

**Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS:
voices from Buhaya, Tanzania**

Valerie Elisabeth Foster Githinji

Thesis committee

Promotor

Prof. Dr P. Richards
Emeritus Professor of Technology and Agrarian Development
Wageningen University

Co-promotors

Dr T. A. Crane
Senior Researcher
International Livestock Research Institute, Nairobi, Kenya

Dr H. Maat
Assistant Professor, Knowledge Technology and Innovation group
Wageningen University

Other members

Prof. Dr. A. Niehof, Wageningen University
Dr K.E. Knibbe, Groningen University
Dr H.W. Vaandrager, Wageningen University
Dr G. Rugalema, FAO, Sierra Leone

This research was conducted under the auspices of the Wageningen School of Social Sciences.

**Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS:
Voices from Buhaya, Tanzania**

Valerie Elisabeth Foster Githinji

Thesis

submitted in fulfillment of the requirements for the degree of doctor
at Wageningen University
by the authority of the Rector Magnificus
Prof. Dr A. P. J. Mol,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Monday 23 November 2015
at 8.30 a.m. in the Aula.

Valerie Elisabeth Foster Githinji

Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS;
Voices from Buhaya, Tanzania
124 pages.

PhD thesis, Wageningen University, Wageningen, NL (2015)

ISBN: 978-94-6257-580-6

Abstract

Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS: voices from Buhaya, Tanzania is based on ethnographic research conducted in 2005-06 in the village of Nsisha, which is located close to the shores of Lake Victoria and is approximately twelve kilometers from the town of Bukoba. Nsisha is a rural village comprised of 184 households and approximately one thousand inhabitants. Like most households in northwestern Tanzania, which is referred to as 'Buhaya' and refers to the homeland of the Bahaya people who form the largest ethnic group in this area, each and every household in Nsisha has been indirectly or directly affected by HIV/AIDS, meaning that either household members have been infected by HIV/AIDS, or households have absorbed children from their extended family and clan who have been orphaned by HIV/AIDS.

In Buhaya, 'vulnerability' is shaped by a multitude of bio-physical and socio-ecological challenges which synergistically intertwine, yielding varying levels of individual struggle and abilities to cope and maintain livelihood resilience. The physical terrain of this region is marked by high rainfall, undulating ridges and overused soils which are increasingly acidic and infertile. Given that most people in the area are semi-subsistent farmers, their ability to derive food, nutrition and health security from the land is critical to their survival. The more recent events of climate variability phenomena - which are projected to endure - compound the challenges posed by the physical landscape and result in unpredictable seasonality, erratic and heavier rains and longer drought periods - which can result in increased rates of malaria, cholera, food, nutrition and health insecurity and HIV/AIDS. Buhaya is a region with a heavy disease burden which affect plants, animals, and humans and which independent of other forces, pose great threats to livelihood security, and like climate variability, lead to declines in food, nutrition, arable land and widespread and chronic poverty. High population densities combined with land shortages and soil infertility escalate and perpetuate poverty and its emanations. When these aforementioned bio-physical challenges intermix, emanations of livelihood vulnerability escalate exponentially, especially for poor people who lack needed buffers - and specifically for women and dependent children in this patriarchal society where land is primarily still bequeathed patrilineally. Given women's subordinate position in Buhaya in general, they lack as much access to basic human needs – land, food, nutrition, health and economic security – as compared to men.

The HIV/AIDS epidemic emerged in Buhaya at a time of agricultural decline and socio-cultural change. At this time, bananas – the cultural staple food crop – were being ravaged by a variety of pathogens, leading to a significant reduction in yield and a change in the daily diet. In addition, cattle husbandry was on the decline due to disease and the inability to maintain their health. Given this situation, farmers lacked the green manure essential for maintaining soil fertility, and for the ample growth of bananas, as well as other important food crops. These compounding factors lead to permutations of household poverty and food and nutrition insecurity, including the scarcity of protein and capital traditionally derived from livestock and milk. Similarly, socio-cultural chaos and change at the onset of the HIV/AIDS epidemic was punctuated by an influx of refugees from the border countries and consequently, high competition over livelihood resources, poverty imposed by the aftermath of the Kagera War and historical neglect from mainland Tanzania. While not an exhaustive list of the bio-physical and socio-ecological challenges which synergistically react in Buhaya, these common challenges affect most farmers in Buhaya.

In this context, those most vulnerable and susceptible to acquiring HIV/AIDS are the poor who lack buffers to livelihood challenges, and alternatives to their impoverished situation. The status of one's age, dependency, health, marital and socio-economic status intermix, affecting their ability to buffer against widespread challenges. Due to socio-cultural and physiological reasons, women - and consequently their dependent children - are by far the most vulnerable to the cycle of poverty, HIV/AIDS and their manifestations, and the situation can repeat generationally.

In whole, the tiers of research and the in-depth questions asked and detailed answers recorded yield four different cross-sectional analyses of the 'ecology' of poverty and HIV/AIDS in Buhaya: (1) one which cuts across social stratification within the community, arguing who has more social capital and how this affects their vulnerability; (2) a second which focuses primarily on food and agricultural issues, and more specifically – bananas; (3) a third cross sectional category which centers on climate factors; (4) and a fourth and final category for this thesis which cuts across age categories and focuses on the social variation of widowhood.

This dissertation is comprised of six subsequent sections; an Introduction chapter which lays out the thinking behind the design of the research topic, field research methods used, and general thematic analyses which emerge; which is followed by four thematic chapters, and ends with the General Concluding Discussion. The four chapters appear as follows: (1) *Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania*; (2) *Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania*; (3) *Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania*; (4) *Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience*. The General Concluding Discussion closes, highlighting how each chapter is a specific emanation of the thesis topic, and how collectively, they combine to comprehensively illustrate the everyday challenges women in Buhaya, Tanzania experience in regard to surviving and coping in the face of patriarchy, poverty and HIV/AIDS.

As will be illustrated, this thesis argues that within a context of poverty and HIV/AIDS, multiple factors synergize, causing widespread poverty, and the threats and lived realities of land, food, nutrition and health insecurity, and to persistent and bequeathed cycles of entrapment. While poverty and its emanations are ubiquitous in Buhaya, a detailed focus on case studies reveals that while people are poor and suffering, they are still employing the strategies that they can and the resources that they can garner to buffer against livelihood challenges, and attempt to get ahead. I have chosen to focus on case studies because the detailed realities of people's lives provide the best understanding to revealing where people are falling short, and how their lives can be buffered and improved. As the chapters and case studies collectively show, in an 'ecology of poverty and HIV/AIDS', those that suffer the most are those least equipped to deal with the poverty and marginalization bestowed on them by patriarchal and patrilineal customs and social stratification; the threats of agricultural decline and food insecurity; the negative effects wrought by climate variability; and ultimately, age and the social variation of widowhood. These four themes of socio-ecological vulnerability, as argued in this thesis, combine to perpetuate vulnerability to HIV/AIDS, poverty and its bequeathed manifestations and cycles.

Table of contents

Chapter 1: Introduction, pages 1-14

Chapter 2: Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania, pages 15-33

Chapter 3: Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society in north-western Tanzania, pages 35-46

Chapter 4: Compound vulnerabilities – the intersection of climate variability and HIV/AIDS in northwestern Tanzania, pages 47-67

Chapter 5: Widowhood in Buhaya, Tanzania – livelihood challenges, strategies for coping and resilience, pages 69-91

Chapter 6: General concluding discussion, pages 93-107

Works cited: pages 108-119

Executive Summary: pages 120-124

Acknowledgement

I am very grateful that I am at the point where I can write this part of the PhD dissertation. There are so many people to thank. First and foremost, I thank the many Nsishans who gave me hours of their time, and shared stories and intimate details of their lives with me. I have learned so much, and continue to, from my time in Buhaya. Florentina was the field assistant that I worked with most closely, and it is unfortunate that she passed away suddenly just as my research was closing. We had planned to continue collaborating together in the future. She made me promise her that I would complete my degree no matter how difficult it was, deeming it important to get the words and stories out. Her sudden passing made it quite difficult at times to even look at my research upon return home. Gabriel Rugalema was the person who encouraged me to attend Wageningen after I had finally tracked him down and expressed my desire to work in northwestern Tanzania. Paul, Gabriel and I met after I had completed all my coursework at MSU and secured Fulbright funds to conduct my research. In the end, I conducted research in Gabriel's home village; a place now dear to my heart. I never imagined it would take me so long to complete, but in short, life is what happens when making plans. I am so grateful that Todd had the patience to advise me to completion, and I have learned so much from him. Working together on our published paper on climate variability was a great and rewarding challenge, and I really learned a lot – I remember feeling my brain grow! Harro has provided great assistance during the past several months and together with Todd and Paul, provided shape and clarity to the dissertation. I certainly have learned writing skills from them which I take with me. I appreciate all the time and resources spent on me and promise to pay it forward through good scholarship, research, teaching and to being a good advisor and mentor. Inge too, has been quite helpful and encouraging throughout the years, and her kindness and helpfulness is always appreciated.

Dr. Sobha Ramanand and Dr. Root-Bernstein from MSU have been wonderful encouragers throughout the years. Dr. Root-Bernstein has been such a valuable mentor who has repeatedly told me that the tenacity required to complete will lead to interesting and rewarding opportunities. I am ready for those! I am also grateful for his advice and encouragement through the years which focus on maintaining who you are through the process and trusting yourself in regard to ideas and creativity. It has been very interesting to see how dominant ideology evolves.

I want to thank my family and friends who have provided encouragement through the years. A very special thank you to my dear friend Julie who eagerly read the entire dissertation then called me and said, "Aren't there more stories, Val...is this it?" My long-time friend Gina too read the dissertation, and was very touched and admitted she understands even more the passion that I have had inside for wanting to understand and write about poverty and HIV/AIDS. I am so grateful that another treasured friend, Melissa, visited me during my research and got a taste of what fieldwork is like. Another special thank you to my long-time, supportive friends Jenn and Cynthia who live in the Netherlands and agreed to be my paranymphs.

A special thank you too to Kelly Jackson and Milisa Rahme in Michigan; Dr. Roxanne DuVivier, Dr. Lynne Hull and Kathleen Kutsko (ABD!) in Ohio; and Kim Tilsen, Katie Ballantyne and Jenn Denno Cisse in Ithaca, NY.

Staring at the topics of HIV/AIDS and poverty can be really difficult at times. I am not even quite sure why I have been so dedicated all these years, other than holding on to the conviction that there are ways to prevent these epidemics, better alleviate the pain, and buffer the livelihood constraints that so many people have been enduring for decades, and more... This imperfect dissertation is my life's work at this point. I am very happy to begin anew in ways, and to simply have more space and time in my thoughts and life. So many sacrifices have been made along the way. I dedicate my work to Nsishans, my teachers, friends, family and to my co-inspirators (and co-conspirators), Ayden Grace Nyambura (7), and Anabelle Wambui (almost 5). To Githinji, life has not been what was anticipated, but I do hope that we will be able to soon provide opportunities for the girls to experience half of their culture in situ. To my marathon-running sister Alison, thank you too, for all the encouragement and for agreeing that the past decade or so has been a continuous marathon – uphill! We will celebrate together in the Netherlands - or some other time and place. We wish my brother Kyle, could be here. His unexpected death chronically rips, as many parents, siblings, children, and loved ones know. I apologize to my mother for making her worry all the years that I traveled and did research, all I can say is that now that I am a mom, I am probably in for it, too!

I am not convinced that such intense pressure leads to great work, but I do know that it squeezes out your heart, soul and sheer will! One of the only ways out is through. Thank you so much to all who have made the completion of my dissertation possible. With sincere gratitude and relief.

Valerie Foster Githinji
Ithaca, New York, 28 October 2015

Chapter 1: Introduction

Description of the topic

Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS: voices from Buhaya, Tanzania is based on ethnographic research conducted in 2005-06 in the village of Nsisha, which is located close to the shores of Lake Victoria and is approximately twelve kilometers from the town of Bukoba. Nsisha is a rural village comprised of 184 households and approximately one thousand inhabitants. Like most households in northwestern Tanzania (Rugalema, 1999), each and every household in Nsisha has been indirectly or directly affected by HIV/AIDS, meaning that either household members have been infected by HIV/AIDS, or households have absorbed children from their extended family and clan who have been orphaned by HIV/AIDS.

Rakai District in Uganda, which is located close to Kagera Region in northwestern Tanzania, was the first global epicenter of HIV/AIDS (Iliffe, 2006). The Bahaya people form the largest single ethnic group in Kagera Region, and predominately inhabit Karagwe, Muleba and Bukoba Districts (Kaijage, 1993). Given the close proximity with Rakai District in Uganda, porous borders and *magendo* - or black-market trade which occurred along the Uganda/Tanzania border during the time of the Kagera War in the late 1970's and 1980's, when people were urgently seeking basic household commodities such as soap, (Kaijage, 1993) and trying to eke a living in the midst of socioeconomic upheaval - the HIV/AIDS epidemic was transpiring. Quickly, HIV spread from towns in Rakai District in Uganda to towns in Kagera Region in Tanzania, epidemically emanating throughout Buhaya, the cultural area 'home' to the Bahaya people, wreaking havoc on rural villagers (Kalipeni et al., 2004). Those that became infected with the 'slimming' and unknown disease in the early 1980's were usually those in their most productive and reproductive ages who had shirked the traditional farming livelihood for business and engaged in the selling of material commodities - like a desired cloth at the time known as *Juliana* which became one of the first metaphorical nicknames for HIV/AIDS - (Kaijage, 1993), and those who engaged in prostitution. As HIV/AIDS infiltrated towns and rural villages in northwestern Tanzania, it began to cripple a culture and economy already in the midst of downturn due to the Kagera War, socio-cultural and economic transition, and ecological challenges wrought by increasing population pressures, intensification of land shortages, soil infertility, climate variability, and diseases affecting bananas - their cultural and staple food - as well as other important food crops (Tibaijuka, 1997). These challenges compound those of a long history of colonization, failed

socialist and structural adjustment programs, this region's geographical isolation from the rest of Tanzania, historical neglect from development in the country, and a history of sexually transmitted diseases, polygyny, prostitution, and poverty (Kaijage, 1993).

The HIV/AIDS epidemic was so intense in this region that at the apex, infection rates reached 32.8% in some areas, such as in Bukoba Urban District (Kaijage 1993: 280). Those who became infected often had a history of being involved in the cross-border trade, were soldiers in Uganda during the Kagera War, and, or, had become infected through their spouses and sexual partners, and via informal and formal prostitution. As the wave of the HIV/AIDS epidemic made its impact, many wives became widowed, and children orphaned. Female-headed households increased and often, single women became the caretakers of those orphaned (Rugalema, 1999). This situation created generalized and intense poverty situations for many families burdened by decreasing agricultural yields, land insecurity, soil infertility, climate variability, and a lack of capital and social buffers. As the disease took its toll on caretakers, often disposable assets such as cattle, bikes, radios, land, and other household and personal items were sold to pay for medications to treat HIV/AIDS, and to pay for

hospitalizations and traditional funeral ceremonies. As more time was spent on caretaking, less time was spent on farming, which directly leads to issues of household food and nutrition insecurity, livelihood vulnerability, and susceptibility to poor health (Tibaijuka, 1997). Lack

PATRIARCHY

Patriarchy is the institution whereby 'boys' and 'men' are deemed by birthright, to be naturally entitled to more power, authority, livelihood resources and morality than 'girls' and 'women'. Males and females are equally enculturated into – and oppressed by – (hooks, 2015) the institution of patriarchy and are responsible for perpetuating this structural force, generationally. The institution of patriarchy is often so 'naturalized' in society, that men and women can be unaware of how oppressing females productively, reproductively, educationally (Arnot, 2002) and creatively leads to a lop-sided and unsustainable socio-cultural environment premised on fragility and myopism (Morgen, 2002). Girls and women are deemed 'voiceless' and 'submissive' by the structural and social mores prescribed and practiced by patriarchal actors, and tend to believe in their inferiority and disempowerment. In the context of Buhaya (Swantz, 1985), submitting to patriarchy renders men in control of livelihood resources, including land, home, capital, and in some cases – offspring. In this agricultural society affected by widespread poverty, food and nutrition insecurity, and HIV/AIDS, married and single women are socio-culturally and physiologically more vulnerable than men, given that in this patrilineal society, they lack ownership to farming land and are insecure users of this vital livelihood resource. Furthermore, fear prevents women from 'being able' to question their husbands in regard to issues of fidelity, fertility, sexuality and STDs since doing so is known to lead to their physical beating, and to the threat of being kicked out of their home and off their land to live a life in the margins of society. In this context, patriarchy plays a significant role in creating and sustaining poverty, gendered vulnerability, HIV/AIDS and to their manifestations. Creating a structural institution based on gender parity requires active realization and implementation led by men and women (Lerner, 1986).

of assets, capital, adequate labor on the farm and social assistance exacerbates the livelihood situation, leading to widespread poverty and generalized and chronic food and nutrition insecurity, poor health, lack of livelihood choices and HIV/AIDS in the region, and to its cycle as children inherit vulnerability and impoverishment.

According to traditional cultural norms in Buhaya, if widows had not produced a son (Cory and Hartnoll, 1971), they could be thrown out of the marital home and off the *kibanja*, or banana-homegarden. In extreme cases, they could be forced to leave their children with their deceased husband's patri-clan, and be dispossessed of household, personal and material possessions, and made to return to their natal village - often unwelcomed - to live with their father, brother or uncle. Under the traditional levirate system, widows could be obligated - or could choose - to marry their deceased husband's brother. Prior to the onset of the HIV/AIDS epidemic, it has been noted that the levirate system began to wane, and due to Christianization and an increase in poverty, so too did the traditional practice of polygyny (Kamanzi, 2008).

Within marriage, women exercise user rights only to land and their home: livelihood resources and ownership rights are controlled by men in this patriarchal and patrilineal society. Typically and traditionally, girls inherit a symbolic tree and if fortunate, a small slice of the *kibanja* when their fathers died, whereas sons traditionally inherit more sizable portions of the *kibanja*.

During the height of the HIV/AIDS epidemic, patriarchal and patrilineal practices became reified (Manji, 2000) and widowed women were often blamed for 'killing' their husbands, due to the mere fact that they outlived them (Faden et al., 1996). Many widows were thrown out of their marital home and off the *kibanja*, and forced to return to their natal village where they often live a poor life in the margins, and are seen as a burden to their family.

As *de facto* household heads, single women with children often lack adequate land and other essential livelihood resources – such as capital, livestock, manure, other agricultural inputs, educational training and assistance – which are needed to live life above poverty. Often, these women live in intense poverty where their households are vulnerable to food and nutrition insecurity, poor health and HIV/AIDS. In order to get by, it is not uncommon for women to engage in poverty-induced transactional sex in order to get enough money to purchase food for their family's daily meal. Often unprotected, they put themselves, children and sexual partners at risk to STDs and HIV/AIDS (Barnett and Whiteside, 2002).

Compounded by patriarchal and patrilineal customs and social standards which restrict women's access to livelihood assets and choices, they are also asymmetrically susceptible to HIV/AIDS given their physiology: they contract the virus more easily than men via sexual intercourse, particularly if they suffer from a co-infection such as an STD. Additionally, because women are the primary caretakers, they are at more risk than men to acquiring HIV via bodily fluids of an infected individual. Furthermore, pregnant and nursing women can pass the virus on to their offspring in utero, during birthing and via breastfeeding, respectfully. In the context of rural poverty, women's social vulnerability and biological susceptibility to HIV/AIDS is heightened due to their lower status coupled with the lack of food and nutrition security, knowledge about STDs and HIV/AIDS and - the importance of accessing - health care. This combination of features lays a foundation of women's disproportionate, socio-cultural vulnerability and biological susceptibility to HIV/AIDS and to poverty entrapment. Women's prominent roles in agriculture, food provisioning and caretaking combined with their low status in patriarchal and patrilineal societies leads to a cyclical vulnerability to poverty, HIV/AIDS, and their bequeathed manifestations as their children inherit this plight (See Kakuru and van der Burg, 2008). Often, the details of women's livelihood experiences are shrouded by the silence of the stigma, shame and blame associated with HIV/AIDS, as well as their own sense of disempowerment resulting from the daunting, daily struggles associated with living in the context of patriarchy and poverty while focusing their daily, productive energies on caring for dependents.

