study, the first phase of data collection consisted of in-depth interviews with 28 adolescents. With the deeper knowledge of youth's everyday living conditions, local conceptions of sexuality and sexual behaviour gained from the interviews, a structured interview survey was formulated. Among other issues, analyses of the quantitative data led to the conclusion that female orphans engaged in more risky sexual behaviour, even after taking into account socioeconomic variables. Therefore Chapter 6 which deals with the mediating role of *ganyu* is a direct outcome of quantitative findings and therefore serves as an example of how quantitative and qualitative approaches can be combined in ways that can help to more plausibly answer questions that are generally not amenable to quantitative analysis. Using *ganyu* as a lens to examine how social and political contexts differently

shaped the sexual risk of female orphans relative to non-orphans also underscores the value of using qualitative approaches to understand the role of place context in shaping population health (Gatrell and Elliot, 2009).

### **7.3.3 Practical contributions**

This thesis stands to make several practical contributions in relation to the wellbeing of youth in general, and to benefit of orphans in particular.

The poor (among whom orphans are over-represented) account for the majority of the people who currently live with HIV in Malawi (Malawi Government, 2009). Given that voluntary counseling and testing is a cornerstone of HIV/AIDS prevention and control, the persistence of low uptake of VCT among orphans in Malawi generally raises vital questions regarding the actual dividends of the recent scale-up of the VCT program in Malawi which mainly aims at reducing the spread of the virus among the poor.

Secondly, this study demonstrates that household food security status is an important predictor of sexual behavior in young people. The finding that poor household food security status is associated with low likelihood of HIV/AIDS testing and high chances of early onset of sexual intercourse lends support to the idea that sexual behaviour is in part mediated by material circumstances. However, despite a political discourse that emphasizes Malawi's status as a "hunger-free nation", national food self-sufficiency has not necessarily translated into increased household food security. Consequently, many poor households in Malawi - who also account for a large proportion of families which foster orphans - remain highly food insecure (Harrigan, 2008). A direct

policy implication of this finding is that the government must re-examine its current strategy and ensure that efforts to achieve national self-sufficiency in food are complemented by appropriate policies specifically aimed at promoting household food security in vulnerable populations.

Thirdly, this study's finding that separate residence of siblings is associated with early onset of sex and lower likelihood of testing for HIV/AIDS at one level seems to resonate with current government policy which upholds the pivotal role of the extended family network for fostering orphans. However, at another level, the government should also realize that the absorption of orphans into their respective extended family networks, however well-meaning, might place these youth in unfamiliar socio-spatial contexts resulting in increased propensity for sexual risk or poor prospects for VCT uptake. Therefore, orphan care policies aimed at promoting fostering children within the extended family network must also be accompanied by a critical appreciation of other challenges that this practice might actually unravel. This means that the government in Malawi should explore innovative policy measures that would strengthen the capacity of households and communities to support successful migration and transition of orphans and vulnerable children to their new foster environments in Malawi. Possible policy interventions aimed at reducing disruptions imposed by being separated from other siblings can include, for instance, strengthening the economic capacity of foster families to provide material needs of orphans and assisting in the identification of those kinsmen who are better placed to provide love and emotional support to these children in order to reduce the trauma that comes with being in a new social and place environment.

Lastly, the need to deal with orphan sexual risk as emerging in the context of *ganyu* throws up various practical challenges. For example, although *ganyu* provides an important milieu through which HIV/AIDS risk emerges, it nonetheless continues to elude official attention or falls underneath the threshold of policymakers concerns in Malawi. Even if the menace of *ganyu* caught official attention, policy strategies to deal with this issue must contend with the fact that *ganyu* is simultaneously a livelihood and a potential health hazard for some orphans. This means that unless vulnerable families are provided with alternative livelihoods, it will be difficult to effectively address the HIV/AIDS risk that is embedded with *ganyu*.

The official accounts in Malawi have tended to explain the continued spread of HIV/AIDS in the country mainly in terms of increased instances of prostitution (Craddock, 2000; Bezner-Kerr and Mkandawire, 2010). Yet, understating the importance of other equally pertinent factors such as those revealed in this research, can provide a broader context for unpacking issues related to orphans' vulnerability to HIV/AIDS and therefore the basis for future HIV/AIDS policy. While prostitution is certainly a key challenge for HIV/AIDS prevention and control efforts, this explanation fails to fully reflect key contemporary trends, especially with the changing demographics in the country where young men and women account for an increasing majority of the population. This particular concern assumes additional significance when viewed in light of the fact that a growing number of these young men and women are coming of age and become sexually active without one or both parents at the same time as they are increasingly expected to contribute to household wellbeing. Overall, this study's findings that orphans in Malawi generally engage in more risky sexual behaviour, and that

orphaned young women may be at even higher risk raise searching questions about new fault lines underpinning further spread of the epidemic.

#### **7.4 Directions for future research**

This dissertation has certainly unraveled many issues whose scope and gravity are obviously beyond the ability of the current study to fully address. Hence, this section will point out a number of key areas of further research. Firstly, even if a vaccine or cure for HIV/AIDS was discovered in the near future the problem of orphans in Malawi will remain for decades to come. Given the scale of the orphan problem in Malawi, there is need for future research to focus on more clearly delineating the specific causal pathways that govern sexual risk behaviour among orphans uncovered in this study. Many of the challenges encountered in this study, especially with respect to drawing more conclusive inferences about orphans' vulnerability relate to limitations which are generally associated with the use of cross-sectional data. The use of panel data would therefore have permitted the analyses of temporal sequencing of events of interest, allowing for a more concrete assessment of how changes in life circumstances such as the onset of food shortage in a household, death of parent, or being separated from siblings were temporally associated with the risky sexual encounters (Willet and Singer, 2003). Even though one of the models used for analysis of orphan vulnerability in this study (Survival Analysis) belongs to the family of standard statistical techniques normally used for longitudinal data, disentangling the sequence of events nonetheless remains highly problematic with cross-sectional data.