Purpose of thesis

The purpose of this thesis is to argue that there are multi-factorial, socio-ecological challenges which synergistically intertwine to sustain poverty and HIV/AIDS in Buhaya, and that those who are poor and lack needed social capital and buffers - and women in general - are disproportionately vulnerable. As Kaijage (1993: 279) states, the Bahaya people were the first ethnic group in Tanzania to be so highly affected by HIV/AIDS that they were considered to be an "endangered species". While the seroprevalence of HIV/AIDS has dramatically decreased in the region from 24% in 1987 to 3.4% in 2009 (Rugalema and Mathieson 2009: 44), over three decades have passed since its onset, and people in the region continue to be vulnerable, susceptible, infected and affected (Kamanzi, 2008). Multi-factorial, synergistic socio-ecological co-factors laid the foundation for the onset of the HIV/AIDS epidemic and continue to sustain its threatening presence. Rural livelihoods are consistently faced with daily challenges in their environment such as: climate variability, low

soil fertility, agricultural decline, increased food and nutrition insecurity, lack of capital, assets and ways out of this trap, particularly for those who are the poorest, ailing, and lack social networks and buffers. Given the constraints of patriarchy and patrilineality in this impoverished environment women in general, are more vulnerable to the manifestations of poverty and HIV/AIDS than men, and single women with young dependents who lack social buffer are often those who struggle the most and are the most at risk (Rugalema, 1999, see also Kakuru and van der Burg).

While located close to the town of Bukoba, Nsisha is a rural village where most people are poor, and very few have accumulated assets and regular remittances which they can rely upon during times of duress. Given that women are more prone to the emanations of poverty and HIV/AIDS, the purpose of this thesis is to voice the everyday struggles that they face by showing how myriad socio-ecological factors synergistically intertwine in this context of poverty, patriarchy, patrilineality and HIV/AIDS causing women to be more vulnerable, while highlighting the livelihood strategies which they utilize in order to cope and remain resilient in the face of such adversity. In Buhaya, a variety of socio-ecological factors, such as age, status of health, dependency and social capital combine to determine how well people are able to buffer challenges related to climatic factors, soil infertility, food and nutrition insecurity and poor health. With this said, while women in general are more vulnerable to the emanations of poverty and HIV/AIDS, there are those, such as elderly widows, who are faring well because they are being cared for by their children and kin living in the village. In essence, women's vulnerability varies based on the synergy of the socio-ecological factors which comprise their daily life and affect their ability to cope and remain resilient.

By focusing on case studies of people - primarily women - affected by severe livelihood challenges in Buhaya, the goal of this thesis is to provide a wide-lens view of their lives which captures a detailed and complex understanding of their everyday livelihood challenges (See also Hulme, 2003). In so doing, this thesis provides a more comprehensive and holistic ethnographic study with nuanced details which can be used by people interested in understanding the complexity of poverty and HIV/AIDS in rural contexts and who wish to help alleviate poor peoples' struggles pertaining to poverty and compounding emanations of HIV/AIDS, food, nutrition and health insecurity, climate variability and gendered livelihood vulnerability issues. With a focus on case studies, this thesis analyses the socio-ecological factors which create a context where poverty, poor health and HIV/AIDS thrive, particularly among the poorest who lack social buffers. Moreover, what emerges are the connections

between gendered vulnerability of HIV/AIDS, poverty and food and nutrition insecurity in Buhaya which render women, in general, to be most vulnerable. The focus on case studies furthermore, fill in the gaps of much aggregate-level research by illuminating life stories from those living in the real context of these livelihood challenges. In other words, this thesis provides the narratives of people experiencing the plight of poverty and HIV/AIDS which are too often represented by faceless numbers. By highlighting women's everyday experiences, the intertwining livelihood constraints that they face, how they survive in the face of patriarchy, patrilineality, poverty and HIV/AIDS and how women are coping - and not coping - this thesis identifies research and policy gaps that need to be addressed to overcome the epidemic and its root, synergistic and compounding causes. Furthermore, this dissertation illustrates at the household and individual level, how and why HIV/AIDS affects so many people, crippling households, villages and regions. Through a thick description and illustration of cases studies, we see how and why single mothers with dependent children take risks on a daily basis in order to feed their families by engaging in poverty-induced transactional sex, for example, as well as why accessing health care is 'out of reach' to those who may need it most due to issues of fear, lack of transportation, knowledge and understanding of how the synergy of poverty, food and nutrition insecurity and illness lead to full-blown HIV/AIDS cases and dramatic effects which cripple families, homes and villages.

Ultimately, by focusing on real people's situations we are forced to read, understand and see how and why an epidemic can take root, spread and sustain, and how difficult it can be to curb the effects when people lack very basic livelihood necessities in a rural farming context, such as a lack of access to adequate land, physical assistance for farming, agricultural inputs necessary to deter pests from destroying crops, and fertilizers needed to promote a viable and nutritious food supply. When people in such a rural context lack adequate food and nutrition security, surplus cannot be gleamed from lack, therefore people do not generate income needed to pay for such things as transportation to hospital, medicines, food to supplement a poor diet, fees to pay for schooling, as well as proper clothing and materials needed for safe homes. When individuals become ill, resources are disposed of, such as livestock, and energy is diverted from livelihood duties, such as farming, and households experience a shock and crippling effect, leading to acute poverty which is difficult – even impossible – to recover from. Buffers by way of capital, food, medication, knowledge, and material assistance (clothing, materials for rebuilding homes which are deteriorating), and livestock – such as cows, chickens, pigs, provide a poor household with money, protein and a sense of security at times when people are suffering the most. But the

reality is that many of the cases studies in this thesis show that those most in need lack most – if not all – of these. These are the gaps which, if focused on by individuals and agencies who aim to provide a sustainable and realistic solution to helping people get out of poverty and to prevent and curb the epidemic, need to be addressed. Providing poor with basic livelihood needs and strategies to create buffers will go a long way to recovery, alleviation and prevention.

Main questions which led to this research center on how and why the HIV/AIDS epidemic became so entrenched in this socio-cultural region; why, in spite of a significant statistical decline in sero-prevalence, it continues to affect so many households in the region; and furthermore, why it has increased from 3.4% in 2008 to 4.8% in 2011 (Mulisa, 2013; Tanzania Daily News, 2014). A comprehensive conceptual framework paired with a holistic research method and an emphasis on case studies, reveals that HIV/AIDS is but one everyday challenge and risk in Buhaya. To put it very simply, a mother risks HIV/AIDS when she ‘chooses’ to engage in poverty-induced transaction sex which may grant her \$0.25, because she can then provide a daily meal, which her *kibanja* does not. The point is that people do what they need to in order to get by daily. If the challenge of the day, which it is for many in this context, is how and where to get enough food for the children, then engaging in a ‘risky’ sexual act may be the option available. Yes, people are aware of HIV/AIDS and the fact that it is contracted primarily via unprotected sex, but it is one of the only options available for women with dependents who lack income from other venues. If the same women were living in a lush area where harvest is plentiful, then they may have a surplus of bananas, vegetables and fruits to sell to accrue money needed to purchase complementary food items, clothing, medicine, etc., but when this is the only way, mothers tend to choose daily survival and feeding their families over the ‘what if’ I get HIV/AIDS from this action. When people are struggling to procure the immediate needs for their dependents, the future is an intangible luxury to ponder.

Agricultural decline in the region has caused tremendous problems for people in Buhaya. Many people - particularly women and junior brothers - lack adequate land for farming, as well as the inputs needed to maintain soil fertility and yield adequate food crops for household consumption. Climate variability is another challenge which has compounded the challenges of farming, resulting in erratic seasonal rains and drought, and crop loss. Widespread poverty has been and continues to be an everyday challenge for most, which is exacerbated by HIV/AIDS. Caretaking, the loss of adult labor needed for farming and sustaining a household that can stay above poverty and food and nutrition insecurity, coupled

by the resources spent on medicines, transportation, and hospitalization for those suffering from HIV/AIDS quickly diminishes the coping capacity. This situation is then, bequeathed to children (see Kakuru and van der Burg, 2008) who are frequently unable to escape. This is how and why HIV/AIDS has been able to ground and spread in Buhaya, and why it continues to affect many...and helps to explain why people take risks and perhaps, why HIV rates are currently increasing in Buhaya.

A heavy reliance on showcasing case studies proposes to argue what life is really like in Buhaya through the lives of those most affected by poverty and HIV/AIDS. While analysis is useful for creating the big, comprehensive epidemiological picture for us to grasp how a certain population in a faraway place can become so inundated by HIV/AIDS, it is not always needed, or even relevant, when attempting to humanize the impoverished condition so many people in Buhaya have been experiencing for decades. ‘The solution’ to an epidemic is based on ensuring very basic human needs: access to adequate food and nutrition, safe water, healthcare, education, assistance, care and gender equality. By reading the selected cases studies in this thesis, one cannot ignore the fact that there are – and have been – basic ways to address, alleviate and prevent the epidemics of poverty and HIV/AIDS. What is missing is a comprehensive focus for understanding the synergy between rural poverty and HIV/AIDS, followed by targeted strategies implemented by dedicated actors – meaning all involved, from the village up to the government and international agencies. When pairing the understanding of individuals’ lives featured in this thesis to the understanding of the etiology and epidemiology of HIV/AIDS, one can see the consonance: a primarily sexually transmitted virus which leads to a syndrome of AIDS spreads along the ‘fault lines’ (Setel, 1999) of poverty, food and nutrition insecurity, lack of access to health care, education and gender inequality, leading to epidemic proportions. Magnifying a variety of case studies humanizes the numbers who have been lost - and continue to be lost - and who are easily dismissed through the statistics, politics and policies by which they are treated. As Rugalema (2004: 192) states:

I argue that to understand the HIV pandemic in Africa is to understand how people who live with it explain it, or rather how they construct schemes of risk assessment in the face of it. It is by listening to the “stories” that we can understand the context, including factors that may promote or constrain behavioral change.

Asking about, recording, providing and analyzing the details of individuals’ livelihood challenges via ethnography and a focus on case studies delivers the necessary comprehensive,

holistic big picture needed to explain the ‘how’ and ‘why’ multifactorial challenges synergize epidemically in real life. In doing so, one learns about individuals’ past and present in regard to impacts by poverty, agriculture, climate variability, food and nutrition, and HIV/AIDS, and their perceptions on these issues as they relate to themselves, their families and the wider community.

When people suffer from the emanations of food and nutrition insecurity, they are more susceptible to any health condition, such as the flu, malaria, tuberculosis or HIV. When mothers risk their lives in order to feed their children, to them, getting by that day is more important than the fear of catching HIV, particularly to those at the time of this research who are in their 20s and 30s, and see HIV/AIDS as ubiquitous and inevitable - and perhaps with the onset of ARVS - as ‘treatable’ as malaria. While ARVs continue to make a huge impact on the continent and in Buhaya, several informants mention that they are dangerous, because while they may palliate symptoms and allow people to look healthy again, they mask and silence the continual spread of HIV/AIDS. Other informants mentioned that while ARVs are free to those infected, they cannot take them when they lack adequate food, for they become more sickly. New research (Mulisa, 2013; Tanzania Daily News, 2014) suggests that HIV rates have increased in Buhaya. Perhaps this is due to the positive effects of those taking ARVs well and surviving longer (Mulisa, 2013). Perhaps this is due to the fact that, as highlighted in this thesis, HIV/AIDS is unfortunately, common and one part of everyday life in Buhaya - a reality that sustains the epidemic (Kamanzi, 2008). Other suggestions focus on widows leaving the rural context for life on the islands in Lake Victoria which are commonly associated with high rates of HIV/AIDS, prostitution, alcoholism and unprotected sex (Tanzania Daily News, 2014). Either way, what is needed the most to empower people, move forward and achieve higher standards of human development, is access to adequate and safe water, food and nutrition security, health care, education, and livelihood choices within and outside of farming. Treating these symptoms truly gets closer to the root of the livelihood challenges and problems in Buhaya which culminate in epidemic poverty and HIV/AIDS.

Conceptual framework

The conceptual framework for this dissertation thesis draws primarily from Stillwaggon’s (2006) comprehensive articulation of the HIV/AIDS epidemic; research which focuses on the gendered vulnerability to HIV/AIDS (WHO, 2014) in Tanzania (Baylies and Bujra, 2002); Crenshaw’s (1991) foundational feminist work focusing on ‘intersectionality’; and Scheper-

Hughes' (1992) detailed ethnography premised on the lived realities of poverty, suffering and dying in Brazil.

Stillwaggon's (2006) ground-breaking research on the 'ecology of poverty and HIV/AIDS' focuses on the myriad socio-ecological factors which combine synergistically, leading to - and sustaining - an HIV/AIDS epidemic. Her compelling book (2006), "AIDS and the Ecology of Poverty", centers on how 'poverty' is the underlying root cause of HIV and AIDS etiology and epidemiology in impoverished contexts. As she argues, when people are poor and lack access to basic human needs, such as safe and reliable water, food, nutrition and health care for example, they are vulnerable to contracting illnesses such as the HIV virus and the AIDS syndrome. Poverty and its emanations work in tandem to wear down an individual's immunity to pathogens, and epidemically, this spreads like wild fire in the context where poverty is rampant. This theoretical conceptualization vividly helps to explain how and why HIV/AIDS epidemics emerged and are sustained in areas where people lack basic livelihood resources, such as in northwestern Tanzania. This thesis adapts Stillwaggon's framework to show how the intertwining socio-ecological issues of land insecurity; negative effects of climate change and variability; an increase in pathogens affecting animals, people and plants; a decline in agricultural productivity; poverty and food and nutrition insecurity combine synergistically to lay the foundation, and sustain, an HIV/AIDS epidemic in Buhaya. While Stillwaggon does mention that women are asymmetrically vulnerable in an 'ecology of poverty and HIV/AIDS', this thesis focuses heavily on women's vulnerability, drawing on literature (WHO, 2014; Baylies and Bujra, 2002) and case studies which describe in deep detail how and why women are more socially vulnerable and biologically susceptible to HIV/AIDS acquisition, given issues related to their physiology, patriarchy and lack of access to knowledge, healthcare, livelihood opportunities and their 'predisposition' to poverty-induced transactional and 'risky' sex. Therefore, while Stillwaggon's theoretical work is used as a guide to addressing - and including - women's vulnerability in an 'ecology of poverty and HIV/AIDS' as an important theme to understanding the epidemic, this thesis delves deep into focusing on this keystone issue, adding thick descriptions arguing how and why women are vulnerable and susceptible in Buhaya.

Crenshaw's (1991) crucial feminist work on 'intersectionality' aims to bring to light the dynamics between sexism and gender, specifically as experienced by Black women. Crenshaw argues that little is truly known of Black women's lives because their experiences and voices have been glossed over by Black men and White feminists through history. While

Crenshaw argues that indeed there are ‘cohorts’; of Black women, for example, who share a specific ‘subordinated’ ‘silenced’ and ‘ignored’ experience, this general, and ambiguous category serves the purpose of conveniently addressing their needed acknowledgement, but that each woman’s lives tell its own unique story which should not be re-essentialized and categorized. In this light, her work is adapted to this thesis to illustrate the shared and disparate experiences poor, Black African women in the context of the ‘third world’ Buhaya face as they are confronted with daily challenges related to patriarchy, poverty and HIV/AIDS. While many women’s voices are collected from those who are widowed, married, single, or living with a partner and care for dependents etc., the commonalities of their experiences are highlighted, as well as their uniqueness. The ‘intersection’ of living in rural Buhaya under the constraints of patriarchy, poverty and HIV/AIDS encompasses these women, and in a real sense, these shared socio-ecological conditions that comprise and shape their environment ‘unify’ their lives and experiences. However, the details of their lived experiences are often separated (Kakuru and van der Burg, 2008) by networkings and synergies of their age, marital, dependency, poverty, food and nutrition security, and health statuses and their individual abilities and strategies to buffer against myriad socio-ecological challenges. Collectively, their shared and unique experiences emerge through their voices highlighting to the audiences what women’s lives are like in a context of poverty and HIV/AIDS.

Scheper-Hughes’ (1992) detailed ethnographic accounts on people living in poverty in Brazil, is another crucial influence of this dissertation. Her deeply descriptive and alarming anthropological contribution excruciatingly depicts life, death, suffering and the deep, dark manifestations of poverty and hunger faced by poor people in Brazil every day. Scheper-Hughes aims to supply a ‘record’ of these realities, rather than to turn a blind eye and dismiss the injustices which provide such an environment and lived reality for so many living in poverty. To this extent, her work is compassionate, empathetic, humanistic and activist. She wants to wake up her audiences to the fact to how harsh the everyday realities are for many. Through her detailed record, you cannot forget the life stories of real people, and the grim picture of their lives as a whole. Her detailed ethnographic accounts are adapted and build the conceptual framework for this dissertation, as evidenced by the heavy reliance on people’s cases studies and voices related to the everyday, detailed struggles women face in Buhaya. The composition of this conceptual framework is important because it is comprised of crucial elements which provide a realistic and empathetic approach illustrating and capturing the everyday realities of women’s experiences in Buhaya with a focus on their life stories and

their words. My hope too, is that readers will not forget the case studies, which provide a representation and record of many lives in Buhaya.

By applying Stillwaggon's comprehensive view of HIV/AIDS, we see the synergistic and compounding socio-ecological factors which give rise to an epidemic, where women are indeed, more vulnerable than man, and the poorest women who lack reliable access to basic needs and social buffers are the most vulnerable. The application of gendered vulnerability to HIV/AIDS research adds more of a poignant focus on the how and why women are more vulnerable, and their life stories and voices in the case studies echo on a personal level the 'how' and 'why'. Furthermore, Crenshaw's 'intersectionality' work is applied to show how women in Buhaya who, in general, form a globally marginalized category of women, face shared challenges which are experienced differently and individually based on their social, economic, financial and health statuses. Scheper-Hughes' addition of a focus on ethnographic details is applied in this thesis to provide the true stories of real, lived experiences – in their words and through their voices. These elements are important to truly understanding the complex, compounding factors which make people vulnerable to the plethora of factors comprising the burdens of poverty and HIV/AIDS. The focus on case studies provides a lens through which the larger social and material connections and structures are made visible. Additionally, an emphasis on life stories, voices, and holism provide a rich, multi-disciplinary analysis which can be used by scholars, practitioners and health agencies to better understand the experiences of poverty and HIV/AIDS, as well as to pinpoint better how to develop more effective strategies which can lead to reducing the challenges, sustainably, and toward achieving human development and empowerment. Woven together, Stillwaggon, Scheper-Hughes and Crenshaw highlight the comprehensive factors which create and sustain a life of poverty, HIV/AIDS, and their manifestations, which are then bequeathed to future generations - and specifically to young girls - in the context of patriarchy, poverty and the institutional and cultural traditions of dismissal.

Research design and methodology

A comprehensive, socio-ecological ethnographic approach is used to address the connections of vulnerability to poverty, food and nutrition insecurity and HIV/AIDS in this research. Research questions focused on attaining an understanding of each respondent's life history specifically in regard to poverty, health, agriculture, food and nutrition insecurity and HIV/AIDS. Questions asked elicited each respondent's view on these issues in regard to themselves, the family they came from, the family they married into, and their perceptions of

these issues in the village. Given that the native language in Bukoba is Luhaya, interview questions for all 316 interviews were translated from English to Luhaya, and respondents' answers were translated into English and at times, Kiswahili. A research assistant fluent in Luhaya, Kiswahili and English accompanied the researcher during all phases of this research.

The research was divided into three tiers. The first tier consisted of a village census, whereby each adult household head of the 184 households was interviewed based on semi-structured questions relating to household composition, aspects of economic livelihood, possessions – including livestock, radio, bike, - the type of housing (thatch, corrugated roof), number of orphans, number of children attending school, expenditures, remittances received, etc. The second tier of research consisted of interviewing all widowers and widows in the village, as well as some informants who were married or single, for a total of 97 interviews. Semi-structured and open-ended questions were asked which reflect life histories, perceptions of agricultural change, poverty, food and nutrition insecurity and HIV/AIDS in their lives and overall, their perceptions of poverty and HIV/AIDS in the village. Each interview could last up to 2.5 or 3 hours. The third tier of research consisted of re-interviewing 30 key informants and gaining more in-depth information in regard to HIV/AIDS, poverty and food and nutrition insecurity, and agricultural change as affected by climate variability, soil infertility and pathogens affecting banana plants and other food crops. In addition, 5 interviews were conducted with HIV/AIDS widows living in Bukoba Urban and are showcased in the chapter on widows. Profiles for each respondent were created which contained their picture, name, pseudonym, and their detailed answers. These profiles were cross-analyzed with each other and categorized to construct the chapters of this thesis. Themes emerged, particularly along age, health, marital and poverty status of all interviewed. The in-depth comprehensive research methods reflect a similar conceptual framework and yield a general understanding that those in the village most vulnerable to the cycle of poverty and HIV/AIDS are those who are poor and lack livelihood buffers, such as social capital, a regular salary, remittances, familial, social and farming assistance, livestock, adequate land and agricultural inputs, and health, food and nutrition security.

More specifically, women in general are much more vulnerable to the manifestation of poverty and poor health. Single women with dependent children who lack social capital and buffers are invariably, those most prone to poverty, land, food and nutrition insecurity, poor health and HIV/AIDS in this village given their low status in society and inability to achieve sustainable livelihood resources such as land, adequate agricultural yields, capital, assets, and their involvement in poverty-induced transactional sex which puts many at risk –

themselves, their children and their partners. Connecting general understandings of HIV/AIDS epidemiology and this research, it is obvious that women are the people in society who are most affected and infected with HIV/AIDS. To attain a better understanding of how and why women are most infected, interviews focused on eliciting information about informants' life histories as related to health, farming, marriage, child bearing and rearing, food and nutrition security, poverty and HIV/AIDS, given that these myriad factors synergistically intertwine to subject some individuals to greater risk to the lived realities of poverty, poor health and HIV/AIDS. In other words, this holistic lens magnifies the varied vulnerability people - and primarily women because they are most affected – face in Nsisha.

In whole, the tiers of research and the in-depth questions asked and detailed answers recorded yield four different cross-sectional analyses of the 'ecology' of poverty and HIV/AIDS in Buhaya: (1) one which cuts across social stratification within the community, arguing who has more social capital and how this affects their vulnerability; (2) a second which focuses primarily on food and agricultural issues, and more specifically – bananas; (3) a third cross sectional category which centers on climate factors; (4) and a fourth and final category for this thesis which cuts across age categories and focuses on the social variation of widowhood.

Organization of the thesis

The remainder of this dissertation is comprised of five sections; four thematic chapters followed by the General Concluding Discussion. The four chapters appear as follows: (1) *Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania*; (2) *Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania*; (3) *Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania*; (4) *Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience*. The General Concluding Discussion closes, highlighting how each chapter is a specific emanation of the thesis topic, and how collectively, they combine to comprehensively illustrate the everyday challenges women in Buhaya, Tanzania experience in regard to surviving and coping in the face of patriarchy, poverty and HIV/AIDS.

Chapter 2: Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania¹

Abstract

This article focuses on five known HIV/AIDS cases which were collected from socio-cultural anthropological fieldwork conducted in Nsisha; a Bahaya village located in northwestern Tanzania. Drawing on Stillwaggon's concept of 'AIDS and the ecology of poverty', the case studies argue that an impoverished environment where people are challenged in their abilities to access daily necessities serves as a fertile terrain for the acquisition and spread of HIV/AIDS. As will be discussed, poverty is an underlying socio-ecological vulnerability factor that fuels HIV/AIDS and similarly, HIV/AIDS, poverty and their manifestations work in tandem, sustaining each other. The discussion of the known HIV/AIDS cases illustrates that patriarchal norms which constrain women combined with the manifestations of poverty – including land, food, nutrition and health insecurity and lack of access to education, agricultural inputs and viable livelihood alternatives - affect poor women asymmetrically and disproportionately in an ecology of poverty and HIV/AIDS. Women's level of vulnerability in an ecology of poverty and HIV/AIDS is influenced by how well they are able to buffer daily livelihood challenges, cope and remain resilient.

Key Words: ecology of poverty, HIV/AIDS, Tanzania, gendered vulnerability, socio-ecological vulnerability factor, Buhaya

Introduction

In northwestern Tanzania, a myriad of socio-ecological factors combine synergistically creating an environment which is conducive to and a population which is vulnerable to poverty and AIDS. This article focuses on the context of Nsisha, a rural village located in Buhaya - the cultural homeland of the Bahaya people - located in northwestern Tanzania which formed part of the first global epicenters of HIV/AIDS (Rugalema, 1999; Iliffe, 2006). As part of the larger Buhaya environment, Nsisha has been affected by decades of declining agriculture, food production and soil fertility (Baijukya 2004; van Asten et al., 2004; Maruo 2002), an escalation of pests and diseases affecting plants, animals and people (Rugalema and Mathieson, 2009; Rugalema et al., 2009; Githinji 2008, 2011a) and the negative effects of climate variability (Githinji and Crane, 2014). These factors lead to poverty, food and nutrition insecurity, poor health, illness, and socio-cultural transition (Githinji, 2011a). The combination of socio-cultural, environmental and biological factors, referred to hereon as 'socio-ecological' factors, paved the way for an HIV/AIDS epidemic in the region in the 1980s (Kaijage, 1993; Tibaijuka, 1997; Lugalla et al., 1999, Lundberg, Over, and Mujinja,

¹ This chapter is co-authored with Todd A. Crane, and will be submitted to *African Journal of AIDS Research*, <http://www.tandfonline.com/toc/raar20/current#.VbZp0I3bLIU>

2000; Barnett and Whiteside, 2002). Although rates have declined since the onset, people are still vulnerable and affected (Rugalema, 2004; Githinji 2008, 2009a, 2011a; De Weerd, 2009; Mattes, 2014).

Poverty and its manifestations, like HIV/AIDS, are not gender neutral. Due to socio-cultural and physiological factors, women are more vulnerable to poverty (Morgen, 2002) and HIV/AIDS, respectively (Faden, Kass, and McGraw, 1996; McNamara, 1997; Baylies and Bujra, 2002; Sweetman, 2001; Müller 2005a; Kalipeni, 2008; Stillwaggon, 2008; Wiegers 2008; Githinji 2009b, 2011b). Gendered vulnerability combined with the generalized poverty and socio-ecological challenges in Nsisha converge, creating and sustaining an 'ecology of poverty and AIDS', where the environment is conducive to and the people - primarily women - are most vulnerable to poverty, HIV/AIDS, and their manifestations and cycles. As will be argued, while women are in general, more vulnerable to the manifestations of poverty and HIV/AIDS in this context due to a myriad of socio-ecological factors, women who are buffered well through familial and kin assistance, social capital, land security, etc., are able to cope more readily than women who may be ill, have dependents to provide for and suffer from land insecurity and lack of assistance. Furthermore, as will be argued, based on each women's livelihood situation, each woman is utilizing and pursuing the resources available to them in order to sustain.

Conceptual framework of the research: 'ecology of poverty and AIDS'

Stillwaggon (2006) demonstrates that socio-ecological factors combine to create an environment conducive to HIV/AIDS on micro and macro levels. At the heart of this conceptual framework is a focus on the precursors, or underlying co-factors of poverty - such as inadequate food and nutrition, infectious and endemic illness, lacking access to health care and gendered vulnerability - which make a person, community, region and nation vulnerable to HIV/AIDS (Stillwaggon, 2006). The crucial role that co-factors play in HIV/AIDS acquisition and spread, she argues, needs to be at the center of our understanding, research and policies on HIV/AIDS (Stillwaggon 2006, 2008, 2009; Sawers, Stillwaggon, and Hertz, 2008; Sawers and Stillwaggon 2010a, b). Applying this conceptual framework to impoverished contexts like Nsisha, this article illustrates how poverty co-factors manifest and intertwine, paving the way for HIV/AIDS. This focus provides a comprehensive and nonlinear explanation of the epidemic and explains why poor, marginalized regions and people in the world are predominately and asymmetrically affected.

An important tenet to Stillwaggon's (2006, 2008, 2009, Sawers and Stillwaggon 2010a, b; Sawers et al., 2008) conceptual framework highlights that unlike other infectious diseases and epidemics throughout history, the 'ecologic context' (Stillwaggon 2006:8), which includes the array of factors that make the spread of a disease favorable and epidemic at a specific time and place, has been ignored in AIDS policies (Stillwaggon 2006:13). For example, years of socio-economic and agricultural decline and transition, hunger and war preceded the Black Death plague in 14th century Europe, and similar contextual factors characterize epidemics throughout history (Iliffe, 1987). However, AIDS policies premised on behavioral change and AIDS drugs, for example, focus on the last resort method to curtailing an epidemic. While these policies are undeniably important, this focus draws attention away from strategies that address a comprehensive understanding of the underlying socio-ecological factors which combine to create a favorable context for an AIDS epidemic. In spite of this lack of historical perspective and context, impoverished environments with high rates of malnutrition (Leonard-Green and Watson, 1989), endemic and infectious disease and lack of health care, as found in sub-Saharan Africa for example, provide a 'fertile terrain' for HIV/AIDS, since co-factors of poverty combine synergistically, creating an sustaining an 'ecology of poverty and AIDS'².

This article builds on and adds to Stillwaggon's (2006) conceptual framework. Her comprehensive, nonlinear understanding of HIV/AIDS and poverty is used to analyze case studies of people infected with HIV/AIDS, demonstrating how poverty and gender dynamics predispose and affect people's vulnerability, and fuel the epidemic. As will be illustrated, socio-ecological factors combine creating an environment where women are in general, disproportionately vulnerable to poverty and HIV/AIDS, and their ability to cope, adapt and remain resilient in the face of such intense daily challenges is shaped by the resources that they can access to buffer against common problems related to land, food, nutrition and health insecurity, etc. By including case studies and highlighting people's stories of living with HIV/AIDS in a context of poverty³ this research adds the real life human dimension, enriching Stillwaggon's (2006) framework. Additionally, focusing on case studies elaborates on women's gendered vulnerability to poverty and HIV/AIDS, providing details

² The phrase 'ecology of poverty and AIDS' draws from Stillwaggon's (2006) book, *AIDS and the Ecology of Poverty*; my phrasing emphasizes the synergistic interconnections between cofactors of poverty and HIV/AIDS in an environment and population.

³ Stillwaggon (2006) does not emphasize cases studies and people's stories and voices, nor discuss gendered vulnerability elaborately.

which illustrate the dynamics around women's asymmetrical predisposition and their strategies of coping. Similar to Hulme (2003:2), focusing on the detailed lives of individuals provides an in-depth view on how and why people become entrapped in poverty, and the livelihood avenues they take in order to sustain and attempt to get ahead, and furthermore argues that while people "may be down they are not out".

Research methods

This article stems from socio-cultural anthropological research focusing on the connections of widowhood, poverty, food and nutrition insecurity, HIV/AIDS and rural livelihood strategies. Ethnographic research was conducted from June 2005 to June 2006 in Nsisha, a village with a population of approximately 1,000 inhabitants which is located about twelve kilometers from Bukoba town - an HIV/AIDS hotspot during the 1980s and 1990s (Mutembei et al., 2002). Data was collected through participant observation and 311 structured and unstructured interviews ⁴.

The first AIDS case in Nsisha was reported in 1987 (Rugalema 1999:82); since then, AIDS deaths have occurred in waves, affecting each and every household. This article focuses on five cases of HIV/AIDS which were reported to me⁵ directly by informants during interviews. The total number of HIV/AIDS cases at the time of research likely exceeds five, given that not all villagers were extensively interviewed and those who may have been infected may not have known their status yet nor felt comfortable disclosing their status. Therefore, this number serves as a reference point and approximation of HIV/AIDS reality in Nsisha. Given the sensitive nature of the research topic, I primarily relied on informants directly informing me that they were infected. Not all who are infected show signs and thereby can 'hide' their status. Sometimes those infected remain in their homes during bouts of sickness and family members say on their behalf that, 'they are traveling and visiting friends and family'. These factors, therefore, skew the representation of HIV/AIDS.

⁴ The study commenced with a household census in which the head or the available adult member of each of the 184 households in the village was interviewed. Based on the census data and discussions with key informants, ninety-seven formal and extensive interviews were conducted with widows, and women and men of various ages and marital status. Thirty additional interviewees, including a sample of fifteen widows and fifteen non-widows, were re-interviewed to collect information focusing specifically on changes in farming practices and production on the *kibanja*, the household banana farm.

⁵ The first author, Valerie Githinji, who conducted this research.

Inspired by Scheper-Hughes (1992), a narrative methodological approach (Bernard 2002, Mitchell and Egudo, 2003; Makuru-Paradza, 2010) is used to present the data through informants' translated words, stories and perceptions. Each case study is unique in regard to the particular combination of socio-ecological challenges the individual faces, and the livelihood resources and strategies that they have access to and pursue. Collectively, the case studies illustrate how Nsishans' common day-to-day challenges intertwine (Makuru-Paradza, 2010) to create an ecology of poverty which in general asymmetrically predisposes poor women - specifically those who lack buffers - to HIV/AIDS. This method adds the human dimension to Stillwaggon's (2006) conceptual framework by focusing on affected individuals and incorporating their stories of their life experiences, coping in an ecology of poverty and AIDS. In depth case studies reflect cultural intricacies and nuances which can be glossed over in less-detailed and more aggregated or statistical research approaches. As Scheper-Hughes (1992) masterfully demonstrates in her ethnography on everyday violence, acute poverty and child mortality in Brazil, providing a 'face' to those living and coping with harsh realities makes it more memorable and difficult to dismiss, than when measured in terms of numbers, graphs and statistics. Similar to Hulme (2003), a wide-lens focus on individual challenges in the face of intense poverty shows that amidst struggling in this context, they exercise their agency via the resources and strategies that they employ in order to sustain - and attempt to get above poverty - and why too, they may not always be 'successful' in its escape. Ethnographic research and the use of a narrative methodology is an important medium to learn from, and provides researchers, scientists and policy makers with details illustrating what may be otherwise dismissed in the epidemiological understanding of HIV/AIDS, as well as the agency people utilize and where they may fall short.

The context: an ecology of poverty and HIV/AIDS in Buhaya

'Buhaya' is the homeland of the Bahaya people who are traditionally known as banana agriculturalists. Bananas have held agricultural importance in the region for at least 800 years, serving as the culture core and staple food for three to six centuries (Schoenbrun 1993a: 52). The intense cultivation of banana on the *kibanja*, the Bahaya banana homegarden, is essentially what defines 'Bahayaness' (Githinji, 2011a; Weiss 1996, 2003).

Buhaya is marked by environmental challenges dating to prehistory (Schmidt, 1997). The undulating ridges mixed with high rainfall, poor soils, and a long history of pastoralism, iron smelting, and intensive agriculture result in a region sensitive to environmental degradation. Cattle husbandry has been an essential element to the Bahaya farming system,

providing fertilizer necessary for the ample growth of bananas. However, a rinderpest endemic of the 1900's (Kjekshus, 1996) combined with an array of diseases and widespread poverty in subsequent years (Rugalema and Mathieson, 2009; Rugalema et al., 2009) make cattle keeping unviable for most today. Currently, this region is compounded by the erratic and negative effects of climate variability (Githinji and Crane, 2014).

During colonialism, Bahaya were forced to plant coffee trees at the expense of food crops (Smith, 1989; Berry, 1995; Weiss 1996, 2003). After production reached its apex in the 1930s (Weiss, 2003), coffee prices crashed and similar to the decline in cattle, this economic devastation intensified the ecology of poverty and livelihood vulnerability in the region.

During the colonial and post-colonial years, gender roles were in flux and women started to refuse the traditional life of farming, marriage, motherhood, and 'meekness' (Sundkler, 1980; Swantz 1985; Larsson, 1991). Rather, women were tempted by independence, materialism, and money and some engaged in a profession of prostitution in the urban centers of East Africa. These 'rebellious' women gained wealth and purchased their own *kibanja*. Traditionally, this was unheard of since men are the owners of land and women mediate user rights through fathers, husbands, brothers and sons but never actually own or sell land (Cory and Hartnoll, 1971). Bahaya were afflicted by gonorrhea and syphilis epidemics at this time and stigmatized as 'promiscuous' people plagued with venereal disease (Kaijage, 1993; Berry, 1995). In the time of HIV/AIDS, prostitutes became referred to as 'women who buy their graves' (Weiss, 1993; Stevens, 1995) since their livelihood ironically subverts restrictive gender norms, but at the cost of their lives⁶.

Buhaya is isolated from the rest of mainland Tanzania, and borders with Uganda, Rwanda, Burundi and Lake Victoria permit a high rate of migration and cross-border trading known as *magendo* (Kaijage, 1993). Seeking goods not found locally encouraged *magendo* during the Kagera War of 1978-79 (Kaijage, 1993), and coincides with the intensification of the sex trade and the world's first HIV/AIDS epidemic. Wars occurring since 1994 in Uganda, Rwanda, Burundi, and the Democratic Republic of Congo led to an influx of refugees, intensifying livelihood vulnerability and the AIDS epidemic (Lugalla et al., 1999).

⁶ Unfortunately, a profession of prostitution and the survival strategy of poverty-induced transactional sex which supplements farming, still holds as one of the only economic means alternative to farming for women. Even though some women engage in prostitution as their primary economic mainstay, Nsishans I met, specifically those who are single with children, engage in poverty-induced transactional sex in addition to farming in order to get by daily, and procure adequate food. This dire poverty situation not only puts the women and their partners at risk, but endangers the lives of children and thereby future generations, fueling continuous cycles of poverty and HIV/AIDS, and girls' and women's specific vulnerability to both (Githinji 2009a, b).

The first AIDS cases in Buhaya were reported in 1983 and occurred in the border areas located near Rakai District in Uganda (Iliffe, 2006). By 1987, when the first case was reported in the village of Nsisha (Rugalema, 1999), HIV prevalence peaked at 24%, affecting most households. HIV prevalence declined to about 3.7% in 2005 (Rugalema and Mathieson, 2009:44) however, people are still vulnerable and affected.

In addition to HIV/AIDS, Buhaya has one of the highest disease burdens globally (Rugalema et al., 2009:443), and a matrix of crop⁷, livestock⁸ and human diseases⁹ challenge the Bahaya agriculturally-based livelihood (Rugalema and Mathieson, 2009; Rugalema et al., 2009). In recent decades, pathogens have devastated banana plants (Baijukya, 2004; van Asten et al., 2004), the long standing cultural and staple food crop (Weiss 1996, 2003; Rugalema, 1999; Githinji 2008, 2011a). Household poverty and food and nutrition security is widespread, and purchase of protein-rich foods such as eggs, milk, meat and fish is rare. Potatoes and cassava are replacing bananas, and meals have reduced from twice to once daily for many. Households have less disposable capital used to maintain their homes, consume a diverse and robust diet, and access health care and education; a situation which heightens poverty, poor nutrition, illness and HIV/AIDS vulnerability (Tibaijuka, 1997; Rugalema, 1999; Githinji 2008, 2009a, 2009b, 2011a). The negative effects of climate variability in the region intensify the myriad of socio-ecological factors which synergistically intertwine, heightening people's vulnerability to poverty and its manifestations (Githinji and Crane, 2014; see also Alley and Sommerfield, 2014).

Results

Case studies of Nsishans infected with HIV/AIDS are presented in the next section. Each case study demonstrates that individuals are collectively but uniquely affected by socio-ecological factors. Collectively, common and shared factors surface illustrating generalized and gendered vulnerability in an ecology of poverty and HIV/AIDS. However, because each individual faces their own set of specific livelihood challenges, and their ability to combat

⁷ Rugalema and Mathieson (2009:11-31) outline the major pests and diseases affecting daily staple food crops including: banana, cassava, maize, and beans; and coffee, a cash crop.

⁸ Cattle, goats, sheep, pigs, chickens and ducks are important to Bahaya livelihood and are affected by several diseases, as listed and explained by Rugalema and Mathieson (2009:33-40).

⁹ Rugalema and Mathieson (2009:41-47) outline the major illnesses affecting Bahaya, including: malaria, acute respiratory infections (cough, flu, asthma, pneumonia), intestinal worms, dysentery/typhoid, sexually transmitted infections (STIs), AIDS, tuberculosis, and measles.

these differs based on how well they can buffer them through assistance and accessible resources, their level of vulnerability – and ability to cope and remain resilient – varies (Crenshaw, 1991).