While the links between household food insecurity and high risk sexual behaviour continues to attract the attention of an increasing number of researchers and policymakers in Malawi, an area that remains relatively neglected is the domain of migration and sexual health of orphans. The notion that separate residence of siblings was associated with early onset of sex, and less likelihood of testing for HIV/AIDS is an important finding that deserves further research attention. The historical construction of Malawi as a labour reserve during the colonial era meant that it supplied male migrant labour to domestic estates and external mining complexes. This heritage coupled with a cultural practice of using child fosterage to strengthen kinship ties contributed to the legacy of household fluidity (Ansell and Blerk, 2004). Hence, the movement of children between extended family households has been considered to be normal part of raising a child in Malawi. In order to make the findings of this study even more relevant for policy, there is need to disentangle the actual sequence of events in terms of whether early sexual initiation or not testing for HIV/AIDS follows or precedes separation from the other family members. Future research aimed at more conclusively delineating the causal chain will have to use panel data.

As highlighted in Chapter 6, *ganyu* remains highly under-researched despite its growing importance in the lives of the poor. The need to pay more attention to *ganyu* also rests on the understanding that the true nature of *ganyu* and its social impacts are largely contingent on time, place and social context (Englund, 1999). For example, while this study has focused on how *ganyu* magnified the HIV/AIDS risk of female orphans, the links between *ganyu* and HIV/AIDS in young men in Malawi generally remains poorly understood. A study conducted by Bryceson (2006) in two rural villages in Lilongwe,



Malawi's capital city, reported that youth from poor households who performed *ganyu* were increasingly unwilling to contribute to household income, demanding more control over their earnings. However, Bryceson's study did not examine how boys' increased access to cash through *ganyu* shaped their risk of HIV/AIDS. Yet, a study conducted by Mkandawire et al. (forthcoming) in Mzuzu City found evidence of heavy drinking of a high potent, cheap and locally distilled liquor (*kachasu*) which encouraged high risk sexual behaviour. This study revealed that while *ganyu* was an important source of cash for *kachasu*, some participants argued that they needed the drink to gain the courage required for strenuous *ganyu* contracts they worked in order to feed their families and siblings. This clearly exemplifies the need for future research to pay more attention to *ganyu* in order to examine how it manifests itself in different local economies in Malawi and explore how it is intertwined with HIV/AIDS risks in various social and place contexts.

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## **APPENDICES**

**APPENDIX A**

**RESEARCH ETHICS APPROVAL**



**Office of Research Ethics**

The University of Western Ontario  
 Room 4180 Support Services Building, London, ON, Canada N6A 5C1  
 Telephone: (519) 661-3036 Fax: (519) 850-2466 Email: ethics@uwo.ca  
 Website: www.uwo.ca/research/ethics

**Use of Human Subjects - Ethics Approval Notice**

**Principal Investigator:** Dr. I.N. Luginaah

**Review Number:** 15901S

**Review Level:** Full Board

**Review Date:** February 06, 2009

**Protocol Title:** Vulnerability of Adolescents to HIV Infection in Malawi.

**Department and Institution:** Geography, University of Western Ontario

**Sponsor:** International Development Research Centre

**Ethics Approval Date:** April 16, 2009

**Expiry Date:** December 31, 2009

**Documents Reviewed and Approved:** UWO Protocol, Letter of Information and Consent (In depth interview), Letter of Information and Consent (Survey), Research Assistant Confidentiality Agreement.

**Documents Received for Information:**

This is to notify you that The University of Western Ontario Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the applicable laws and regulations of Ontario has granted approval to the above named research study on the approval date noted above.

This approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the NMREB's periodic requests for surveillance and monitoring information. If you require an updated approval notice prior to that time you must request it using the UWO Updated Approval Request Form.

During the course of the research, no deviations from, or changes to, the study or consent form may be initiated without prior written approval from the NMREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of monitor, telephone number). Expedited review of minor change(s) in ongoing studies will be considered. Subjects must receive a copy of the signed information/consent documentation.

Investigators must promptly also report to the NMREB:

- a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- b) all adverse and unexpected experiences or events that are both serious and unexpected;
- c) new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to this office for approval.

Members of the NMREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the NMREB.

Chair of NMREB: Dr. Jerry Paquette

**Ethics Officer to Contact for Further Information**

<input checked="" type="checkbox"/> Grace Kelly (grace.kelly@uwo.ca)	<input type="checkbox"/> Janice Sutherland (jsutherl@uwo.ca)	<input type="checkbox"/> Elizabeth Wambolt (ewambolt@uwo.ca)	<input type="checkbox"/> Denise Grafton (dgrafton@uwo.ca)
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*This is an official document. Please retain the original in your files.*

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**APPENDIX B**

**CHECKLIST FOR FOCUS GROUP DISCUSSIONS  
AND IN-DEPTH INTERVIEWS**

## **IN-DEPTH INTERVIEWS AND FOCUS GROUP DISCUSSION CHECKLIST**

Consent – Hello, my name is [...]. On behalf of researchers from the University Western Ontario we are conducting a study about some of the issues that young people like you and your family face in relation to HIV/AIDS. Some of the questions are personal in nature and some ask about your physical, mental and sexual health. The interview will take about 1 hour. You have the right to refuse to take part in this interview or refuse to answer any question during the interview. Your responses will be reported in a way that protects your anonymity. Would you like to take part in the interview? Yes\_\_\_\_\_ No \_\_\_\_\_

### Local Survival Knowledge

What do you understand by local knowledge?

How important is local knowledge in your household/area?

How do you get this knowledge?

What are some of the most important aspects or elements of local knowledge in this area?

Are there things you wish someone would teach you?

Who teaches you about farming/ecosystem/sexuality/health/moral values/traditional customs?

Do you think male and female members of household/area have same access to this knowledge? Why?

What can be done to improve the availability and accessibility of this knowledge?

### Access to healthcare

What are some of the main health problems in your area?

What happens when someone is ill in your household?

Who usually makes the decision about whether, when and where to seek treatment?

What is involved in caring for the sick in your household?

When you are sick, what do you do?

Do you think male and female members of the household are treated the same way when sick? Why?

How are other members of the kinship involved when someone is sick in the household?

What are some of the cultural norms and practices to improve health and wellbeing in your area?

How do you learn about health matters in your household/area?

### Access to food

What are some of the most commonly eaten foodstuffs in this area?

How do you obtain these foodstuffs in this area?

What are some of the common taboos around food in this area?

Who is generally responsible for farming in this area?

How is the decision about what to eat and when made in the household?

Do you think male and female household members are treated the same way when it comes to food? Why?

What do you do when there is less or no food to eat in the household?

What do you think should be done to improve your current food situation?

Adolescent Sexual Behaviour

What do you like/dislike most about being an adolescent?

What are some of the appropriate sexual behaviours expected of adolescents in this area/household?

How you learn about issues of sexuality?

Where do you get information about HIV/AIDS and other sexually transmitted diseases?

Do you think boys and girls have the similar access to this information? Why?

Do you think you people like yourselves should have full access to information about sexuality and reproductive health, condoms and other family planning services? Why?

Do you think there are differences in the manner in which parents talk to boys and girls in the household/area about sexual matters? Why?

Do you think boys and girls are subject to similar expectations about proper sexual conduct? Why?

What do you think are some of the reasons why some of young people use or may not use a condom?

What do you think are some of the reasons young some of people may have multiple sexual partners?

What do you think should be done to make adolescents less vulnerable to HIV infection?

### **GANYU AND VULNERABILITY TO HIV/AIDS CHECKLIST**

Consent – Hello, my name is [...]. On behalf of researchers from the University Western Ontario we are conducting a study about some of the issues that young people like you and your family face in relation to HIV/AIDS. Some of the questions are personal in nature and some ask about your physical, mental and sexual health. The interview will take about 1 hour. You have the right to refuse to take part in this interview or refuse to answer any question during the interview. Your responses will be reported in a way that protects your anonymity. Would you like to take part in the interview? Yes      No

What are some of the common examples of livelihoods in this township?  
 How do poor families get food in this area?  
 Do you have many orphans in this area? Why?  
 With whom do these orphans generally live with?  
 How do families that keep orphans get food this area?  
 How do livelihoods of a typical orphaned family differ from those of non-orphans in this area?  
 Do you think sexual behaviours of orphans generally differ from those of non-orphans in this area? How? Why?  
 Do you think male and female orphans differ in their sexual behaviours?  
 How do poor orphans find food in this area?

#### **In-Depth Interview**

What do people generally do for a living in this area?  
 Do you know what ganyu is?  
 How common is ganyu in this township?  
 Who usually does ganyu here? Why?  
 What are some of the benefits of doing ganyu?  
 What are some of the problems that can come because of ganyu?  
 Would you still do ganyu if your parents had enough money to support you? Why?  
 What sort of people normally offer ganyu to others in this area?  
 Where do people normally go when they are looking for ganyu?  
 Do you think that there are many people who depend on ganyu in this township? Why?  
 How are those people who depend on ganyu generally perceived in this area?

**APPENDIX C**

**SURVEY INSTRUMENT**

### SURVEY

<p>Consent – Hello, my name is [...]. On behalf of researchers from the University Western Ontario we are conducting a study about some of the issues that young people like you and your family face in relation to HIV/AIDS. Some of the questions are personal in nature and some ask about your physical, mental and sexual health. The interview will take about 1 hour. You have the right to refuse to take part in this interview or refuse to answer any question during the interview. Your responses will be reported in a way that protects your anonymity. Would you like to take part in the interview? Yes_____ No_____</p>			
<p><b>RESPONDENT # _____ AGE _____ SEX _____ P/STATUS _____ M/STATUS _____ INTERVIEWER ID _____ DATE: _____</b></p>			
No	QUESTION (and Interviewer's Instructions)	POSSIBLE RESPONSES	Code
1	<p><b>I would like to ask you about the area in which you live</b></p> <p>How many years have you lived in this area?</p> <p><b>RECORD ONLY ONE RESPONSE ONLY</b></p>	Between 1 and 6 months	1
		Between 6 mths and 1 year	2
		Between 1 and 4 years	3
		5 years or more	4
		Don't Know	98
		Refused	99
2	<p>How many years have you lived in this house?</p> <p><b>RECORD ONE RESPONSE ONLY</b></p>	Between 1 and 6 months	1
		Between 6 mnths and 1 year	2
		Between 1 and 4 years	3
		5 years or more	4
		Don't Know	98
		Refused	99
3	<p><b>Now I would like to ask you about the things you like about in the area you live.</b></p> <p>What do you LIKE most about your community?</p>	Enter first mention _____	
		Don't know	98
		Refused	99
4	<p><b>Now I'd like to ask you about the things you DON'T LIKE about your community.</b></p> <p>What do you DISLIKE most about your community?</p>	Enter first mention _____	
		Don't know	98
		Refused	99