HIV infected in Nsisha	Age
1. Agnes	25
2. Dorotia	30
3. Opal	35
4. George	35
5. Kokoshubira	43

Table 1: Five Nsishans with HIV/AIDS

Table 1 displays the five Nsishans¹⁰ who openly admitted to having HIV/AIDS. As is often the case, all five are in their most productive years of life, ranging from age twenty-five years to forty-three years. Those infected are predominately women: four women, Agnes, Dorotia, Opal and Kokoshubira, and one man, George. All four women are of childbearing age and three have children. The exception is Dorotia who was believed to be infertile. The sample shows gendered vulnerability, whereby women are asymmetrically and disproportionately affected by HIV/AIDS (Faden et al., 1996, McNamara, 1997; Sweetman, 2001; Morgen, 2002; Beck, Handy, and Levander, 2004; Müller 2004, 2005a, b; FAO, 2005; Hecht et al., 2006; Kalipeni, 2008; Stillwaggon, 2008; Wiegers, 2008; Githinji 2009b, 2011b).

Gendered vulnerability

This section focuses on the four case studies of women infected with HIV/AIDS, and George. Since George is the only identified male afflicted by AIDS, his case emphasizes women's asymmetrical vulnerability to AIDS, while also portraying a male perspective on AIDS blame.

The case below of Agnes shows how a lack of viable alternatives to a rural life for young women eager to escape patriarchy and its potential poverty entrapment can lead to prostitution, acquisition of STDS - such as HIV - shame, isolation, and bequeathed poverty, poor health, and a very short life for future generations born into this context. At the same

¹⁰ Pseudonyms are used throughout this article.

time, Agnes' open honesty about her predicament, choices and constraints signals exactly how and why young women such as herself are falling into HIV/AIDS, and where viable livelihood alternatives, opportunities and buffers are needed to prevent its perpetuation:

At the time of the interview, **Agnes**, was in a very, progressed stage of HIV/AIDS. When approaching her home, the stench of diarrhea was overwhelming. At the entranceway, her two year-old child was playing with a soiled cloth in brown water; his five year old brother was gathering water with a broken plastic cup from a trickle pooling into a mud puddle a few yards in front of their home. In spite of Agnes' emaciated and obviously painful state, she smiled widely and invited me inside. She could not stand due to her weakened state, and appeared to be wearing a child's pink dress. There was nothing in the home; no furniture, just a thin, spotty layer of old thatched carpeting. Agnes inherited her home from an uncle, her father was deceased, and her mother did not have much to do with her and lives afar. She said she had worked in clubs as a prostitute; a profession she was tempted into because of the attraction to money, materialism, and modernity. Villagers said that due to Agnes' profession, her mother was ashamed of her and stayed away. The day after the interview, I was informed by the village leader that a priest went to see Agnes and encouraged her to board a bus to Muleba, a nearby district in Buhaya, to be cared for by her mother. Agnes went with her two children, and died less than two months later. Her two year-old son followed her one month later. Without news, I was left wondering about her only surviving child. Months later when concluding research in the village, I was greeted by a middle-aged woman who asked me to take a young boy to the hospital to be checked for HIV; the boy she insisted, I knew. After piecing together information, I discovered that he was Agnes' son who was currently residing in Nsisha and being cared for by the great, great-aunt of the child's deceased father. I went to the home and found the young boy, Johnnie, looking well and appearing happy and shy. His cousin, a middle-aged man, and I took Johnnie to the hospital where we learned that he was not infected with HIV, but was diagnosed for worms and malnutrition, common childhood maladies, and told to take a dose of medication and eat a protein-rich diet.

Johnnie was very fortunate since he was not infected and appeared to be living in a nurturing environment. For some orphans - especially double-orphans like Johnnie - can be viewed as and treated like an added burden to those providing care, given the generalized poverty that affects many. Sometimes, orphans are mistreated, neglected and left vulnerable, especially if they are sickly and infected (Beegle, Weerdt, and Dercon. 2007; Gillespie, Norman, and Finley, 2005; Githinji 2009a; De Weerdt, 2009). However, Johnnie's case illustrates hope; although he lost both parents and siblings to AIDS, he was generally healthy and appeared to be accepted and well cared for.

Nsishans mentioned that as Agnes' worsened state progressed, she refused assistance from neighbors and even sold her cooking pots. Allegedly, in addition to HIV/AIDS, she had an STD which caused her pain, sores, and shame (Parker and Aggleton, 2003; Duffy 2005) deterring her from reaching out to people, and no doubt, causing harm to her children who were living in an extremely impoverished condition and visibly ill themselves. Her case

shows how women's marginalization perpetuates future generations of children's vulnerability to poverty and HIV/AIDS. If there were more livelihood alternatives for women, she could have chosen a less precarious profession. However, the impoverished context of rural Buhaya offered her little. Ironically, she was fortunate to have inherited a plot of land from her uncle; this is a rare situation that most in the village context would welcome. Like many youth, she was tempted by materialism, money, and modernity; essentially, an alternative to the entrapping life of a young Bahaya woman who traditionally marries and bears children at a young age. By following her temptation for a 'better' life Agnes contracted AIDS and lost hers, like the women who 'buy their graves' (Weiss, 1993), and in the process she also lost three children to AIDS, leaving her only surviving child, Johnnie, a double-orphan.

Similar to Agnes, the case below of Dorotia, depicts life for a young, childless woman in the context of patriarchy, poverty and HIV/AIDS:

Dorotia was a single woman whose husband forced her out of the marital home after accusing her of being barren. Dorotia grew up with her sister and father; her mother 'disappeared' when she was a young girl. Dorotia spent the years after her divorce, 'living with different men.' Her last partner was a married prison ward whom she lived with while he worked in the nearby prison. She stated that she contracted HIV/AIDS due to her promiscuous behavior. Although young and infected, Dorotia was fortunate because her sister assisted her, especially during bouts of illness, and they had access to a fairly productive *kibanja* which they inherited from their father. She did not have children to care for who could be infected, and left orphaned and vulnerable. However, not being a mother marginalized her, increasing her vulnerability to HIV/AIDS, given the cultural context in which a 'real' Bahaya woman is expected to be a married mother.

Similar to blaming HIV/AIDS on women who outlive their partners (Faden et al., 1996), difficulties with conception are customarily blamed on women, while men are at liberty to remarry (Cory and Hartnoll, 1971) and in this case, discard their wife. The cultural norm against women maintaining their own household independent of men, led Dorotia to transactional sex and HIV/AIDS. Unmarried and childless, she was viewed as someone 'without a head or a tail', a common metaphor used to describe people who through traditional gaze, are unsettled in life; without 'anything' from their past or future to secure them according to prescribed and idealized Bahaya cultural norms. Both Agnes and Dorotia led unconventional lives for Bahaya women, and the also were open and honest about their past and present situations which led to their shortened futures. Like most women, they were constrained by socio-cultural and patriarchal norms which combined with poverty, limited their economic livelihood opportunities. Unlike the conventional woman in Nsisha who

marries, bears children and farms, Agnes ‘chose’ a life of prostitution and Dorotia, whose inability to conceive pushed her to a life of instability, and in seeking security, she lived precariously with different men. Ultimately, both young women succumbed to HIV/AIDS. Providing educational chances and livelihood opportunities outside of farming is needed, as both these cases show. Additionally, Agnes and Dorotia’s curtailed lives argue that in order to curb poverty and HIV/AIDS in this context, patriarchal views held by many in the Bahaya culture need to change, so that women – whether they choose to shirk traditional farming life or are ‘barren’ are still viewed with human respect and not further, marginalized and ridiculed for their ‘differences’. Interestingly, Agnes inherited a *kibanja* from an uncle, and Dorotia and her sister shared a *kibanja* inherited from their father. This shows that in this context of patriarchy, some young women and daughters do inherit land and furthermore, that these needed livelihood resources buffered them from a more intense experience of poverty and marginalization. Such practices signal hope and positive socio-cultural change which includes women.

Similar to both Agnes and Dorotia, Opal too, strayed from the traditional Bahaya norms by - openly admitting to – engaging in risky behavior in spite of the threat of HIV/AIDS. As Agnes was fortunate to have access to a *kibanja*, and Dorotia was cared for quite well by her younger sister, particularly when ill, Opal had the reliable assistance – and love and acceptance – from her mother, who not only cared for her, but her dependent children:

Opal was an HIV/AIDS widow ¹¹. Her husband and a subsequent partner both died of HIV/AIDS, but she had four healthy children. When asked how she contracted HIV, she stated, ‘from my husband who was a cop’. However, her mother interrupted and said scoldingly, ‘that is not true, you got it because you were roaming’, and they both laughed. During the course of this research, Opal could be seen farming, appearing strong and well and other times she remained inside, resting and very ill. Sometimes, her children or mother would say, ‘she went away to visit a relative or friend’, the common excuse given when someone, usually quite ill with HIV/AIDS, did not want to be seen. Opal lives in a house with her brother, his wife and their young children, and her three children and mother. Her fourth child lives in a nearby village with her ex in-laws on the *kibanja* that, thanks to Opal’s mother, Lestuta, he will eventually inherit. When Opal divorced, the uncle of her ex-husband tried to sell the land without properly bestowing land inheritance rights to her children. Lestuta, a courageous woman who battled her own land case¹², took Opal’s land case to court.

¹¹ She divorced her husband prior to his death, but in Bahaya culture, is still considered to be a widow (Cory and Hartnoll, 1971).

¹² Lestuta’s son chased her out of her marital home. He had recently married and desired to reside in the home with his new bride and start his own family. Lestuta had spent some time in the outerlying portion of the

In the end, Opal's children will inherit the land when the eldest turns eighteen years. Until then, Opal has usufruct and ownership rights, as mediated by her minor son, which she leases in exchange for a portion of the bean harvest. Opal was generally open and comfortable discussing her HIV status¹³. She and her mother share a close-knit relationship and work together to provide for the children. They live insecurely, unsure whether the brother will allow them to live there peacefully and 'share food with them', or try to 'kick them out, like he did before'.

Like, Agnes and Dorotia, Opal was a young woman whose 'promiscuity' led to HIV/AIDS. In some ways, her openness about her status and her mother's joking about her promiscuous behavior illustrates HIV/AIDS normalization and denial, whereby people - primarily the youth, who are born into the time of HIV/AIDS - see it as something common, ubiquitous and practically inevitable. Also, it shows that in spite of this lethal virus and the fertile terrain in which they live, people take risks out of hopelessness and ironically, as a means to go on with life in spite of its looming threat. Opal and her mother's land struggles illustrate how women are marginalized and their basic needs to shelter, food, health and livelihood are threatened and mediated by men. Women 'chase' men and engage in promiscuous behavior in spite of the looming threat of HIV/AIDS because men ultimately control their livelihood resources, and women often do not believe they can survive on their own.

In spite of her ailing health status. Opal was very fortunate that she had her mother to live with and care for her, and ensure that her children will rightfully inherit land from their patri-clan. Reliance on matrilineal ties for both Opal and Dorotia buffered them from a more intense situation, in which they could have been suffering in silence, shame and isolation – as Agnes did - which would have not only affected them negatively, but Opal's children.

kikamba and the forest. Encouraged by friends, she took the land case to court and eventually won a piece of the *kikamba*, which she was in the process of converting to *kibanja*.

¹³ Although Opal and her mother were open about her Opal's status, Lestuta would never talk on behalf of her daughter, apparently her son, and certainly not another. She believed, like many others, doing so was akin to accusing one of having HIV/AIDS, which could 'bring a court case'. When I would see Opal, she would always tell me how she was doing and how she was feeling. Sometimes when I passed by her home, she was not visible and she would be resting inside, seeming very ill. Still at other times, her children or her mother would say, 'she went away to visit a relative or friend,' (the common excuse given when someone, usually quite ill with HIV/AIDS, did not want to be seen). Although never mentioned in interviews, Opal's brother was apparently also very ill with HIV/AIDS. When interviewed for the village census, he was extremely ill, lying on the floor, unable to move, showing many symptoms of HIV/AIDS. However open Opal was about her own status, she, like her mother, never directly talked about her brother's or anyone else's HIV/AIDS status – only hers.

Kokoshubira's case below is quite different from Dorotia's and Opal's cases, and perhaps is more similar to what Agnes' situation may have been like in the few months prior to meeting her. Similar to the cases, Kokoshubira also had access to a *kibanja*, which she had access to upon widowhood. However, while she was struggling due to progressed HIV/AIDS, she was primarily on her own in the village, without assistance and buffers that significantly helped Dorotia and Opal. Like Agnes' case, Kokoshubira's intense poverty situation was severely affecting the health and well-being of her and her children:

Kokoshubira is an HIV/AIDS widow whose husband allegedly contracted HIV while a soldier in Uganda during the Kagera War. He was her only husband, but he had other wives and children prior to her marriage, unbeknownst to Kokoshubira. She had five children with him, but resided with four; the fifth child lived with Kokoshubira's mother because he 'always felt hungry' and could be better taken care of there. Kokoshubira's house was falling down on all sides, and the *kibanja* was in disarray. She mentioned that between feeling sick, weak and chasing day-wage labor (*kibarua*, which is increasingly unavailable) she is poor and food insecure. She is unable to tend to the *kibanja* during bouts of sickness and when engaged in *kibarua*; a situation which leads to decreased crop productivity, and increased weed infestation, food insecurity and household poverty. Kokoshubira's inability to save 500 TZ shillings (approximately \$0.50) monthly prevented her daughter, age six, from attending school. Kokoshubira believes her child, age eight, has HIV because she chronically falls ill and takes long to recover. However, the child does not know her own status. Asked where her children will go when she becomes too sick to care for them, she said they will stay with her brother who resides in a nearby village and cares for their mother, his family, and twelve nieces and nephews who are all HIV/AIDS orphans. Kokoshubira spoke passionately and articulately on the patriarchal customs into which Bahaya girls and boys are enculturated, stating that 'unjustly, girls are taught to be meek, subservient and never to fight or be disrespectful; however, boys are not taught these things'. She exclaimed that her father and her brothers are polygynous; a trap she felt was 'bequeathed' to her.

Kokoshubira's case illustrates the intensity of patriarchal customs in Buhaya which serve as a conduit to spread HIV/AIDS, poverty, and their emanations. As Kokoshubira observed, 'women work the land, but men own it'. In spite of her awareness and disagreement with Bahaya patriarchal practices, she mentioned that in the end her sons - not her daughters - would inherit the land left to her by her late husband, 'because that is the custom'.

Kokoshubira thus, acted as an agent of female oppression; so beaten down and depressed by her heavy burdens and constant, day-to-day struggle as a double HIV/AIDS widow whose death was looming and who feared that she was incapable of protecting her own children. Even if she tried to ensure that her daughters would inherit a portion of the *kibanja*, it is likely that in the end it would still be appropriated by men or it would be an unviable portion, as often happens. This situation clearly illustrates how women's vulnerability to poverty, its manifestations, and HIV/AIDS run in cycles in patriarchal societies, and that HIV/AIDS

vulnerability is not limited to promiscuous seekers of money and modernity. The traditional life of a Bahaya woman is also fraught with cycles promoting HIV/AIDS vulnerability. Although well aware that the patriarchal Bahaya norms of meekness and servility in women (Swantz, 1985; Sundkler, 1980; Larsson, 1991) promote vulnerability, Kokoshubira appeared to have conceded to it, unlike Agnes, Dorotia and Opal who actively rebelled against the traditional Bahaya female role. However, like Agnes, Dorotia and Opal, Kokoshubira too, fell victim to HIV/AIDS.

The last case study focuses on George; the sole male in the village who admitted to having HIV/AIDS. Comparatively, his case magnifies women's disproportionate affliction and illustrates how women are blamed for spreading AIDS.

George was once a prosperous mason. Like many of his siblings, he was educated and economically well-off compared to most Nsishans. Most of his brothers also succumbed to HIV/AIDS. George was a village 'ten-cell'¹⁴ leader; a position occupied by elders prior to the HIV/AIDS epidemic. However, HIV/AIDS swept away the older generation from the village, creating socio-cultural change, prematurely elevating George and his age mates to 'elders'. George spent time showing me the homes of, and introducing me to his neighbors in spite of his weakened state and difficulty breathing. George's first wife and two of their young children died from 'malaria' – which he later revealed to be HIV/AIDS. He was residing with his pregnant wife, their two children, and the two surviving children from his first marriage. When asked about his views on HIV/AIDS, George stated that 'women are to blame for contracting and spreading HIV because they are easily tempted to sex and hide that they are prostitutes'. Other villagers later mentioned that his first wife was cheating on him - even with his brothers - when he went away for periods of time to work. He alluded to his first wife's alleged behavior, stating, 'sex reveals secrets', and that 'married people should always be honest with each other'. He later informed me that after the interview, he tested and found out that he was infected with tuberculosis and HIV/AIDS. However, George and his family had a good home, a *kibanja* and some livestock. Owning the livestock prolonged his life as he could drink and sell the nutritious milk and use the needed money to purchase foods and medicines; a sentiment expressed in his wife's lamentation at his funeral. George died about six months later, after enduring bouts of debilitating illness. During the funeral, the elderly paced, cried and lamented about how the 'terrible disease' was reversing Bahaya socio-cultural norms, killing the young - those who should be the strongest to farm - and leaving the old to carry the burden of farming and child-rearing in their weakened states. George's co-mother, his father's second wife who he was close with, died shortly after George's funeral. Villagers stated that she died from the shock and grief of losing so many children in the family to HIV/AIDS.

George's case illustrates that even those who are more economically prosperous, educated and male are vulnerable in the context of Nsisha. Although he was the only male who admitted

¹⁴ 'Ten-cell' leaders are minor male leaders in the village who answer to the main village leader. They represent and provide leadership for approximately ten homes and family units located in a designated section of the village - or 'neighborhood' - including the ten-cell leader's residence.

his 'positive' HIV/AIDS status, most likely there were others who knew their status but did not admit it, as well as those who may have been infected but did not know it yet. His gendered perspective blames women for transmitting HIV/AIDS given their propensity to be lured sexually, and engaging in prostitution secretly. George's case also illustrates the great impact AIDS has had on Nsisha; it wiped out a generation of leadership, and the whole community has been affected, causing despair and socio-cultural change (Dilger, 2008).

Discussion

As evidenced by the five case studies above, those most vulnerable to HIV/AIDS in an ecology of poverty are poor women who lack assistance and buffers. Agnes was the youngest 'victim' of HIV/AIDS in the village, and by far, suffered the most in her dying days. As a young woman who wanted a 'modern' life outside of peasantry, she was tempted into prostitution. In the process her own mother was ashamed of her, and stayed away from her and the children, until her and her child's dying days. Agnes lost three children to HIV/AIDS, leaving one son, Johnnie, a double HIV/AIDS orphan. The stigma (Rankin et al., 2005) and shame associated with HIV/AIDS, her promiscuity and accompanying STDs led her to reject assistance at the time she and her young children needed it most. The glimpse of hope from her situation is that her only child that survived was being cared for in a nurturing environment, and he did not have HIV. Furthermore, her situation would have been worse had she not been fortunate to have inherited a *kibanja*. Although unproductive, the *kibanja* was legally hers, and provided a place for her and her children at a time she was suffering alone.

Dorotia's case exemplifies the marginalized life of a 'barren' woman in Buhaya. Given that the Bahaya prescribed role for a woman is to marry and bear children, Dorotia was forced out of her marital home due to not being able to conceive a child. She was seen by her husband and greater society as 'useless'. Her own mother abandoned her and her sister at a young age. This situation combined with her barrenness created intense insecurity for Dorotia and she was left to live a life on the margins of society. She admitted to 'living here and there with different men' because she believed that that was the most that life could bring her; after all, she did not have a husband which could secure her to a home and land. In the process she died of HIV/AIDS. The positive aspect of Dorotia's situation includes the fact that she was incredibly open about her situation, and even during her bouts of sickness she loudly and unashamedly recounted the details of her life which led her to HIV/AIDS in the ecology of poverty that is Nsisha. She walked around the village happily in spite of her painful condition

seeming to say, 'see what happens to us'. Compared to Agnes - who along with her children - suffered alone without the care from family and friends, Dorotia was fortunate because during her bouts of intense sickness, she always had her younger sister to 'go home to' who cared for her well with love, patience, kindness and non-judgment.

Opal's situation is similar to Agnes in the sense that these are two young women who vied for a life outside of rural poverty, but whose 'only' opportunities outside of farming entailed risking their lives and succumbing to HIV/AIDS. Opal seemed to knowingly take risks and engage in precarious sexual relationships with men. However, compared to Agnes and Dorotia, Opal was much more fortunate because she had such a strong mother who accepted her and cared for her and her children very deeply. Opal's mother even fought Opal's land case in court so that she and her children would be able to use and inherit the land that was rightfully theirs according to cultural land laws.