#### SECTION 2: GENERAL HEALTH STATUS

5	<p><b>Now I would like to ask you about your health</b></p> <p>In general, how does your health compare with that of other people of your age group? Would you say your health is Excellent, Good or Poor?</p>	Excellent,	1
		Good	2
		Poor	3
		Don't Know	98
		Refused	99
6	<p>What is the most important thing that could be done in your area to improve your health?</p>	Enter first mention _____	
		Don't know	98
		Refused	99
7	<p>Have you ever discussed your health with</p>	Yes	1

	someone?	No	2
		Don't Know	98
		Refused	99
	<b>IF NO, GO TO Q9</b>		
8	Who have you ever discussed your health with?	Parent	1
		Friend	2
		Relative (Specify)	3
		Health worker	4
		Male friend	5
		Female friend	6
		Other (specify) _____	97
		Refused	99
9	What kind of concerns do you have relating to your health?	Record fist 2 mentioned _____ _____	
		Don't Know	98
		Refused	99

**SECTION 3a: SOCIAL SUPPORT NETWORK**

10	<b>Now I would like to ask you about your siblings and relatives</b>	Yes	1
		No	2
		Don't Know	98
	Do you have siblings? <b>IF NO GO TO Q13</b>	Refused	99
11	Do your siblings live with you in the same house?	Yes	1
		No	2
	<b>IF SIBLINGS DON'T LIVE IN SAME HOUSE AS RESPONDENT OR SOME LIVE ELSEWHERE GO TO Q12</b>	Refused	99
12	With whom do your siblings live?	With parents	1
		With relatives	2
		Orphanage	3
		Other (Specify) _____	97
		Don't Know	98
		Refused	99
13	Do you have any close relatives?	Yes	1
	<b>IF NO, GO TO Q19</b>	No	2
14	Are you in contact with your relatives?	Yes	1
	<b>IF NO GO TO Q20</b>	No	2
		Refused	99
15	Have you ever been visited by your relatives?	Yes	1
		No	2

	<b>IF YES ASK Q16, IF NO GO TO Q17</b>	Refused	99
16	On average, how often have you been visited by relatives?	Daily	1
		At least once a weekly	2
		At least once a month	3
		At least once in six months	4
		At least once a year	5
		Refused	99
17	Have you ever visited your relatives? <b>IF NO, GO TO Q19</b>	Yes	1
		No	2
		Refused	99
18	On average, how often do you visit your relatives?	Daily	1
		At least once a weekly	2
		At least once a month	3
		At least once in six months	4
		At least once a year	5
		Refused	99
19	Do you have close friends? <b>IF NO GO TO 21</b>	Yes	1
		No	2
		Don't Know	98
		Refused	99
20	How many friends do you have in your areas?	One	1
		Between 1 and 5	2
		More than 5	3
		Refused	99
21	Do you at times feel lonely?	Yes	1
		No	2
		Don't Know	98
		Refused	99

**SECTION 3b: SAFETY NETS**

22	<b>Now let me ask you about safety nets</b>  Did you or your parents/guardians ever receive any of the following from any organization or the government in the past 12 months?  <b>READ OUT LOUD ONE BY ONE</b>	Free food	1
		Subsidized fertilizer	2
		Subsidized seed	3
		Free clothes	4
		Agriculture extension	5
		School fees or scholarships	7
		Subsidized credit	8
		Exemption from user fees	9
		Food-for-work program	10
		Money from relatives	11
		Other (Specify)	98

23	How would you rate your dependence on the above	Totally Dependent	Partly dependent	Not at all	DK	Refused
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	services?					
	Free food					
	Subsidized fertilizer					
	Subsidized seed					
	Free clothes					
	Agriculture extension					
	School fees or scholarships					
	Subsidized credit					
	Exemption from user fees					
	Participate in food-for-work program					
	Money from relatives					
	Other (Specify)					

#### SECTION 4: INDIGENOUS KNOWLEDGE TRANSFER

	<b>Now I would like to ask you about how you to know things related to everyday life and livelihoods</b>		
24	Where do you generally get information about farming and livestock production?  <b>CIRCLE ALL MENTIONED</b>	Friends	1
		Mother	2
		Father	3
		Sister	4
		Brother	5
		Grandparents	6
		Neighbors	7
		Organizations	8
		Extension workers	9
		Teacher	10
		Books	11
		Church	12
		Radio/Television	13
		Friends	14
		Other (Specify)	97
25	How often do your guardians talk to you about accepted ways of behaving in this community?	Almost everyday	1
		At least once a week	2
		At least once a month	3
		Rarely	4
		Never	5
		Refused	99
26	Are there things you wished someone taught you?  <b>IF NO GO TO Q28</b>	Yes	1
		No	2
		Don't Know	98
		Refused	99

27	What are these things?  <b>RECORD FIRST THREE MENTIONED</b>	_____	
28	Where do you generally obtain knowledge about local resources and the environment?  <b>CIRCLE AS MENTIONED</b>	Friends	1
		Mother	2
		Father	3
		Sister	4
		Brother	5
		Grandparents	6
		Neighbors	7
		Organizations	8
		Extension workers	9
		Teacher	10
		Books	11
		Newspaper	12
		Church	13
		Radio/Television	14
		Friends	15
		Other (Specify)	16
29	Do your parents or guardians ever share their life experiences with you?	Yes	1
		No	2
30	<b>IF YES</b> How often do you spend time with your parents or guardians?	At least once a week	1
		At least once a month	2
		Once in while	3
		Refused	99
31	Do your grandparents share stories with you?	Yes	1
		No	2
32	How often do you spend time with your grandparents?	At least once a week	1
		At least once a month	2
		Once in while	3
		Refused	99
33	Have you ever discussed with anyone about changes taking place within your body related to puberty? <b>IF NO, GO TO Q35</b>	Yes	1
		No	2
		Refused	99
34	Who have you discussed this with?	Mother	1
		Father	2
		Male Guardian	3
		Female Guardian	4
		Sister/Brother	5
		Auntie	6
		Male friend	7
		Female friend	8
Grandmother	9		

		Grandfather	10
		Teacher	11
		Health worker	12
		Other (Specify):	97
		Refused	99
35	Are there any other elders in your community who share their life experiences with you?	Yes	1
		No	2
36	Has anyone talked to you about:  <b>READ OUT LOUD ONE BY ONE</b>	Water resource management	1
		Soil fertility management	2
		Seed selection, preservation	3
		Weed management practices	4
		Pest management practices	5
		Environmental management	6
		Cottage industries	7
		Arts and craft-making	8
		Traditional norms	9
		Traditional governance and leadership structure	10

#### SECTION 5: ACCESS TO FOOD

37	To what extent does your household use the following strategies to obtain food?  <i>Use the code list below to record the extent to which people in the household use other strategies:</i> 1 = Not at all 2 = Partly dependent 3 = Totally dependent  <b>RECORD APPROPRIATE CODE IN THE COLUMN</b>	Formal employment	
		Field crops	
		Livestock	
		Marketing	
		Crafts	
		Begging	
		Food for work program	
		Gifts	
		Casual labour	
		Rent out space to lodgers	
		Formal Credit	
		Informal credit	
		Self-employed at home	
	Other (specify)		
38	Who is responsible for ensuring that there is	Parent/Guardian	1

	enough food to eat in your household?	Brother/Sister	2
		Respondent	3
		Relatives	4
		Other (Specify)	
		Refused	99
39	Have you ever been involved in paid work?	Yes	1
		No	2
		Refused	99

<b>Poverty Index</b>						
40	Over the past year, how often, if ever, have you or your family (household) gone without: <b>READ OUT EACH QUESTION ALOUD AND CIRCLE THE MOST APPROPRIATE RESPONSE FOR EACH ROW</b>					
	Conditions	Never	Just once or twice	Several times	Many times	Always D K
	Enough food to eat?					
	Enough clean water for home use?					
	A cash income?					

<b>41. Now I would like to ask you about access to food READ THE LIST AND CATEGORIES AND CIRCLE ONLY ONE ANSWER FOR EACH QUESTION</b>				
Household Food Insecurity Access Scale <b>for last four weeks</b>	No (Answer to question is 'No')	Rarely (once or twice)	Sometimes (3 to 10 times)	Often (>10 times)
In the past four weeks were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources?				
In the past four weeks did you or any household member have to eat a limited variety of foods due to a lack of resources?				
In the past four weeks, did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?				
In the past four weeks, did you or any household member have to eat fewer meals in a day because there was not enough food?				
In the past four weeks, was there ever no food to in your household because of lack of resources to get food?				

42	<p><b>Now I would like to ask you about your household's experience of food prices over the past six months.</b></p> <p>Over the past six months, have you or your household gone without certain types of food because of the food prices (it is unaffordable)?</p> <p><b>CIRCLE THE APPROPRIATE ANSWER</b></p>	Never	1
		About once a month	2
		About once a week	3
		>than once a week< less than everyday	4
		Every day	5
		Don't know	98

43	<p>What other problems prevented your household from having enough food to eat since January this year?</p> <p><b>DO NOT READ OPTIONS, CIRCLE AS MENTIONED</b></p>	<b>Problem</b>	
		Death of a working household member	1
		Death of the head of the household	2
		Death of other household member	3
		Illness of household member	4
		Accident of household member	5
		Loss employment for household member	6
		Reduced income of a household member	7
		Relocation of the family	8
		Reduced or cut-off of remittances	9
		Taking in orphans of deceased parent(s)	10
		Floods, fire and/or other hazards	11
		End of a social grant	15
		End of food aid	16
		Theft	17
Other (please specify)	97		
Don't know	98		

### SECTION 6: ACCESS TO HEALTHCARE

Now I would like to ask you information concerning health and health services in your area			
44	How far is it from where you live to the nearest health facility?	Less than 1km	1
		Between 1 and 5km	2
		More than 5 km	3
		Don't Know	98
		Refused	99
45	Have you ever been ill in the last 4 weeks?	Yes	1

		No	2
		Don't Know	98
		Refused	99

46	What kind of illness did you suffer from?	Malaria	1
		Diarrhoea	2
		Pneumonia	3
		Skin conditions	4
		Headache	5
		Tuberculosis	6
		Heart Disease	7
		Fever	9
		Cancer	10
		Other (Specify)	97
		Don't Know	98
		Refused	99
47	Where did you go to seek treatment for your illness?	Did not go	1
		Health centre	2
		Mobile Clinic	3
		Hospital	4
		Com. Health Worker	5
		Traditional Healer	6
		Other (Specify)	97
		Don't Know	98
		Refused	99