Aside from also having access to a *kibanja*, Kokoshubira's case stands apart from Agnes', Dorotia's, and Opal's cases because she was more senior, and her case represents the looming threat of conceding to or there being no alternative to patriarchy and tradition in the context of poverty and HIV/AIDS. Kokoshubira was a double HIV/AIDS orphan who had five children. She came from a large family, many who were afflicted by HIV/AIDS. She lacked social support and buffers and she and her children lived in deep poverty, lacking adequate housing, food, nutrition, medication and education. Although she had access to a *kibanja* it was unproductive and in complete disarray, due to her intermittent bouts of illness, and need to chase *kibarua*. Kokoshubira contracted HIV/AIDS not from prostitution or promiscuity or a desire for an alternative life outside of rural peasantry necessarily, but from her husband's involvement in war and the patriarchal forces of polygyny in this ecology of poverty. While acutely aware of the myriad factors which create and perpetuate a life of poverty, oppression and HIV/AIDS for women in Bahaya, Kokoshubira too, gave up in the face of it all and did not plan to bequeath land to her daughters, likely because of her progressed state of HIV/AIDS, and lack of strength, empowerment and ability to fully care and provide for herself and children. Her case seems to be a forgotten case in the village, but at the same time, one that represents the starkest realities of how women – and their children – are distinctly vulnerable to HIV/AIDS, poverty and its manifestations and perpetuity.

George's case highlights the fact that women are indeed more vulnerable to HIV/AIDS, since he was the only male to have come forward and admit he too was sick. His case demonstrates the power of patriarchy and how women are easily married and discarded, particularly after finding out that they are afflicted with HIV. Like his first wife, women are

often blamed for spreading HIV/AIDS and killing their husbands. His case also demonstrates how not being open about HIV/AIDS infects and affects so many people. His first two children died of HIV/AIDS, along with his first wife. His second wife has probably passed away by now, and although their two children were not infected at the time, the future of his surviving children is uncertain, including the youngest who was born just before he died. So many lives have been afflicted, affected and oppressed by HIV/AIDS and poverty due to the patriarchal forces, and the stigma and shame which shroud a comprehensive - and responsible - understanding and acceptance of HIV/AIDS spread. The experiences detailed through these case studies signals the shortcomings of patriarchy in this context, indicating where assistance and socio-cultural change is needed the most in order to buffer against the manifestations of poverty and HIV/AIDS.

The honesty and openness with which informants spoke about their situations reveals a lot about the everyday lived experience of HIV/AIDS in poverty in this rural context. Although the epidemic has been going on for nearly three decades, it is still a silenced, shunned and stigmatized topic, and so too are those who are HIV positive. Agnes, Dorotia, Opal and Kokoshubira are courageous for admitting to the details and personal desires and choices which, combined with patriarchal enculturation, put them at risk. Hearing their words loudly resonates with a detailed understanding of how people, primarily women, are falling short in escaping the entrapment of poverty and HIV/AIDS, because they need - and demand - choices, opportunities, acknowledgment and respect which is outside their socio-ecological context. Access to basic human needs – reliable food, nutrition, water, education, livelihood opportunities, health care, empowerment – will go a long way in buffering everyday livelihood challenges that succumb so many to a shortened life of intense poverty, and physical suffering – which emanates throughout families and communities. As a man who had achieved a fairly high socio-economic level in Nsisha, George and his wives and some of their children succumbed to HIV/AIDS, and those that survive will never forget the tragedies witnessed and effects experienced. More openness, understanding and access to knowledge and health care is still, very much needed in this context, as a means to curtail the ongoing effects of HIV/AIDS. As the cases of Agnes, Dorotia and Opal show, when possible, women seek assistance across matrilineal lines: mothers, grandmothers and sisters help out when possible. In Kokoshubira's case, she stood alone, and the lack of assistance forced her and her children into intense, acute poverty and poor health. Social change, by which patriarchy is subverted by gender parity, and poor people are buffered to ensure basic livelihood needs is called for in order to promote positive change and development.

This article contributes an enriched understanding of HIV/AIDS in an ecology of poverty. Building on Stillwaggon's (2006) concept of 'AIDS and the ecology of poverty' this article shows that poverty is at the core of the HIV/AIDS epidemic. Patriarchy, poverty and their manifestations, such as land, food and nutrition insecurity and gendered vulnerability serve as co-factors to HIV/AIDS; they synergistically intertwine increasing vulnerability to infection, leading to an 'ecology of poverty and HIV/AIDS' whereby the environment and the people are vulnerable. My research adds to Stillwaggon's (2006) conceptual framework by illustrating women's asymmetrical vulnerability to elements of poverty and HIV/AIDS through detailed case studies. By utilizing a narrative methodological approach, this research captures people's perceptions, stories, and suspicions about the lived experience of HIV/AIDS in an ecology of poverty and HIV/AIDS, and hence, details which are crucial to a holistic understanding of what sustains and fuels HIV/AIDS, how it is experienced, and what can be dismissed in less detailed, people-focused research. Based on an individual's matrix of everyday livelihood challenges and the buffers s/he has influence how well they are able to cope daily, and for how long.

Conclusion

The dynamics of HIV/AIDS in Nsisha illustrate Stillwaggon's (2006) ecology of poverty and HIV/AIDS conceptual framework. Poverty and its underlying co-factors are at the core of HIV/AIDS infection and spread in the context of Nsisha, and women are generally, asymmetrically vulnerable to both. In this context, gendered vulnerability fuels HIV/AIDS and sustains an ecology of poverty, and consequently, its cycles and manifestations.

Given that the 'ecologic context' has been glossed over in the understanding of HIV/AIDS epidemiology and policy (Stillwaggon, 2006), highlighting its role in the context of Nsisha through the illustration of case studies of those affected depicts how important underlying poverty co-factors are in fueling the HIV/AIDS epidemic. Although behavior and choice play important roles in HIV/AIDS pathogenesis and epidemiology, underlying poverty co-factors, including food insecurity, poor health, and lack of access to healthcare combine synergistically with gendered vulnerability to fuel AIDS.

Poverty and its manifestations need to be looked upon and acted on seriously in attempt to curb the poverty and AIDS epidemic. For example, implementing strategies to provide rural healthcare to poor villagers which aim to treat endemic and common illnesses such as amoebas, worms, malnutrition, and malaria, could greatly improve people's quality of life and health, and decrease vulnerability to HIV/AIDS. Continuous efforts toward achieving

gender equality will help empower women and their roles (Grown, Gupta, and Pande, 2005; Hecht et al., 2006; Kalipeni, Oppong, and Zerai, 2007) in the context of Nsisha and Bahaya rural culture (Githinji, 2009b). This can certainly help curb poverty (Morgen, 2002) and HIV/AIDS (McNamara, 1997) since women are more vulnerable than men (Stillwaggon 2006, 2008). Greater gender equality and women's empowerment (Kalipeni, 2008) will improve children's health and ensure a more secure future for the Bahaya socio-culture as a whole (Githinji, 2009a). Ultimately, addressing that poverty and gendered vulnerability are crucial underlying co-factors of the HIV/AIDS epidemic plays an important role in comprehensively and holistically understanding who is most affected and why in an ecology of poverty and AIDS. Developing and implementing strategies which mirror this understanding and aim to implement viable livelihood options can help people conquer the epidemic, move out of poverty and toward positive socio-cultural change, health and human development.

Chapter 3: Ethno-cognitive connections between HIV/AIDS and banana plants in Bahaya agricultural society in northwestern Tanzania¹⁵

Abstract

This paper focuses on ethno-cognitive connections between HIV/AIDS and banana plants in the context of Bahaya agricultural society and emerges from anthropological research conducted in 2005-06 in Nsisha, a rural village in Bukoba District in northwestern Tanzania. The paper briefly describes the historical context of HIV/AIDS and how its onset coincided with a decline of the production of bananas, the historical, cultural and staple food of the Bahaya people. In addition, references are made in Luhaya, the primary language spoken in the region, to demonstrate that HIV/AIDS is communicated within the context of socio-cultural, economic, and agricultural transition and decline which resulted in among other things, a sharp decline in banana productivity. This article shows that for the Bahaya, HIV/AIDS is yet another ecological challenge which coincides with low soil fertility, diminishing access to adequate land, increased poverty and food and nutrition insecurity, and a decline in the production of their longstanding cultural and staple food. The paper examines some of the probable reasons why HIV/AIDS is referred to as *ekiuka*, or pests/pathogens/insects that destroy bananas. The paper concludes that HIV/AIDS and banana plants are linked and understanding how people communicate about HIV/AIDS is important to understanding how HIV/AIDS is connected to Bahaya agri-cultural livelihood and for the implementation of effective alleviation strategies.

Keywords: food and nutrition security, poverty, health, ekiuka

Introduction

The aim and scope of this paper is to discuss ethno-cognitive connections between HIV/AIDS and banana plants among the Bahaya. For the purposes of contextualization, the paper outlines a brief history of agriculture and HIV/AIDS and shows that a changing agricultural system, affected by wider socio-economic forces, merged with the onset of HIV/AIDS in Buhaya, the land and region predominately inhabited by the Bahaya in northwestern Tanzania. Since its onset, HIV/AIDS has pervasively and continuously affected the Bahaya, and their perception of the illness and its impact is reflected in their language (See Mutembei, 2001; Kaijage, 1993; Rugalema, 1999). *Ekiuka* is the term used to refer to pests/pathogens/insects that destroy banana plants, the staple and cultural food of Bahaya, and is also commonly used to refer to HIV/AIDS in Nsisha, the village fieldwork site where this research was conducted, and in Buhaya at large. This paper contributes to research and

¹⁵ This chapter is published: Githinji, Valerie. 2008. "Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania." *NJAS Wageningen Journal of Life Sciences* 56(3):191-200.

policies that focus on the connections between HIV/AIDS, poverty, food and nutrition insecurity, and agriculture in sub-Saharan Africa (Haddad and Gillespie, 2001; Loevinsohn and Gillespie, 2003; Müller, 2004; Mutembei, 2001), by providing an account of how these aforementioned connections are culturally perceived and communicated in the context of the rural, Bahaya agricultural livelihood. I believe that by focusing on and understanding how people affected by HIV/AIDS make sense of and communicate about the epidemic in the context of their agri-cultural livelihoods is important for the design and implementation of effective strategies which aim to improve the lives of people. It is my hope that by focusing on the ethno-cognitive links between banana plants and HIV/AIDS that the local and cultural knowledge revealed in this article can be used as an example to help bridge the gap between theory and practice by taking into account cultural cognitive knowledge, perceptions, and understandings that may be dismissed in the design and implementation of HIV/AIDS, poverty alleviation, and development strategies.

Conceptual framework

In this paper I utilize an ethno-cognitive perspective to discuss connections made between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania. An ethno-cognitive perspective is comprised of aspects drawn from work in cognitive and symbolic anthropology (Colby et al., 1981), linguistics and metaphor (Lakoff, 1992), and Bahaya cultural history (Schoenbrun 1993a, b; see also Kaijage, 1993; Mutembei, 2001; Rugalema, 1999; Tibaijuka, 1997). An ethno-cognitive perspective in the context of this paper refers to local ways of understanding connections made between HIV/AIDS and banana plants specific to the Bahaya ethnic group. The connections between HIV/AIDS and banana plants, hereafter referred to as ethno-cognitive connections, is a matrix or epistemology that reflects Bahaya agricultural history and way of life. In addition, ethno-cognitive connections show how Bahaya conceptualize, perceive and communicate about the connections made between HIV/AIDS and banana plants through metaphor and other linguistic references. Specifically, I focus on the concept of *ekiuka*, which in Luhaya, the native and predominant language spoken by the Bahaya people, refers to the pests/pathogens/insects which cause destruction of their banana plants, their longstanding cultural and staple food, and the pests/pathogens/insects which causes HIV/AIDS and destroy their people.

Materials and methods

The topic of this paper emanates from PhD dissertation fieldwork research that focused on the interconnections between widowhood, food security, HIV/AIDS, and rural livelihood strategies. The research was conducted from June 2005 to June 2006 in Nsisha, a village in the district of Bukoba Rural in northwestern Tanzania. Data was collected through participant observation, and structured and unstructured interviews of the inhabitants of Nsisha (Nsishans). I conducted a village household census, in which I interviewed the head of each household or an adult household member present, for the total of 184 households in the village. Based on the census data, discussions with village leaders, and other Nsishans, I started the next phase of my research which entailed 97 formal and extensive interviews of widows, and women and men of various ages and social status. Towards the mid to latter part of my research I collected soil samples from 30 *bibanja*, or banana farms, from the 97 households formally and extensively interviewed. Before soil collection, I re-interviewed the informants of these households to verify previous interview responses and to ask more in depth questions regarding the history of agricultural production, and specifically banana production on the *kibanja* (banana farm) and the use of agricultural inputs.

Through the duration of my research I relied upon key informants who included village leaders, Nsishans who were open, easy to discuss with, and helpful, a native of the village and international expert on my dissertation research topic, and other professional experts on the culture and region including an agricultural officer and a soil scientist. At the beginning of my fieldwork and during interview sessions, I conversed with people, when possible, in Kiswahili. However, Luhaya is the native and primary language spoken in Nsisha and among the Bahaya. I did not have knowledge or comprehension of Luhaya prior to fieldwork therefore it was necessary to rely on a field assistant who could speak English and Luhaya fluently. During the interviews, questions were translated and asked in Luhaya and informants' responses were translated from Luhaya to English or Luhaya to Kiswahili. As my research intensified with time and understanding, I began to comprehend some Luhaya, ultimately understanding more of the language through hearing and listening than speaking. Toward the end of fieldwork when I was capable of understanding more interviewees' responses in Luhaya, I clarified my comprehension with my field assistant in English and Kiswahili. The following section focuses on some results obtained from my research and a discussion on the ethno-cognitive connections of banana plants and HIV/AIDS in Buhaya.

Results and discussion

Early on in the year of fieldwork research, I realized the significance of understanding the impact of AIDS within the context of Buhaya history, ecology, and agricultural life specifically because Nsishans were using the word *ekiuka* synonymously to refer to HIV/AIDS and to the pathogens which destroyed their banana plants. For example, when one middle-aged widow expressed her concern over having HIV/AIDS yet being scared to get tested, she said, “*ndakolaki kanakushanga nakwetwe ekiuka?*” which means, “what if I find out *ekiuka* is in the body?” I became very interested in exploring this agricultural metaphor and cultural expression, out of realization it granted an enriched, holistic, and integrated understanding of HIV/AIDS embedded in Bahaya life. Simply said, the concept of *ekiuka* shows that the Bahaya makes sense of the HIV/AIDS tragedy in terms of ongoing ecological challenges which pre-date the onset of HIV/AIDS and include high population, decreasing farm land, soil fertility, assets, and banana production, and an increase in poverty and agricultural disruption and change (see Baijukya, 2004; Rugalema, 1999; Tibaijuka 1997). Due to this realization, I made a point to hone my focus and understanding of the impacts and effects of the HIV/AIDS epidemic contextualized within a broader framework and understanding of Bahaya history, ecology and agri-cultural transition and change.

The bulk of my fieldwork experience was based on listening to and comprehending interviewees’ life histories, and gathering information on and understanding the history of Buhaya and Bahaya life prior to and during the time of HIV/AIDS. In addition to gathering data on personal histories, a bulk of my questions focused on agriculture and environmental changes, and specifically changes in banana productivity, household food and nutrition, and poverty. The more I gathered and comprehended Nsishans’ responses and learned about people’s lives, family and village mortality, and common challenges faced by Bahaya agriculturalists such as changes in farming, land, soil fertility, crop production, poverty, and HIV/AIDS, the more I realized that the impact of HIV/AIDS, though severe, dramatic, and pervasive, was part of an eco-historical continuum and a mark of socio-cultural transition. In short, I learned that HIV/AIDS was but another challenge to adapt to, endure, learn from, cope, and survive. Based on my formal research interviews and informal conversations, most of the Nsishans I communicated with stated that they had been directly or indirectly affected by HIV/AIDS. In fact, very few (3) interviewees stated that HIV/AIDS had not had a significant impact on their close kin, extended families, or clan, and in general these were the people that were most reticent during the interviews. In addition, Nsishans repeatedly told me

that a decline in banana productivity and soil fertility dramatically started to affect Nsisha at least 25 years ago, which coincides with the onset of HIV/AIDS in Buhaya and in Nsisha. The focus and synthesis of the research information used for this paper can be summarized by an interviewee's response to my question of how she viewed the impact of AIDS in Nsisha. Her response in Luhaya was, "*ekiuka kekyarugile omungemu kyakwata ichwe*", which translated to English means, "*the insect moved from the banana crop and attacked us (human beings)*."

The above quote and the numerous and similar responses to this question from Nsishans demonstrate that there is indeed a connection between banana plants and HIV/AIDS in the context of Bahaya society. Furthermore, these responses show that culturally and cognitively, Bahaya understand and make sense of the onset and impact of AIDS within the context of a decline in banana productivity, their cultural and staple food, caused by *ekiuka*, pathogens which attack bananas with a disease that destroys the roots and stems of banana trees causing them to rot from the inside out, and eventually fall over. This includes the kind of damage caused by banana weevils and nematodes.

To contextualize the connection between banana plants and HIV/AIDS in Buhaya more clearly the next sections focus on a brief history of agriculture in Buhaya, followed by a brief history of AIDS in Buhaya. By providing a short history of agriculture, specifically the changing Bahaya agri-cultural system and decline in banana productivity and a brief history of HIV/AIDS, I aim to highlight and make clearer to the reader the convergence of HIV/AIDS onset with declining banana production hence the sharing of the same metaphor within the ethno-cognitive conceptualizations.

Agriculture in Buhaya

Prior to the onset of AIDS, Buhaya farming systems were in the process of change (Baijukya, 2004; Kaijage, 1993; Rugalema, 1999; Schoenbrun 1993a, b; Tibaijuka 1997). Bananas have been a chief subsistence food crop in Buhaya since circa 500 AD, and the intensive cultivation of bananas has existed in the region since circa 1300 AD (Rugalema, 1999; Schoenbrun, 1993a, b). Indigenous coffee was cultivated primarily for cultural purposes prior to the colonial era, and for commercial purposes during the German colonial era and became an important source of cash, wealth and class distinction in Buhaya (Rugalema, 1999; Tibaijuka, 1997).

The soils in Bukoba Region, including Nsisha, are inherently infertile and are composed of sandstones, shale, and quartzite parent materials. The soils are porous, and

given high rainfall and gradient of land in the area, are vulnerable to leaching and environmental degradation. Given the low fertility and acidity of the soils, mulching and the application of cow manure is essential for nourishing the soil and specifically for efficient and successful banana productivity (Baijukya, 2004). For the past century, the traditional Buhaya farming system consisted of the *kibanja/rutabiro/rweya* farming system. The *kibanja* farming parcel encompasses Bahaya homes and cattle pens, and is traditionally where bananas, coffee, and beans are cultivated. The *rutabiro*, or fallow plots, are either attached to the *kibanja* or located elsewhere in the village, and are where maize, cassava, beans, groundnuts, and sweet potatoes are grown. In the *rweya*, or open grasslands, annual crops such as tea, trees, and bambara nuts are grown, and cattle grazed. In size, *kibanja* plots are approximately 0.5 hectares, and *rutabiro* and *rweya* plots are generally smaller (Rugalema, 1999).

In the past, the *kibanja* served as the principle agricultural production unit which provided household food subsistence, and the *rutabiro* and *rweya* served as agricultural units where foods that supplemented household diets were grown and which were more utilized during challenging growing seasons and times of famine. From the 1950's onward, the size of *kibanja* plots have decreased progressively due to high population density and land pressure in the area combined with the cultural and patrilineal practice of land inheritance whereby a father's *kibanja* is divided into portions bequeathed primarily to sons. In addition, the ability of the *kibanja* to provide household food subsistence and staple food crops has declined, and Bahaya agriculturalists have become progressively more reliant on utilizing *rutabiro* and *rweya* agricultural plots to procure their food subsistence (Rugalema, 1999; see also Baijukya, 2004).