48	<b>IF RESPONDENT DID NOT SEEK TREATMENT ASK</b>  Why did you not seek treatment for your illness? <b>PROBE</b>	Cost too high	1
		Distance too far	2
		Used drugs from past treatment	3
		Guardian not available	4
		Permission not given	5
		Other (Specify)	97
		Don't Know	98
		Refused	99

49	<b>IF THEY SOUGHT TREATMENT ASK</b>	Less than 24 hours	1
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	How long after onset of [INSERT ILLNESS NAME] did you visit the hospital or clinic?	Betw. 24 and 48 hours	2
		More than 48 hours	3
		Don't Know	98
		Refused	99
50	In your household who usually decides what to do when someone is ill?	Makes own decision	1
		Mother	2
		Father	3
		Male relative	4
		Female relative	5
		Other (Specify)	97
		Don't Know	98
	Refused	99	

#### SECTION 7: HIV/AIDS RELATED KNOWLEDGE AND SERVICES

51	<p><b>Now I would like to ask you about HIV/AIDS and related services</b></p> <p>Is there anything a person can do to avoid getting AIDS or the virus that causes AIDS?</p> <p><b>RECORD ALL MENTIONED</b></p>	Abstain from Sex	1
		Limit number of sexual partners	2
		Limit sex to one partner	3
		Use condoms	4
		Avoid sex with prostitutes	5
		Avoid sex with persons with many sexual partners	6
		Avoid sharing razor blades	7
		Avoid sex with homosexuals	8
		Avoid kissing	9
		Avoid mosquito bites	10
		Seek protection from traditional healer	11
		Avoid injections	12
		Other (Specify)	97
		Don't Know	98
Refused	99		
52	Have you ever talked with someone about ways to prevent getting the virus that causes AIDS?	Yes	1
		No	2
		Don't Know	98
53	Do you think condoms are safe to use?	Yes	1
		No	2
		Don't Know	98
54	What are your sources of information about STIs and AIDS?	Father	1
		Mother	2
		Sister	3

	<b>RECORD ALL MENTIONED</b>	Brother	4
		Spouse	5
		Church	6
		Male friends	7
		Female friends	8
		Teacher/School	9
		Radio	10
		Television	11
		Billboards	12
		Doctor/nurse/clinic	13
		Banja la Mtsogolo	14
		Books	15
		Internet	16
		Newspapers	17
		AIDS Counselor	18
Others (Specify)	97		
Don't Know	98		
55	Of the sources of information you have mentioned, which ones do you prefer most? <b>LIST AS MENTIONED</b>		
56	Have you ever donated blood?	Yes	1
		No	2
57	Do you know a place where one can get an HIV test?	Yes	1
		No	2
58	<b>IF YES</b> Where can one get an HIV test?	Hospital	1
		Health Centre	2
		Mobile Clinic	3
		Field Worker	4
		Private Doctor	5
		MACRO	6
		Banja La Mtsogolo	7
		Other (Specify)	97
59	I don't want to know the results, but have you ever been tested for HIV?	Yes	1
		No	2
60	<b>IF NO ASK</b> Why haven't you ever taken an HIV test before?	Don't know where	3
		Test site too far	4
		Afraid or fearful	5
		Not allowed	6
		Privacy not respected	7
		Inconvenient hours	8
		Other (Specify)	97
		Don't Know	98
		Refused	99
61	When was the last time you were tested?	Less than 1 year ago	1



		Between 1 and 2 years ago	2
		2 years or more	3
62	The last time you had the test, did you yourself ask for the test, was it offered to you and you accepted, or was it required?	Asked for it	1
		Offered and accepted	2
		Required	3
63	I don't want to know them, but did you get the results of your test?	Yes	1
		No	2

#### SECTION 8: ADOLESCENT SEXUAL BEHAVIOUR

64	<b>Now I need to ask you some questions about sexual activity in order to understand some family life issues</b> Do you currently have a boyfriend/girlfriend?	Yes	1
		No	2
		Refused	99
65	How many boyfriend/girlfriends have you had over the past year?	_____	
66	How old were you when you first had sexual intercourse (if ever)?	Never	1
		Age in Years	2
		Cannot remember	3
		Don't Know	98
		Refused	99
67	<b>IF PERSON EVER HAD SEX ASK</b> The <b>first time</b> you had sexual intercourse, was a condom used?	Yes	1
		No	2
		Refused	3
68	<b>IF NO</b> , why was a condom not used?	Did not have one	1
		Partner refused	2
		Afraid or embarrassed	3
		Other (Specify)	97
		Don't Know	98
		Refused	99
69	<b>IF PERSON HAD SEX, ASK</b> When you first had sex, did you willingly agree to have sexual intercourse?	Yes	1
		No	2
		Don't Know	98
		Refused	99
70	<b>IF PERSON HAD SEX, ASK</b>  Was the person you had sex with older than you, younger than you, or about the same age as you?	Younger	1
		Older	2
		About same age	3
		Don't Know	98
71	<b>IF PERSON HAD SEX, ASK</b>  When did you last have sex?	Days ago	1
		2 weeks ago	2
		Between 1 month – 6 months	3
		Between 6 months -1 year	4
		More than 1 year	5
		Don't Know	98