Cattle-keeping, principally kept for the purpose of fertilizing the *kibanja*, has progressively declined in Buhaya due to the Rinderpest epidemics of the late 19th century which caused a dramatic decline in absolute terms. A steady decline in the past 50 years is attributed to common and frequent cattle diseases, inability to access or rely on effective veterinarian services, and less male labor involved in herding due to HIV/AIDS, and engagement in off-farm livelihood activities. The continuous decline in cattle-keeping has hurt the traditional Buhaya *kibanja* farming system, specifically since cow manure has been an effective fertilizer for the inherently infertile and acidic soils which characterize the region thus negatively affecting the productive growth of bananas and coffee (Baijukya, 2004; Rugalema, 1999).

The importance of coffee as a cash crop has declined since the 1980s, due to declining world market prices and expense required for its productivity on the *kibanja*, thereby adding to the change and transition in overall Buhaya farming and livelihood, an increase in poverty and need to seek off-farming cash-earning activities such as trade and business, engaging in day-wage labor known as *kibarua*, the making and selling of beer, and transactional sex (Rugalema, 1999; Tibaijuka, 1997).

Approximately for the past thirty five years, banana pest and pathogens, including banana weevil (*Cosmopolites sordidus*), banana root nematode (*Radopholus goodeyi*) and Panama Disease (*Fusarium oxysporum*), are responsible for causing a major shift in Buhaya agriculture through these pests' progressive decline in banana productivity. This has resulted in more dependency on roots and tubers grown in once supplementary farming plots and marginal lands. According to my research and informants, chemical inputs have not helped to improve the soil fertility or prevent the destruction of the banana plants from *ekiuka*. Many informants stated that the use of chemical inputs to prevent and prohibit the *ekiuka* that affects banana plants deteriorates old, infertile soils which hinder future banana plant growth, thereby increasing food insecurity and accelerating agricultural and cultural transition. In addition, the banana pests and their effects have also forced Bahaya farmers to increasingly include non-farm activities to sustain their livelihoods. A shift in the main diet for most Bahaya in Nsisha, as stated by Rugalema (1999) and confirmed by my research, shows that people's chief and daily foods now center on *enfuma* (sweet potatoes) and *ebilibwa* (cassava) which were once considered food for the poor, and food for human consumption acceptable only during times of famine, respectively. This transition in diet from relying on the main staple of bananas supplemented by roots and tubers to consisting largely of the latter is found throughout Buhaya (Baijukya, 2004; Tibaijuka, 1997).

AIDS in Buhaya

The first diagnosed case of AIDS in Tanzania occurred in 1983 in Buhaya, the northwestern region of Tanzania which includes Bukoba Urban, Bukoba Rural, Muleba, and Karagwe, and the first reported AIDS death occurred in 1987 in Nsisha (Rugalema, 1999). The largest ethnic group inhabiting Buhaya are the Bahaya, and they were the most severely affected ethnic group in Tanzania during the onset of AIDS. In fact jokes were made about the Bahaya throughout Tanzania in the 1990s as being an "endangered species" given how heavily this ethnic group was affected by AIDS, and also due to the historical stigma of the Bahaya in

terms of wealth, female prostitution, promiscuity, and affliction with venereal disease (Kaijage, 1993).

Although HIV/AIDS is caused by a biological pathogen, socioeconomic factors enabled the virus and the syndrome to root and pervasively spread through Buhaya. Some of these socioeconomic factors include the region's general isolation and neglect from the rest of Tanzania, regional economic downturn, decline of the traditional Buhaya farming system, political instability which resulted in the Tanzania-Uganda War of 1978-79 and its lasting socioeconomic effects, and in some cases, a degree of cultural and social tolerance for the occurrence of multiple sexual encounters (Kaijage, 1993; Tibaijuka, 1997).

The first people reported to have died from HIV/AIDS in Buhaya were not primarily farmers but those who engaged in the black-market trading, known in Kiswahili, the national language of Tanzania, as *magendo*. *Magendo* occurred at the border between Uganda and Tanzania and reached its peak around 1978-1984 "when Tanzania experienced acute shortages of most kinds of goods" (Rugalema, 1999:76). Young women and men originating from various parts of northwestern Tanzania were the primary participants in *magendo* trade and often sold their goods, including a popular and fashionable cloth used to make clothing called *Juliana*, in the rural areas at *emijajalo*, or weekly markets. As HIV/AIDS progressed in the region, *Juliana* became the term for HIV/AIDS, as it was seen that those afflicted by the disease were the ones involved in *magendo* and trade of this particular cloth. As the disease progressed on the bodies of those afflicted they became thinner and thinner in appearance, and the common term for HIV/AIDS became *silimu*, as a derivative of the word "slim". *Silimu* was the common term for AIDS from the mid-1980s, as *Juliana* cloth waned in style (Kaijage, 1993; Mutembei, 2001; Rugalema, 1999). During the year of my research in Nsisha, I only heard people use the term *Juliana* in reference to HIV/AIDS when talking about the history of HIV/AIDS and its first impact. Similarly, I rarely heard Nsishans use the term *silimu*.

From the late 1980's up to the time of my research in 2005-2006 in Nsisha, Bahaya commonly refer to AIDS as *ekiuka* (Rugalema, 1999). As mentioned previously, *ekiuka* refers to the destruction of the banana plants caused by banana weevil and nematodes, which started to cause severe decline of banana production to the *bibanja* (banana farms), as my informants stated, for at least the past 25 years. Similar to how chemical inputs did not effectively prevent *ekiuka* in destroying the banana plants and protect or improve the soil, many informants stated that chemical inputs (bio-medicine) do not prevent or cure *ekiuka*, or HIV/AIDS, which affects and eventually destroys the Bahaya. As Kisangu et al., (2007) show

in their research, most people in rural Buhaya prefer traditional medicines to treat HIV/AIDS (see also Rugalema, 1999). As confirmed by my research, to many Nsishans, the bio-medical chemicals used to treat HIV/AIDS have a limited or negative effect on people's bodies. In addition, many Nsishans told me that the bio-chemicals used to treat HIV/ADS are contradictory, because although they prolong life, they mask the symptoms of HIV/AIDS on the human body and sustain the silence of the disease, and thereby perpetuate the replication of viral infection and human and socio-cultural destruction.

It is important to note that as HIV/AIDS onset converged with an already declining agri-cultural system, the impact of disease accelerated this decline further. As households became affected, overall household agricultural labor input declined exponentially. For example if one member of a household becomes too ill to farm, his or her labor plus the labor of the women in the household who care for the ill (Rugalema, 1999; Tibaijuka, 1997) is extracted. Often times, the decline in household labor for farming forces people to neglect and reduce agricultural plots and resort to cultivating faster growing roots and tubers which require less input than bananas. Neglect of maintaining the kibanja leads to deleterious consequences since it (kibanja) requires regular tending to maintain ecological equilibrium. A well maintained kibanja prevents *ekiuka* from invading the bananas thus allowing for sufficient banana yield to sustain household food and nutrition security as well as serving as an important source of income and cultural symbolism. This emerges when people commented on the impact of HIV/AIDS deaths in the village; "*ekiuka kyaindula ebibanja kuba bikamba*", which means, "HIV/AIDS turns cultivated land into a bush." In addition, the heavy impact of HIV/AIDS village mortality resulted in reducing the time spent on funerary ceremonies so that people can return to their farming for their survival. Comments such as "*katulashuntama tulalyaki*", meaning, "if we sit down we will have nothing to eat" illustrates a disruption of cultural patterns pertaining to death and burial and further amplifies this connection between the AIDS pandemic and agriculture as well as highlights a cultural transition.

In addition when households are affected by HIV/AIDS, assets are disposed of, which furthermore exacerbates poverty and agri-cultural disruption and change. For example, many times people will resort to selling cows to obtain money to continue care of the ill. This means that the household disposes of a form of security in terms of food and nutrition security, income, and an important green input for the maintenance of a productive kibanja (Rugalema, 1999; Tibaijuka, 1997).

Prostitution as an economic alternative shows as well as its deep connection with HIV/AIDS that women are disproportionately affected by poverty and the pandemic. In one of the comments an informant said “*obunaku amukazi kalikuburwa obwambi agya kuhiga abashaija kityo nashoboro kwiwayo endwala*”, meaning “poverty on a woman can force her to go out with men and get the disease.” As further confirmed by my research, the decline of the overall Buhaya farming system, HIV/AIDS impacts, and increased poverty has forced people to seek off-farming activities. Women who occupy a marginalized and subordinated role in Buhaya society may resort to poverty-induced transactional sex in order to obtain household items such as salt, cooking oil, sugar, and flour. Many Nsishans I talked to ranging in age from the early twenties to mid-thirties, who were born during the time of *ekiuka* (HIV/AIDS and low banana production) said that ‘getting HIV/AIDS was like getting malaria’, and was a risk and consequence of a life of poverty. An elder informant in her fifties said that for the young, and those suffering most from poverty, life is so hard that they take risks that make them vulnerable and susceptible to HIV/AIDS. This is captured in an informant’s comment “*norwo ndaikalao omumaisho ndaikalanta akili mfe kala*”, or, “it is better that I die now than stay suffering.”

It is important to emphasize that bananas have formed the cultural core and staple food for the Bahaya for centuries (Schoenbrun, 1993a, b; Baijukya, 2004; Rugalema, 1999), so the destruction of such causes a socio-cultural devastation, shock and change. In addition, a decline in banana productivity has led to food and nutrition insecurity. It is not that bananas have a higher nutrient value in terms of macro-nutrients including carbohydrates, proteins and fats, in fact all have a low protein and fat content, providing more of bulk and carbohydrates (Anonymous, 2008; Okigbo 2008). However, in the past, bananas provided an abundant supply of carbohydrates and potatoes and cassava supplemented and added diversity to Bahaya diet. A decline in banana productivity is reflective of the deteriorating ecology in terms of poor soil fertility, increased poverty and decreased manure inputs. Since there are less bananas grown and the soil in general produces less agricultural yield, there is less surplus to sell and trade. The lack of income gained from banana selling has forced people to rely on a meager diet of potatoes and cassava, supplemented by beans, which is generally the most common form of protein consumed daily. Fewer people have cows, drink milk and can afford to purchase protein sources such as fish and meat than in the past (Baijukya, 2004; Rugalema, 1999). Most people I spoke with in Nsisha mentioned that the overall increase in poverty, soil infertility, and decline in assets and income has resulted in food and nutrition insecurity and forced them to cut down on their meals from 3 to 2 per day.

Some even mentioned that they only drink tea in the morning without sugar, and one meal in the evening consisting of potatoes and/or cassava mixed with beans. As Rugalema (1999) mentions in his work, and as confirmed by my own research, malnutrition is visible among Nsishans, and has a particularly deleterious impact on children and those who are weakened by health conditions, and the aged. Food and nutrition insecurity and malnutrition has become a reality throughout Buhaya as stated in Tibaijuka (1997). With regard to HIV/AIDS, poor nutrients further weakens the victim's immune system, reduces their longevity and turns them into unproductive consumers of the little that is available.

We thus see that the onset and continual onslaught of HIV/AIDS has caused a considerable disruption of Bahaya society and culture, specifically given the fact that it has deprived the elder generations of their children and future social security. The elderly people referred to this situation with statements such as “*endwala egi ekaija kwita abana baitu n'okushasa abazaile*”, “AIDS is a disease that has come to kill our children and leave the parents to suffer”, or “*lwaka abazaile*”, “the disease that deprives the parents of their children” (see also Rugalema 1999:77). Similar to the *ekiuka* pathogen that affects and destroys the banana plants, *ekiuka* which destroys humans cannot be cured by chemical (bio-medicines). As Rugalema (1999) points out in his knowledge and study of Nsisha and another nearby village, and as replicated by my research, “Buhaya is being faced by two kinds of *ekiuka*; one in the *bibanja* (banana farms), the other among human beings” (Rugalema 1999:77).

Conclusion

This paper has demonstrated the ethno-cognitive connections between banana plants and HIV/AIDS among the Bahaya of northwestern Tanzania. By providing a brief history of agriculture and HIV/AIDS in Buhaya, I have shown that HIV/AIDS emerged and spread within the context of agricultural change, specifically a decline in production of bananas, their historical and cultural staple food, and issues of socioeconomic insecurity. Agricultural change, wider socio-economic issues, and HIV/AIDS have caused overall livelihood change for the Bahaya. Bahaya conception and perception of the connection between banana plants and HIV/AIDS is reflected in their language, where they commonly refer to both as *ekiuka*, a pathogen which destroys their staple, cultural foods and their people. This ethno-cognitive connection reflects how the Bahaya make sense of HIV/AIDS as part of an ongoing ecological continuum. This paper aims to communicate how Bahaya ethno-cognitively understand and make sense of HIV/AIDS as situated in the context of their history, culture,

and ecology. In addition, I hope that the insights in this paper and Bahaya ethno-cognitive connections and communication of the relationship between HIV/AIDS and banana plants can be used as an example in other agri-cultural contexts, and contribute to research and policies focused on the interconnections between agri-culture, food and nutrition security, poverty, and HIV/AIDS and help bridge the gaps between theory and practice.

Chapter 4: Compound vulnerabilities - the intersection of climate variability and HIV/AIDS in northwestern Tanzania¹⁶

Abstract

Drawing on ethnographic research conducted in Nsisha, a rural village located close to the shores of Lake Victoria in northwestern Tanzania, this article analyzes how climate change and variability intersect with other stressors that affect rural livelihoods, particularly HIV/AIDS. The analysis integrates theories of vulnerability from both climate and HIV/AIDS literatures to show how these intersecting stressors compound livelihood vulnerability in complex ways. Climate change and variability are linked to declining agricultural yields and an increase in food and nutrition insecurity and poor health in this region. This situation heightens poverty and susceptibility to HIV/AIDS, compromising people's abilities to cope and adapt. Due to social dynamics, single mothers and their children are particularly affected by these compound vulnerabilities. Climate change and variability are significant contributing vulnerability factors which sustain and exacerbate asymmetrical poverty, food and nutrition insecurity and HIV/AIDS. By describing the links between vulnerability to HIV/AIDS and climate variability, findings highlight the importance of holistic and localized approaches to adaptation, instead of trying to isolate single issues. Prioritization of multidisciplinary research focusing on the socially differentiated and gendered distribution of vulnerability specifically in regard to poverty, food and nutrition insecurity and HIV/AIDS is recommended as a means to enrich the understanding of climate change vulnerability. Adaptation strategies should address how climatic shifts interact with generalized poverty, food and nutrition insecurity, health and gendered vulnerability in areas most affected.

Keywords: climate change, climate variability, vulnerability, food insecurity, HIV/AIDS, poverty, Tanzania

Introduction

Across Africa, climate change and variability pose additional stresses to smallholder farmers who already have challenging livelihoods. Widespread and gendered poverty, food and nutrition insecurity, HIV/AIDS, and agricultural transition and decline wrought by an increase in pathogens affecting people, plants, and animals, decreasing soil fertility, and diminishing farming land are among the chief challenges currently affecting the Bahaya (Githinji *forthcoming*, 2008, 2009a, 2009b, 2011a, 2011b, Rugalema, 1999; Baijukya, 2004; Rugalema et al., 2009; Rugalema and Mathieson, 2009). Changing weather patterns – including unpredictable and longer spanning dry periods, abrupt, short and heavy rains, and a significant increase in annual rainfall in the past few decades (Kizza et al., 2010, Rowhani et

¹⁶ This chapter is co-published: Githinji, Valerie and Todd A. Crane. 2014. "Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania." *Weather, Climate, and Society* 6:9-21.

al., 2011) – add to the list, synergistically intertwining with and exacerbating current agricultural livelihood challenges in the village and region (Yanda et al., 2005; Rowhani et al., 2011; Jones et al., 2007).

The climate literature has long pointed out that complex social and biophysical dynamics interact to create human vulnerability to climate shocks (Adger, 2006; Lemos et al., 2007; Boyd et al., 2008). Stillwaggon (2006) has made a similar argument regarding the complex set of factors contributing to HIV/AIDS vulnerability. The HIV/AIDS epidemic and increasing climate variability occur simultaneously in many parts of Africa, exacerbating socially differentiated and gendered poverty, food and nutrition insecurity and poor health. As this article emphasizes, the impacts of the HIV/AIDS epidemic and climate variability are not always viewed as dramatic, acute events, such as a drought or civil war for example, but their ongoing and intertwining nature have a tremendously debilitating effect on society, deepening wounds of poverty and asymmetry for generations. As de Waal (2006:17) comments on the similarity between the HIV/AIDS epidemic and climate variability, “AIDS is more like climate change, an incremental process manifest in a quickening drumbeat of ‘normal’ events”.

The IPCC Fourth Assessment Report chapter on Human Health overwhelmingly emphasizes health considerations that are directly mediated through biophysical environmental mechanisms: temperature variability, hydrological variability, infectious diseases, etc. (Confalonieri et al., 2007). For example, much research on links between climate change and human health tends to focus on interactions between environmental change and changing ecologies of disease vectors, as with malaria (Jones et al., 2007; Patz et al., 2000; Yanda et al., 2005) and cholera (Tschakert, 2006; Yanda et al., 2005). While the social mediation of vulnerability is widely acknowledged in the literature, on the whole it still emphasizes direct exposure to the biophysical phenomenon as the primary consideration.

In contrast, the research presented here takes the biophysical phenomena as starting point, analyzing how the social mediation of two apparently distinct vulnerabilities – climate and HIV/AIDS – intersect in ways such that they compound one another. The specific objectives of this study are to analyze a) the mechanisms through which the seemingly disparate stressors of HIV/AIDS and climate variability overlap, and b) the social dynamics which create and compound vulnerability to both of them. Particular attention is given to the experiences of single women with children, who are in general socially and economically marginalized, and so disproportionately suffer greater vulnerability to both HIV/AIDS and climate variability. Empirical analysis of the mechanisms through which both vulnerabilities

are mediated is an essential component of identifying adaptation measures, which must address the web of biophysical and social dynamics in a holistic fashion (Crane, Roncoli and Hoogenboom, 2011). This is particularly important when examining the complex and intertwining characters of poverty, HIV/AIDS vulnerability and climate vulnerability in sub-Saharan Africa, where all three are acutely experienced.

A qualitative, ethnographic research approach is used to highlight the interactions between women's personal agency and cultural institutions, in order to closely examine the dynamics of livelihood and climate vulnerability in general (Adger, 2006; Crane, 2010; Roncoli et al., 2009) and particularly for the most vulnerable - single women with children (Denton, 2002; Eriksen et al., 2005; Paavola, 2008; Almekinders et al., 2010). The choice to use a qualitative case study approach serves two purposes. First, it is meant to give voice to the experiences of real individuals in a real location, specifically single women with children, who disproportionately live the harsh everyday realities of gendered poverty. Secondly, by elaborating the micro-social dynamics of vulnerability and coping with climate among multiple stressors, this study describes and analyses the real social dynamics that must be anticipated and addressed in any adaptation effort.

Socio-ecological background

Buhaya is the cultural region situated in the northwestern corner of Kagera region in Tanzania, and is the homeland of the Bahaya people. The research for this article was conducted in the village of Nsisha in Bukoba Rural, located close to the shoreline of Lake Victoria (see Figure 1).

Bananas have served as the cultural core and staple food for centuries and hold prominent meaning in the Bahaya agricultural way of life (Schmidt, 1997; Rugalema, 1999; Githinji 2008, 2011a). This region is characterized by a long history of high rainfall, high population density, and intense use of the land through centuries of iron smelting, deforestation, pastoralism and agriculture. The Bahaya agricultural system, known as the *kibanja/rutabiro/rweya*¹⁷, has in itself contributed to decreasing fertility of fragile soils prone

¹⁷ The *kibanja* is the banana homegarden and the *rutabiro* is an outerlying portion of the *kibanja* where secondary crops are grown. The *rweya* is the land surrounding and separating villages which was traditionally used as grazing lands for cattle and other livestock, for growing shrubs and grasses used for fodder, thatching and mulch, and as a buffer farmland relied on during drought where secondary and seasonal crops are grown including potatoes, cassava, beans, etc.

to leaching, siltation and decreasing fertility (Schmidt, 1997), because land is intensely used year-round and parcels of *kibanja* are bequeathed patrilineally.



Figure 1: Map of Tanzania Source: www.fao.org

In recent decades changing ecological conditions including decreasing soil fertility and an onset of unpredictable and heavier rain patterns, combined with diminishing farmland and a surge in banana pathogens have resulted in a dramatic decline in banana production (Baijukya, 2004), leading to an increase in generalized and gendered poverty, food and nutrition insecurity, illness, and socio-cultural and livelihood transition (Rugalema, 1999; Githinji 2008, 2009a, b, 2011a, b). Whereas bananas grown in the *kibanja*, the banana homegarden, once served as the traditional and staple food which was plentiful and the symbol of the Bahaya culture core (Rald and Rald, 1975; Berry, 1995), many Bahaya have been forced to reduce their meals, converting their diet to that based on cassava and potatoes which comes from the buffer farms of the *rutabiro* and *rweya* (Rugalema, 1999; Githinji, 2008, 2009a, b, 2011a, b, *forthcoming*).

In terms of national politics and development, this region has experienced both isolation and high rates of social permeability due to its separation from the rest of mainland Tanzania, and to sharing borders with Uganda, Kenya, Rwanda, Burundi, and the second largest freshwater lake in the world, Lake Victoria. The long history of ecological

vulnerability in the region combined with missing out on national development initiatives, repercussions of the Kagera War of 1978-79, and forming part of the world's first epicenters of HIV/AIDS have contributed to socio-cultural disruption and widespread household poverty (Kaijage, 1993; Rugalema and Mathieson, 2009; Rugalema et al., 2009). In the earlier part of the century, this area was plagued by epidemics of venereal disease, including syphilis and gonorrhea (Berry, 1995) which stigmatized the region and Bahaya people, leaving scars of stillbirths, infertility and shame. In the early 1980's, this region formed part of the world's first epicenter of HIV/AIDS. During the peak of the epidemic around 1987, HIV rates among people in their most productive ages reached as high as 25% (Lundberg et al., 2000), though currently, the HIV/AIDS infection rate in this area is estimated at 3.7% (Rugalema and Mathieson (2009:44).

Due to the effects of climatic change, seasonal temperature in the Lake Victoria area is projected to increase by two degrees Celsius by the year 2050, reaching up to a four degree Celsius increase by 2100 (Rowhani et al., 2011; Paavola, 2008). Similarly, annual precipitation has increased by 24% percent in the past century (Kizza et al., 2009:132) and is projected to increase by 50% by the year 2100 (Rowhani et al., 2011; Paavola, 2010). More specifically, there has been a significant surge in rainfall during the short rains (Kizza et al., 2009:132). The increase in both seasonal temperature and precipitation are expected to have negative consequences on agricultural productivity, specifically for staple foods including bananas, maize, sorghum, and rice (FAO, 2005; Rowhani et al., 2011). Given that most Bahaya living in the village of Nsisha where this research was conducted and other rural parts of Buhaya are semi-subsistent farmers, climatic change and variability pose a grave threat to their livelihood and household food security, poverty and health status. Similar situations in which climate change is negatively affecting socio-ecological systems and challenging people's abilities to cope and adapt have been witnessed in other areas of sub-Saharan Africa (Boyd et al., 2008; Thornton et al., 2010) including, for example: Morogoro, Tanzania (Paavola, 2008); Saweni sub-village, Tanzania Mbitini, Kenya (Eriksen et al., 2005); the Great Ruaha River Catchment Area, Tanzania (2011); Ethiopia and Mali (Crane 2010; Crane 2013), and Senegal (Tschakert, 2006).

Methodological and theoretical framing of the paper

In her groundbreaking book, "AIDS and the Ecology of Poverty", Stillwaggon (2006) outlines a critique of HIV/AIDS research and policies for being based on overly narrow assumptions about the epidemiology of the disease. Rather than approaching the disease from

a reductionist epidemiological perspective, Stillwaggon suggests that understanding AIDS from a holistic “ecological” perspective will produce a more accurate and relevant understanding of the dynamics that produce the epidemic. This involves a more integrated analysis of AIDS in relation to biophysical environments, social contexts and dynamics, as well as interactions with malnutrition, infectious diseases, and parasites. Such an approach will result in an understanding of vulnerability that acknowledges complex interactions between disparate but related factors.

This paper builds on Stillwaggon’s argument about the ecology of AIDS, integrating the place of climate variability in the matrix of challenges and multiple stressors (Boyd et al., 2008) affecting livelihoods in vulnerable ecologies of poverty and HIV/AIDS. Similarly, the concept of “conceptual vulnerability” is viewed in the climate literature as “a function of climatic conditions and the social, economic and political processes that determine how climate change is experienced and which shape responses available to adapt. Here, vulnerability is conceptualized as a state or condition in process, not an outcome, continually evolving and changing.” (Ford et al., 2010:377). What both approaches share is a holistic theoretical and methodological lens for studying vulnerability in relation to their respective focal points: the HIV/AIDS epidemic and climate change. This paper combines the two in order to reveal a more comprehensive and nuanced understanding of the mechanisms by which the dynamics around HIV/AIDS and climate variability act synergistically leading to socially differentiated vulnerability in impoverished contexts. Taking a de-centered approach, we intend to support the design and implementation of more effective intervention strategies that acknowledge multiple and interacting vulnerability factors.

Climate change and its effects on Bahaya livelihoods was not initially a focal point of the research, but the topic was brought up constantly by informants during interviews and discussions on agriculture, poverty, nutrition, health and HIV/AIDS. The repeated introduction of the topic of climate-induced stress by informants emphasized that increasing climate variability is closely intertwined with other challenges affecting Bahaya vulnerability, which actually contribute to and intensify many of the core livelihood challenges in the area: widespread and socially differentiated and gendered poverty, food and nutrition insecurity, poor health and HIV/AIDS vulnerability. While Demetriades and Esplen (2008) and Denton (2002) have previously drawn connections between climate vulnerability, poverty, and gender in theoretical terms, this paper seeks to substantiate links through an empirical case study (Ford et al., 2010) exploring the intersection of HIV/AIDS vulnerability and climate vulnerability.

Ethnographic research was conducted in Nsisha, Tanzania focusing on the gendered vulnerability to poverty, food insecurity, and HIV/AIDS. Three hundred and eleven interviews were conducted during three phases of research in 2005-2006. The initial phase consisted of interviewing the head of the household - or an adult who was present - for each of the 184 households in Nsisha. The second phase focused on semi-structured interviews which lasted approximately 2.5 hours with 97 heads of household including married, single, and widowed men and women. The third phase consisted of re-interviewing 30 female heads of households – 15 widows and 15 non-widows – to gain more in depth understanding of the connections between agricultural decline and change, food and nutrition insecurity, poverty, health and HIV/AIDS in the village.

The results section of this paper is divided into three parts which focus on different aspects of climate vulnerability in Buhaya. The first part discusses the effects of climate vulnerability in Buhaya on declining agriculture and an increase in food insecurity. The second part examines how climate vulnerability intersects with and increases HIV/AIDS vulnerability. The final part of the results section shows how these compound vulnerabilities are asymmetrical along gendered lines, leading to an increase in girls' and women's livelihood and HIV/AIDS vulnerability. Individual narratives are used heavily in the presentation of the results to highlight vulnerability as a lived experience, rather than an abstract conceptual construct. The subsequent sections include a discussion and a conclusion, respectively.

Climate vulnerability in Buhaya

a. Effects on agriculture and food security

Precisely how inter-seasonal and intra-seasonal changes in precipitation and temperature mentioned above will synergize and ultimately affect crop production and food security in the future remains uncertain, and is still in the early stages of investigation (Rowhani et al., 2011:458). But, while rainfall tables and agroclimatological models can be indicative of changing patterns of climate variability and food insecurity, the social dynamics and human experience of vulnerability is better captured in the words and lives of people themselves. The residents of Nsisha report that climate variability negatively affects agricultural productivity in Nsisha in the present, adding to the general challenges most Bahaya farmers face. For example, based on discussions with Nsishans in regard to how agricultural productivity has changed in the recent past, and which specific challenges they are facing, many of the poorest Nsishans stated that the current climatic shifts pose one of their greatest

agricultural challenges. Because their livelihood and household economic, food, nutrition and health security are interlinked and depend on accurate understanding and prediction of the weather, they often have little to no buffer if their estimates and timing are wrong. An elderly widow who is rearing her two grandchildren, **Asteria**¹⁸ commented with frustration:

In the past we were able to predict the onset and duration of the wet and dry periods. However, these days the rainy seasons and dry seasons are unpredictable and much more severe than what we are used to.

Asteria's observation, which was similarly echoed by several older Nsishans, substantiates the effects of changes in both inter-seasonal and intra-seasonal climate variability. Nsishans also mentioned that in general, there are currently longer periods of dry, hot seasons and shorter periods of intense, and often disastrous, rain. Nsishans consistently observed that the recent shifts in climate and precipitation are striking at the core of the Bahaya culture – the *kibanja*, their banana homegarden, which is the cornerstone of household food security (Githinji, 2011a).

Asteria was constantly working in her old age to try to eke out a living for her grandchildren, because she was their sole provider. The climatic shifts add another household challenge to her situation, threatening her household's overall economic, food, nutrition, and health security. She lacked the strength, labor, and manure needed to maintain a productive *kibanja*, as well as the ability to purchase agrochemicals. She was rarely able to obtain and save money from the sale of agricultural products, because she rarely had surplus to sell. This means that they were not able to purchase items such as supplemental foods like milk, sugar, tomatoes, fish and meat, and clothing and medicines.

Methilda, an elderly widow living alone, reminisced about life in the days when bananas were plentiful in the *kibanja*:

Times have changed! Farming and Bahaya life is no longer like it used to be! Bananas used to be plentiful and we ate them with every meal, every day! We shared bananas and gave them as gifts for celebrations. We used the leaves for wrapping things, steaming foods, thatching, carpeting and many other purposes. Now, the weather and rains are chaotic and *ekiuka* - the pathogens which destroy banana plants – are destroying the *kibanja* and leaving us Bahaya to be poor, hungry and with nothing! Without bananas in the *kibanja*, who are we? We would not be Bahaya.

¹⁸ Pseudonyms are used throughout this article.

Methilda's sentiments reflect the overall agricultural decline and socio-cultural change occurring in Buhaya. As *ekiuka*, soil infertility, HIV/AIDS and climatic shifts threaten Bahaya livelihoods, people are left wondering about what the future holds for their culture. A flourishing *kibanja* is the essence of their culture core; symbolic meanings and practical uses of banana plants are interwoven throughout their daily lives (Weiss, 1996; Githinji, 2011a). The decline in banana production on the *kibanja* symbolizes shock, change and uncertainty, mirroring the generalized livelihood impoverishment and food, nutrition, economic and health insecurity currently affecting many (Githinji 2008, 2011a).

Dorosella, a middle-aged single mother who inherited a very small, marginal, and unproductive *kibanja*, and resorted to selling banana-based beer and gin to support her young, dependent children stated:

The extreme weather these days is causing the *ekiuka* in the *kibanja* to be so bad that although it is shameful and we do not want to admit it, some of us resort to eating the bananas which are supposed to be used for brewing only! But, we cook them and we eat them because that is what remains in the *kibanja* when we are hungry!

Dorosella and her children lived a life of vulnerability. She exclaimed that life as the sole provider to her young children was very difficult. For women like her, it was easy to fall into the trap of poverty-induced survival sex and increased risk of HIV/AIDS. However, she chose to sell – ‘and not drink’ – brew as her main economic and livelihood survival strategy to support her household and ‘prevent herself from engaging in insecure and precarious relationships with men that could lead to HIV/AIDS’. She complained that people knocked on her door day and night, asking for brew to purchase or ‘begging to put on credit’. It wasn't an ideal livelihood she admitted, and she worried how the bar-like environment affected her young children, but it was the best and only livelihood opportunity she had - outside of prostitution - given her lack of assistance and assets, marginal and unproductive *kibanja* and inability to purchase needed inputs to ward against the impacts of climate variability and *ekiuka* and determination to care for her children and escape HIV/AIDS in spite of their household poverty.

As **Anna**, an elderly widow who was taking care of her daughter who was sick with HIV/AIDS, and her three grandchildren explicitly exclaimed:

The unpredictability of the onset, duration and intensity of dry and wet seasons is the chief problem which is causing poverty and hunger for us, because we haven't been able to accurately forecast when to plant. Sometimes we plant too soon or too late. When we plant too soon, the seeds dry up and die. When we plant too late, heavy rains wash away seeds and destroy the baby banana plants. Both situations lead to disaster - not enough good food,

skipping meals, no money for anything like milk, rice, sugar, meat, medicine and trips to the hospital! We are hungry!

For Anna, life was tiresome and worrisome. She was becoming frail, but was the sole provider to two younger generations. Erratic climate variability shifts add yet another challenge to her household's well-being. Her daughter's health was ailing, and rather than having her assistance on the *kibanja*, Anna diverted her energy needed on the farm for engaging in other economic livelihood strategies, such as collecting and selling grass, to care for her daughter and the grandchildren. Anna's caretaking responsibilities for her sick daughter and young grandchildren affected productivity on the *kibanja* and their household food, nutrition and economic security. They lacked manure, farm labor, income and assistance which they needed to achieve food security. They drank tea without sugar or milk, and ate only once daily. Their meals consisted mostly of roots and tubers, since bananas did not grow well on the infertile soil. Although they occasionally became ill with intestinal problems, colds, and malaria, they could not afford to go to the hospital and purchase needed medicines. They, including the sick daughter, relied on traditional medicines which were more accessible, but not always timely or effective. Anna mentioned that because of the lack of food, the 'the HIV/AIDS medications - although free - were too strong on an empty stomach and just made people sicker'.

There are numerous aspects to vulnerability in Nsisha: declining soil fertility, increasing crop disease pressure¹⁹, and generalized poverty to name a few. The observations made by Nsishans above illustrate how increasingly unpredictable weather patterns add an additional livelihood challenge, because they synergize with the manifestations of poverty and HIV/AIDS, the progressively infertile soil, and variety of pathogens which destroy banana plants - the traditional staple food and symbol of Bahayaness (Githinji, 2011a).

As outlined in the case studies, Bahaya farmers are facing poverty and livelihood insecurity, a situation which heightens their vulnerability, risk, and inability to cope and adapt to the effects of additional challenges wrought by climatic change and variability events and shocks, especially for those who are already living in the most impoverished conditions and lack adequate buffers. This complex of livelihood challenges synergistically intertwine, creating a reality whereby the poorest and most marginalized people are those most vulnerable to the trap of poverty, food and nutrition insecurity and poor health. Only the

¹⁹ The most prevalent pathogens affecting banana plants include: banana fusarium wilt (BFW), banana xanthomonas wilt (BXW), black sigatoka (Panama diseases), banana weevils and nematodes (Rugalema and Mathieson, 2009).

households that have reliable access to important assets like livestock, cash, manure, and labor can confront the current farming challenges, attain adequate yields and maintain their household's security. These crucial livelihood assets help mitigate the effects of erratic rainfall patterns by securing the buffers – capital, agricultural inputs, seeds, farming assistance, and medicine - that ensure agricultural productivity and household economic, food, and health security.

b. The intersection of climate vulnerability and HIV/AIDS vulnerability

Climatic variability is linked to poor health, specifically to increased incidence of malaria (Jones et al., 2007; see also Patz et al., 2000) and cholera (see also Tschakert, 2006) in Buhaya (Yanda et al., 2005). Cofactors like malaria and cholera increase susceptibility to HIV infection and progression to AIDS (Stillwaggon, 2006). Malaria cases increase during the heavier rainy periods and in years following drought. “Malaria outbreaks have been common in years subsequent to the El Niño season of 1997/1998,” which are marked by a period of heavy rains that cause food shortage, and then followed by drought (Yanda 2005:12). Food shortages result in food and nutrition insecurity, malnutrition, compromised immunity and heightened vulnerability to illness for the most vulnerable.

In Nsisha, people commonly refer to malaria in Luhaya, their native language, as *endwala y'omushana*, which translates to mean ‘the disease of the dry season.’ Once primarily a seasonal problem, this type of malaria now occurs throughout the year (Rugalema et al., 2009:445), a shift which mirrors increasing climatic variability and its longer spanning dry periods punctuated by unpredictable and abrupt heavy rains (Rowhani et al., 2011). In addition to malarial stress, post-drought periods - associated specifically with El Niño rains - are marked by high incidence rates of malaria related anemia which predominately affect those most vulnerable to poor health; women and children (Yanda et al., 2005; see also Denton, 2002).

Similar to malaria, cholera incidence tends to be higher during the heavy rain periods, which is due to the lack of adequate sewage disposal and the overflow of latrines that contaminate water supplies. Often improper sanitation and treatment of water during wet periods leads to diarrhea causing illnesses and outbreaks of cholera (Yanda et al., 2005; Tschakert, 2006). As rainy periods have become and are predicted to be more abrupt and intense, it can be expected that cholera incidence rates will increase. Communicable diseases like malaria and cholera are not the only climate-related factors that compound vulnerability

to HIV/AIDS. Food insecurity and malnutrition, which are also climate-related, can likewise increase vulnerability to HIV/AIDS.

Nsishans indicate that unpredictable onset, duration, and intensity of dry and wet seasons lead to cycles of food insecurity because staple food crops, specifically bananas, do not grow well under such conditions. Food insecurity escalates economic and nutritional insecurity, since people, particularly single women with children, lack access to an adequate diet (Githinji 2009a, 2009b, 2011b). This in turn, increases vulnerability to poverty, poor health and disease and the cycle repeats when poor farmers such as Asteria, Methilda, Dorosella and Anna mentioned above, lack the buffers to break out of the cycle. The case studies of George, Lestuta, Kokoshubira and Geti below illustrate the synergistic and potentially cyclical relationship between climate variability, degrading economic resources, food and nutrition insecurity and poor health vulnerability in the context of Nsisha, as has been found in other parts of sub-Saharan Africa (Adger, 2006; Tschakert, 2006; Eriksen et al., 2005; Paavola et al., 2008; Almekinders et al., 2010; Denton, 2002; Brooks et al., 2005; Kangalawe et al., 2011).

Cattle were traditionally an integral part of the Bahaya agricultural system, providing fertilizer essential for the prosperity of banana plants on the *kibanja*. Less than a century ago, most households owned cattle and other livestock (Rugalema, 1999). However, less than 18% of households in Nsisha own cattle, and most who do, own only one. Because cattle are a disposable asset, they are sold at times of economic need, which notably include climate-linked processes – such as periods of erratic rain and crop destruction, drought, food insecurity – but also those associated with HIV/AIDS such as chronic sickness and funerals. For example, take the case of George:

George was once a prosperous mason who had been economically well-off compared to most of his neighbors in Nsisha. He had a nice home, large prosperous *kibanja* and owned a few cattle and small livestock. Reliable access to manure and a steady income had ensured productivity on the *kibanja* and agricultural surplus for selling, and buffered his household's security even during the unpredictable heavy rains and drought periods which lead to soil infertility, crop destruction and food, nutrition, economic and health insecurity. However, in the past five years George's wealth, status and disposable assets declined due to the loss of his first wife and two children to HIV/AIDS, and his own worsening health and inability to work due to HIV/AIDS. His salary and resources dwindled - including livestock - as they were utilized to pay for healthcare and funerary expenses and the progressive need to purchase foods that they did not get from their *kibanja* due to the increasing threat of climate variability and pathogens killing off the bananas. George was unable to farm due to his bouts of sickness and progressive weakness and his wife diverted her farming labor to tending to him, their four dependent, young children and one on the way. They could not keep up with the *kibanja* and it was in a state of progressive decay and becoming unproductive. Their

agricultural surplus and overall food and nutrition insecurity was declining and they lacked the buffers needed to maintain the *kibanja*. Climate change and variability added to their household decline because it added an extra layer of vulnerability, exacerbating their deepening poverty, food and nutrition insecurity and poor health. The coincidence of the negative effects of climate variability and HIV/AIDS caused significant decline in the status of George's household, from being enviably prosperous and wealthy to on the verge of acute poverty and food insecurity like so many in the village. However, unlike many, George was able to maintain ownership of an important buffer - a goat. Even as he was in the progressed state of HIV/AIDS, he stated that he and his family were fortunate because just maintaining ownership of one goat provided his family with nutritious milk - which he could also sell - as well as needed fertilizer for the *kibanja*. Although the fertilizer was scant compared to what he had when he owned several cattle and livestock, the manure helped, especially during the erratic seasons which combined with the diverted time on the farm to tending to his sickness increased their agricultural productivity leaving hardly any surplus and their overall household poverty and food and nutrition insecurity. George and his wife state that the goat was instrumental to prolonging his life and staving off poverty in the household and on the *kibanja*; something that his wife, Leticia, mentioned in her lamentations at his funeral. This important asset buffered George's household economy, nutrition and agricultural productivity on the *kibanja* significantly, particularly during shock periods including erratic and extreme rainfall which washed away nutrients and increased soil infertility, drought, his sickness to HIV/AIDS and during Leticia's mourning observance, providing necessary fertilizer, nutrition and money. Although Leticia remained with the goat soon after George's death, it was a cause of worry for her since it was unclear whether she would need to sell this important asset due to the shock and stark impoverishment which often accompanies widowhood, or if the goat would be bequeathed to an in-law. Without this buffer to the effects of climate variability and HIV/AIDS, Leticia feared would be living in an acute state of shock and decline, particularly given that the *kibanja* was a tangled mass of weeds and highly unproductive and she lacked another source of income. The goat was her only asset that helped keep her household afloat and provided her some economic security and nutrition for her and her children: without the goat, her young, dependent children would be living in a deeper reality of livelihood vulnerability and poverty.