		Refused	99
72	The <b>last time</b> you had sex, was a condom used?	Yes	1
		No	2
		Refused	99
73	<b>IF NO</b> , why was a condom not used?	Did not have one	1
		Partner refused	2
		Afraid or embarrassed	3
		Other (Specify)	97
		Don't Know	98
		Refused	99
74	Did you willingly agree to have sexual intercourse with this person?	Yes	1
		No	2
		Don't Know	98
		Refused	99
75	Was this person older than you, younger than you or about the same age as you?	Younger	1
		Older	2
		About same age	3
		Don't Know	98
		Refused	98
76	Do you know of a place where a person can get condoms?	Yes	1
		No	2
77	Where is that?  <b>CIRCLE AS MENTIONED</b>	Hospital	1
		Health Centre	2
		Mobile Clinic	3
		Grocery	4
		Field Worker	5
		Private Doctor	6
		MACRO	7
		Banja La Mtsogolo	8
Other (Specify)	97		

#### SECTION 9: SUBSTANCE ABUSE

78	Do you drink alcohol?	Yes	1
		No	2
79	<b>IF YES ASK</b>  How often do you get drunk?	Very often	1
		Sometimes	2
		Other (Specify)	97
		Refused	99
80	Do you currently smoke cigarettes?	Yes	1
		No	2
81	Do you use any other psychoactive ( behavior affecting) drugs?	Yes	1
		No	2
82	<b>IF YES ASK</b> How often do you use psychoactive ( behavior affecting)	Very often	1
		Sometimes	2

	drugs?	Other (Specify)	97
		Refused	99

**SECTION 10: STRESS AND COPING**

83	Are there any negative <b>critical life events</b> that have occurred to you over the past 12 months?	Yes	1
		No	2
		Refused	99
84	What are some of these critical life events starting with the most significant? <b>LIST FIRST TWO</b>		
85	Are you under stress or worried about any of these events right now?	Yes	1
		No	2
		Don't Know	98
		Refused	99
86	How would you rate your ability to handle these stressful events? (explain)	Excellent	1
		Good	2
		Poor	3
		Don't Know	98
		Refused	99

**SECTION 11: ADOLESCENT EDUCATION**

87	Are you currently enrolled in school?	Yes	1
		No	2
88	How regularly do you go to school?	Regularly	1
		Infrequently	2
		Don't attend	3
		Refused	99
89	<b>IF NO</b> , why are you not enrolled in school?	Distance too far	1
		Don't have fees	2
		Disability	3
		No school supplies	4
		Not allowed	5
		Afraid/Embarrassed	6
		Other (Specify)	97
		Refused	99
90	How far are you (did you go) in school?	Primary	1
		Secondary	2
		College	3
		University	4
		Don't Know	98
		Refused	99
91	How far would you like to go in school?	Satisfied with status quo	1
		Primary	2
		Secondary	3

		College	4
		University	5
		Refused	99

**SECTION 12: SOCIO-DEMOGRAPHIC PROFILE**

<b>92. Now I would like to ask you about the people who live with you in your household</b>									
Person #	1	2	3	4	5	6	7	8	9
Relation to h/h head									
Sex									
Age									
Marital status									
Highest level of educ.									

<b>93. Now I would like to ask you about the type of house and household you live in</b>			
<p>Which one of the following housing type best describes the type of dwelling this household occupies?</p> <p><b>DO NOT READ ALOUD CIRCLE ONLY ONE ANSWER FOR THE COLUMN LABELLED CODE</b></p>	House		1
	Flat		2
	Traditional dwelling		3
	Hostel		4
	Hotel/ Boarding house		7
	Servant quarters		8
	Room in house		9
	Squatter hut/ shack		11
	Other (specify):		97
<b>94. Now I would like to ask you about the structure of the household you live in</b>			
<p>Which of the following best describes the household structure?</p> <p><b>DO NOT READ ALOUD- ASK ABOUT HOUSEHOLD TYPE AND CIRCLE ONLY ONE ANSWER</b></p>	Female-centered (No husband, may include relatives/children, friends)		1
	Male-centered (No wife, may include relatives, children, friends)		2
	Nuclear (Husband and wife with or without children)		3
	Extended (Husband and wife and children and relatives)		4
	Child-centered (adolescent with siblings, with or without relatives)		5
	Other (specify):		97



**APPENDIX D**

**CURRICULUM VITAE**



## **EDUCATION**

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- 2007-2011    The University of Western Ontario, **PhD candidate, Health Geography-**  
Department of Geography;
- 2001- 2003    Imperial College London/University of London, **Master of Science,**  
**International Development**
- 1993-1997    University of Malawi (Chancellor Collage), **BA, Economics**

## **TEACHING EXPERIENCE**

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### **Instructor**

- 2010-2011    Geography of Africa South of Sahara (Geo 2030B), Summer 2011,  
Department of Geography, The University of Western Ontario
- Introduction to Global Development (CGS 1023G), winter 2011, Huron  
University College, The University of Western Ontario
- Introduction to Global Development (CGS 1023F), Intersession 2011,  
Huron University College, The University of Western Ontario
- 2009-2010    Geography of Health and Health Care (Geo 3431), winter 2010, University  
of Western Ontario, Department of Geography
- Geography of Africa South of Sahara (Geo 2030B), intersession 2010,  
Department of Geography, University of Western Ontario

### **Teaching Assistant**

- 2010-2011    Peoples, Places and Landscapes (Geo 1400); Jan-April 2011, Department  
of Geography, University of Western Ontario
- Geography of Tourism (Geo 2144); Sept- Dec 2010, Department of  
Geography, University of Western Ontario
- 2008-2009    Geography of Sub-Saharan Africa (Geo 2030); Jan-April 2009 Department  
of Geography, University of Western Ontario
- Environment, Economy and Society (Geo 2153); Sept-Dec 2008,  
Department of Geography, University of Western Ontario

Landscapes of Inequalities in the Caribbean (Geo 2020); Jan-April 2008,  
Department of Geography, University of Western Ontario

2007 Geographies of Development (Geo 3442); Sept-Dec 2007 Department of  
Geography, University of Western Ontario

## **PUBLICATIONS**

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### *Peer-reviewed articles*

**Mkandawire, P.**, Luginaah, I.N., & Tobias, J. (2011) Landscapes of economic deprivation and locally distilled liquor (kachasu): An emerging risk milieu for HIV/AIDS in urban Northern Malawi, *Environment and Planning A*. 10 (43) 43 (10): 2384 - 2398

**Mkandawire, P.**, Luginaah, I.N., & Bezner-Kerr, R. (2011) Deadly Divide: HIV/AIDS Policymaking on condoms in Malawi, *Policy Sciences* 44 (1): 81-102

Arku, G, Luginaah, I., **Mkandawire, P.**, Baiden, P. and Asiedu, A. (2011) Housing and health in three contrasting neighbourhoods in Accra, Ghana, *Social Science and Medicine* 74(11): 1864-1872

Bezner-Kerr, R. & **Mkandawire, P.**, (2010) Imaginative geographies of gender and HIV/AIDS in Malawi: Moving beyond Neo-liberalism, *GeoJournal* DOI: 10.1007/s10708-010-9353-y

### *Book Chapters*

**Mkandawire, P.** and Aguda, N. (2009) 'Characteristics of Food Insecurity Problem in Sub-Saharan Africa' In Luginaah, I. and Yanful, E. (eds) *Environment and Health in Developing Countries: Managing an Emerging Crisis*, pp. 3-23 Netherlands: Springer

**Mkandawire, P.** and Arku, G. (2009) 'Environmental Legislation and Regulation in Sub-Saharan Africa: Green Revolution or Green Imperialism' In Luginaah, I. and Yanful, E. (eds) *Environment and Health in Developing Countries: Managing an Emerging Crisis*. pp. 95-110, Netherlands: Springer

Arku, G. and **Mkandawire, P.** (2009) 'Precarious Balance: The Future of Environmental Degradation in Sub-Saharan Africa' In Luginaah, I. and Yanful, E. (eds) *Environment and Health in Developing Countries: Managing an Emerging Crisis*. pp 141-154 Netherlands: Springer



*Book Review*

**Mkandawire, P.** Love in the time of AIDS: Inequality, gender, and rights in South Africa by Mark Hunter. Bloomington: Indiana University Press, 2010. *Social Geography* (in press, 2011)

*Articles under review*

**Mkandawire, P.**, Tenkorang, E. and Luginaah, I., Orphanhood and time to first sex among adolescents in Malawi, Submitted: *AIDS & Behaviour*

**Mkandawire, P.**, Luginaah, I. and Baxter, J., Growing up alone: Vulnerability of adolescent orphans to HIV/AIDS in Northern Malawi, Submitted: *Transactions of the Institute of British Geographers*

**Mkandawire, P.** and Luginaah, I., Lost in the shuffle: vulnerability of adolescent girl orphans to HIV/AIDS in Malawi. Submitted: *Environment and Planning C*

**Mkandawire, P.** and Luginaah, I., Voluntary testing and counselling (VCT) for HIV among adolescents in Northern Malawi: Is Orphanhood a factor? Submitted: *AIDS Care*

**Mkandawire, P.**, Arku, G. and Luginaah, I. Critical review: Urbanization, Urban Context, and Millennium Development Goals (MDGs) in Developing Countries Submitted: *Urban Geography*

Arku, G., Luginaah, I. and **Mkandawire, P.**, “You Either Pay More *Advance Rent* or You Move”: Landlord and tenants dilemmas in Low-income housing market in Accra, Ghana. Submitted: *Urban Studies*

## CONFERENCE PRESENTATIONS

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**Mkandawire, P.**, Luginaah, I. and Baxter, J., Growing up alone: Vulnerability of adolescent orphans to HIV/AIDS in Northern Malawi, International Medical Geography Symposium, Durham, 10-15 July 2011

**Mkandawire, P.**, Luginaah, I. and Baxter, J., Growing up alone: Vulnerability of adolescent orphans to HIV/AIDS in Northern Malawi, Canadian Association of Geographers, University of Calgary, Calgary, 31 May-4 June 2011

**Mkandawire, P.** Tenkorang, E. & Luginaah, I. Orphanhood and Time to First Sex among Adolescents in Northern Malawi, American Association of Geographers Conference, Seattle, 12-16 April 2011

**Mkandawire, P.**, Luginaah, I.N., & Tobias, J. Economic Deprivation and locally distilled liquor (kachasu): An emerging risk milieu for HIV/AIDS in Northern Malawi American Association of Geographers Conference, Las Vegas 22-27 March 2009

**Mkandawire, P.**, Luginaah, I.N., & Bezner-Kerr, R. Dialogue of Death: HIV/AIDS Policymaking on Condoms in Malawi, Association of American Geographers, Las Vegas, 22-27 March 2009

### **REFEREE FOR INTERNATIONAL JOURNALS**

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The African Geographic Review  
Journal of Languages and Culture

### **AWARDS**

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The Edward G. Pleva Fellowship, 2009 – **CAD\$ 700**

Canadian Association of Geographers, 2009 – **CAD\$ 700**

International Development Research Council (IDRC) Doctoral Research Award,  
September 2008 – **CAD\$ 20,000**

Western International Development Research Award 2008 – **CAD\$ 7,000**

Reserve Bank of Malawi Economics Best Student Award, 1996

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