Contrary to the case of George, most Nsishans do not own cattle or other livestock. These are the same people who in general, are most vulnerable to climatic shifts and least able to fertilize their *kibanja* and confront declining agricultural productivity and increasing household economic and food and nutrition insecurity. Because HIV/AIDS decreases ability to work and is expensive (in terms of both treatments and funerary costs), it creates a double pressure to sell off cattle for cash. This in turn contributes to decreasing soil fertility and agricultural productivity, thus increasing vulnerability to climate events. In addition livestock being a crucial productive resource for agriculture, they also produce valuable milk, the loss of which also takes a toll. Taken together, these intersecting aspects of HIV/AIDS and climate vulnerabilities subsequently combine to contribute to a spiral of food and nutrition insecurity, which in turn heightens susceptibility to illness on one hand, and climate variability. Furthermore, this situation fuels cross-generational cycles of vulnerability when

households lack the buffers to confront these challenges, and remain entrapped in poverty.

Take the case of Lestuta:

Lestuta was an elderly widow who was living with her son and his new bride, Lestuta's daughter, who was sick with HIV/AIDS, and her daughter's three children. They were living in absolute poverty, and rarely had enough food to eat. They ate a meal of potatoes and, or, cassava and tea without sugar once or if lucky, twice daily. Soil infertility and erratic climate variability added to their daily challenges, making farming and procuring adequate food and nutrition very difficult for them. Lestuta was aging and becoming frail and her time on the farm was diverted for taking care of her daughter and her young, grandchildren. They lacked a source of income and inputs needed for the soil which had increasingly become infertile due to overuse, lack of fertilizers, the application of agrochemicals years ago which 'ruined the soil' and the erratic, heavy rainfall which washed away nutrients. Lestuta observed that things would be easier if her husband was alive because when he was, they had livestock - cows and goats - and reliable access to needed fertilizer for the *kibanja* and income to purchase meat, rice, sugar, and fish, and access to health care when needed. When he died, most of the livestock was 'taken away' by in-laws - a customary patrilineal inheritance practice whereby assets are distributed among the patri-clan, at the expense of the widow and her children - and the cow that she remained with soon died of disease because she couldn't afford the veterinary service to maintain its health. Like the many other poor households in Nsisha, Lestuta's *kibanja* did not produce bananas and agricultural productivity had been progressively declining due to soil infertility, *ekiuka*, and the erratic weather patterns. Her family primarily eats meals of potatoes and cassava - the new staple foods for the poor - because banana plants are no longer thriving in this environment. They did not have access to sugar and other purchased goods including milk, tea leaves, flour, and rice, agricultural inputs, and the ability to access health care when needed, because they did not have a source of income. If they were better able to maintain the soil and stave off the negative effects of climate change, they would have been able buffer against food and nutrition insecurity and deep household poverty. However, lacking a source of income and needed fertilizers prevented them from achieving a surplus produce to sell, for example, and they lived like the most vulnerable, unable to adequately buffer against climate variability, HIV/AIDS and the emanations of cyclical poverty which would be bequeathed to the three young, eventually orphaned and vulnerable grandchildren.

The cases of Lestuta and George illustrate the synergistic effects of HIV/AIDS and climate variability on agrarian households. Lestuta's case is important because it emphasizes that HIV/AIDS has substantial effects even on the livelihoods and vulnerabilities of people who are not infected (Rugalema, 1999, Lundberg et al., 2000; Niehof et al., 2010). Rather than depending on her daughter in old age, as is the cultural norm, Lestuta was forced to care for her daughter who was sick with HIV/AIDS, and be the sole provider for her three young grandchildren. Widowed, elderly and frail, Lestuta's limited physical capability on the farm was diverted to caretaking, diminishing her capacity to invest sufficient time on her farm to offset the stresses of climate variability, leading to reduced food security. Had she been able to focus her energy on managing her farm, Lestuta likely would have been better able to cope

with the negative effects of climate variability and be able to better achieve household food, nutrition and economic security. The added challenge of climate variability exacerbated her livelihood challenges, preventing her from attaining buffers, indirectly exacerbating her family's entrenched poverty and poor nutrition and health. George's case illustrates how the decline of a household's asset base in response to HIV/AIDS related stresses can simultaneously and similarly strip away the capacity to mitigate and buffer against negative effects of climate variability, and how owning one goat can help mitigate against the negative effects of climate variability and HIV/AIDS vulnerability. However, the cases illustrate that combined, vulnerability to HIV/AIDS and climate variability synergize in complex ways to create a downward spiral of economic decline, poor health, and environmental degradation. Without buffers, such as George's ownership of just one goat, the poorest of the poor, like Lestuta, experience an acute escalation of the core livelihood challenges they face: household poverty, food and nutrition insecurity, and poor health – effects exacerbated by climate variability and HIV/AIDS vulnerability.

c. Gendered and asymmetrical effects

The negative effects of climatic change and variability follow socio-cultural hierarchical patterns, affecting the poorest and women asymmetrically (Githinji 2009a, b; Yanda et al., 2005; FAO, 2005; Denton, 2002; Almekinders et al., 2010; Paavola et al., 2008; Eriksen et al., 2005; Demetriades and Esplen 2008; Lemos et al., 2007; Crane, 2013). For example, although treated bed nets protect against mosquito bites and malaria, only the more economically well off can afford to purchase enough to protect *each* household member. Similarly, access to healthcare, medicines, and timely treatment is generally out of reach for the poorest (Rugalema, 1999; Yanda et al., 2005; Githinji 2009a, b). The poorest are also more prone to living in impoverished environments lacking adequate sewage disposal and resources, such as firewood, needed for boiling and preparing water safe for consumption.

Women and children are generally more vulnerable to poor health than men due to social reasons (Sweetman, 2001; Denton, 2002; FAO, 2005; Hecht et al., 2006; Githinji 2009a, b, 2011b). Specifically in the context of Buhaya, women and children are more prone to malaria than men because they generally engage in weeding and are therefore more in contact with mosquito habitats (Yanda et al., 2005). Women and children also generally have poorer nutrition and health than men, because men tend to have access to more protein rich diets (Yanda et al., 2005) which assists in maintaining the immune system and fighting

infections (Leonard-Green et al., 1989). The ‘ecology of poverty and HIV/AIDS’ concept (Stillwaggon 2006; Githinji *forthcoming*) posits that a complex web of factors interact in synergistic ways to marginalize women and children. Thus, climatic change and variability compound existing dynamics pertaining to women’s disease, nutritional and economic status (Githinji 2009a, b, 2011b, *forthcoming*; Denton, 2002; Eriksen et al., 2005). Kokushubira’s case further illustrates the complexity of how women’s – particularly HIV/AIDS infected single mothers with young children - asymmetrical vulnerability to poverty, poor health, climatic shifts and HIV/AIDS intertwine, escalating cycles of livelihood vulnerability inherited by future generations:

Kokushubira is a double HIV/AIDS widow; she lost her husband to HIV/AIDS and is also infected. She has four children; three whom live with her. When she lived with her husband, they had livestock which enabled them to maintain soil fertility, food and nutrition security, and essentially buffer against livelihood challenges wrought by climate variability. However, his death and her burden of HIV infection and widowhood led to her and her children’s entrenched poverty and vulnerability. By the time of her husband’s death, all the livestock had been sold and the money used for funerary expenses, treatments and food. Kokushubira did not have anyone to lean on during times of hunger and sickness. Chronically and progressively ill, Kokushubira is unable to maintain her *kibanja*. Three sides of the house were falling down to the point that when it rained, puddles accumulated inside, providing a good habitat for malaria-spreading mosquitoes. Because of her position as an HIV infected widow, they were living in dire poverty which prevented her and her children from accessing healthcare of any kind, even for her HIV infected child who was chronically ill and took long to recover. Although medication was free for those infected with HIV/AIDS, the only way she was able to get to the hospital was by walking several kilometers: something she was unable to do due to her increasing fragility and responsibility to her young children. Kokushubira described another child as ‘always hungry’. Unable to adequately care for this child, she sent him to live with her mother in a nearby village, who was already helping to take care of several HIV/AIDS family orphans. In addition, her six year-old daughter was unable to attend kindergarten because Kokushubira could not afford the monthly fee of \$0.50. Her *kibanja* was turning into a bush and was visibly infiltrated with stubborn weeds, because her bouts of illness diverted time away from maintaining the farm. This situation was further compounded by the fact that when she had the opportunity, she ‘chased money’ in the form of day wage labor on people’s farms, in an attempt to provide household food security in the short term.

Widowed, HIV/AIDS infected, and a single mother and sole provider to her children, Kokushubira and her children lived in intense and acute poverty. Lacking physical health, household labor, capital, manure and other inputs needed to maintain the productivity in the face of erratic climatic patterns and pathogen invasion, Kokushubira’s farm was overgrown with weeds and there was no sign of food growing in the *kibanja*. Given the generalized poverty in Nsisha which was exacerbated by climate change and variability factors, and

overall agricultural decline, paid day labor, which she depended on, was unreliable and increasingly scarce, exacerbating her family's deep poverty and food and nutrition insecurity. Consequently, Kokushubira's home was falling down and prey to mosquitoes, rain, and cold. She and her children were chronically sick with colds. She and her HIV/AIDS infected child and affected children couldn't access healthcare and her youngest, couldn't attend school because of lack of money. Because children's health is largely contingent on their mothers' health, both are in a precarious situation (Githinji, 2009a). The negative effects of climate variability, which led to a downward economic spiral in the village and to widespread agricultural decline, added an extra layer to Kokushubira's household vulnerability intensifying their daily lived reality of acute and entrenched poverty, hunger and poor health. The failing physical structure of her house also intensified her family's exposure to malarial mosquitoes, which have intensified under changing rain regimes. The only plan she had for her children when she became too frail to care for them and passed away was to integrate them into her brother's household in a nearby village where twelve other HIV/AIDS orphans in the family lived. The children would be moving from one impoverished context to another, and as she mentioned, 'only the boys would inherit the *kibanja*, not her daughters, because that was still the custom in Bahaya', a reality illustrating inherited cycles of generational - and gendered - poverty. The case of Geti further elaborates how vulnerabilities can compound each other:

Geti, in her late twenties, is a single mother of four young, chronically-ill children. Often ill herself, Geti fears she is infected with HIV/AIDS. She left her abusive husband and returned to live with her elderly mother and nephew, an HIV/AIDS orphan. Geti farmed the slice of the family farm she inherited, and several other marginal farmlands which she borrowed and rented from neighbors. In spite of her daily attempt to provide household food security, she frequently failed. Like many other Nsishans, Geti exclaimed that single women with children, such as herself, are often driven to prostitution to feed their hungry children. 'It is one of the only ways for single women to provision for their children amidst difficult times,' she said defensively. She picked up a handful of small potatoes which were affected by disease, and complained, *This handful is not enough to feed my children and me, but was all I could get today... no matter how much effort I put into farming, the yield is not enough these days because ekiuka is affecting all our food crops and the unpredictable rainy and dry periods are making farming more difficult, increasing my burdens and daily worry about how I will feed my hungry, sick children.*

Geti's case illustrates how climate stress contributes to food insecurity, which in turn creates pressure to engage in poverty-induced transactional or 'survival' sex, which is a high risk factor of HIV/AIDS. This indirect chain of causality is important in understanding how the effects of climatic change converge and synergize with multiple stressors in contexts of

vulnerability and threaten those who are already marginalized, poor, food, nutrition, and shelter insecure, and sickly (see also Lemos et al., 2007; Boyd et al., 2008; Ford et al., 2010; Thornton et al., 2010).

Geti is not alone in these circumstances. Coping and adapting to the myriad socio-ecological challenges in Nsisha can be especially daunting for single women with children. Single mothers are specifically challenged in their ability to provide for their dependents; ironically, prostitution poses as one of the only economic alternatives, and coping, adapting and livelihood diversification strategies available to confront the challenges of food security wrought by climate vulnerability. In the process, this common survival strategy assists in perpetuating poverty, HIV/AIDS, and engendering women's and children's particular vulnerabilities. While it cannot be said that climate change directly causes vulnerability to HIV/AIDS, it does contribute indirectly, leading vulnerable women to compromise due to livelihood vulnerability. Climatic change and variability and resultant decline in food crops exacerbates livelihood stressors, adding an additional layer to women's and children's heightened vulnerability and its inherited perpetuation.

Discussion

Taken as a whole, the case studies from Nsisha illustrate how vulnerabilities to climate variability, HIV/AIDS, poverty and food and nutrition insecurity intersect in myriad, complex ways to intensify socially differentiated and gendered livelihood vulnerability. The impacts of HIV/AIDS on households can reduce resilience to climate shocks through the degradation of asset base and social networks and by diverting physical labor on the farm, compounding household food, nutrition and economic security and health challenges. Over the long run climate change can create conditions for stronger emergence of disease loads that stress those already infected with HIV/AIDS and those affected by acute poverty and food and nutrition insecurity. To add to this widely recognized interaction, this study has shown how cultural norms and gender dynamics interact with climate variability and HIV/AIDS in such a way that women, especially single women, are made disproportionately vulnerable to the synergistic effects of both. This is largely due to institutionalized practices that limit women's power over resources and thus their ability to buffer against negative impacts. The compound vulnerabilities experienced by single women subsequently have a profound effect on their children's health and well-being. Only those with buffers such as secure access to money, land, livestock, strong and supportive social networks, disposable assets and agricultural inputs can mitigate the compound vulnerabilities posed by climate variability and HIV/AIDS.

Stillwaggon (2006) argues that social and biological factors synergistically combine to create “ecological” vulnerability to HIV/AIDS, particularly in the context of poverty. Ford’s (2006) concept of “contextual vulnerability” similarly states that climate vulnerability emerges from the interactions of myriad socio-ecological factors, leading to an uneven social distribution of vulnerability. Each approach utilizes a holistic conceptual lens to understand an important human challenge in East Africa and elsewhere: HIV/AIDS and climate variability respectively. One objective of both approaches is to show how vulnerability is produced and how its social distribution is uneven. Through a focus on case studies from Nsisha, Tanzania, this article combines Stillwaggon (2006) and Ford (2010) to analyze the complex mechanisms by which climate vulnerability and HIV/AIDS vulnerability synergize. The synthesis of the two perspectives is important because it transcends their respective topical emphases, instead starting with an empirical look at a broad spectrum of social and environmental dynamics and how they interact to create observable outcomes in relation to climate variability and HIV/AIDS, as well as livelihood security in general. While the boundaries created by administrative units, development projects and academic disciplines often tend to bracket a single topic of interest away from others, problem solving in real world context requires addressing all intersecting dynamics in an integrated, holistic fashion. The frameworks of Stillwaggon and Ford both acknowledge the benefits of holism in relation to HIV/AIDS and climate respectively, but our synthetic analysis of the interactions between these two apparently disparate stressors pushes their holism further: socio-ecological change of any sort cannot be addressed using artificial topical brackets. The implications for understanding and addressing climate vulnerability (or HIV/AIDS, food security, environmental degradation, etc.) are substantial: the socio-ecological dynamics that are relevant to adaptation are not easily understood through abstract indices or narrow indicators, but through comprehensive analysis of and engagement with the complexities of real dynamics in specific locations.

Interdisciplinary ethnographic research is well suited to unpacking the complex ways that biophysical and social factors intertwine to exacerbate livelihood vulnerabilities, as well as the ways in which they are socially distributed and mediated. Ethnographic research plays an essential role in deepening our understanding of the effects of climatic change and variability, because it portrays how climatic stressors interact with other challenges and contexts in people’s daily lives (Ford et al., 2010; Roncoli et al., 2009), something that is missed in aggregate or macro-level research. By utilizing a comprehensive lens to understand the multitude of socio-ecological factors that intensify climate vulnerability in the context of

rural livelihoods, it is possible to understand how climate and HIV/AIDS vulnerability overlap and synergize. Documenting people's life experiences and words captures how the effects of climate variability and HIV/AIDS affect livelihood vulnerability in socially differentiated and gendered ways. These details from lived experience provide the useful information for informing the development and implementation of effective adaptation strategies for mitigating poverty, food and nutrition insecurity and poor health for the most vulnerable.

Conclusion

Across much of rural Africa, climate change is yet another significant and contributing factor which sustains an ecology of poverty. Vulnerabilities to various stresses – climate variability, food insecurity, social marginalization, HIV/AIDS, etc. – interact in ways that both create and compound negative effects on human wellbeing. Over the past thirty years, Nsisha, Tanzania has experienced an influx of crop pathogens that have been destroying banana plants, increasingly erratic climate variability, and the ravages of the HIV/AIDS epidemic. These have combined synergistically to cause widening poverty, food and nutrition insecurity and socially differentiated and gendered vulnerability (Githinji 2008, 2009a, b, 2011a). This situation poses great threats to achieving the millennium development goals premised on poverty reduction, food, nutrition, and health security, gender equality and women's and children's empowerment and social advancement (FAO 2005; Hecht et al., 2006).

In response, multidisciplinary and holistic research on the socially and gendered distribution of vulnerability, and the 'ecology of poverty' should be prioritized, so as to enrich our understanding of vulnerability to climatic change and variability. This research should highlight specifically how livelihoods are being affected. Measures and mediation strategies should be devised which address how climatic shifts are expected to affect generalized, socially differentiated and gendered poverty, food and nutrition insecurity, health, and HIV/AIDS vulnerability. Rather than relying on narrow climatological models, intervention strategies aimed to alleviate vulnerability need to be premised on the understanding of how the matrix of socio-ecological factors - including climatic change and variability, disease (human, crop and animal), and the history of environmental change, generalized poverty, and women's marginalization - converge to sustain an ecology of poverty and compound vulnerability to multiple stressors. Climate vulnerability and adaptation are always situated in a context where numerous non-climate factors are in play. In order to gain an accurate and nuanced understanding of vulnerability and adaptation,

realist analysis needs to acknowledge complexity by actively utilizing a holistic perspective, integrating multiple cross-currents and drivers, rather than bracketing them out in favor of an exclusively climatic focus.

Chapter 5: Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience²⁰

Abstract

Widows are in general, more vulnerable to the manifestations of poverty and marginalization. This article focuses on widows' livelihood challenges, strategies for coping and resilience patterns in Buhaya, Tanzania; the homeland of the patriarchal Bahaya socio-culture, and a region affected by HIV/AIDS and widespread poverty. Ethnographic research was conducted with thirty-four widows living in two contexts located close to Bukoba town; a semi-urban area and a rural village. Although there are common themes which unify widows' experiences, I argue that widows are a diverse category of women whose livelihood challenges, strategies for coping, and resilience patterns are influenced by their HIV/AIDS, age, health and dependency status, and their access to social empowerment resources which buffer their everyday livelihood challenges. This article contributes to social science research on widowhood in the context of patriarchy, HIV/AIDS, poverty, and land and food insecurity; widows' roles in health and development; and widows' human rights.

Key Words: widows, widowhood, HIV/AIDS, Tanzania, resilience

Introduction

Widows are generally, a marginalized group in patriarchal societies (Potash, 1986; Wanitzek, 1994; Owen, 1996a; Barnett and Whiteside, 2002; Cattell, 2003; Yngstrom, 2002; Kalipeni et al., 2004; Iliffe, 2006; Young, 2006; WRI, 2011). Women's access to livelihood resources - such as land, capital, a home and household assets - are controlled by men. Upon widowhood, a widow can be dispossessed of the home she lived in and the land she toiled during her married life, (FAO/OXFAM, 2003) and even her children, household furniture and cooking pots by members of her deceased husband's patri-clan (Bird, 2011). In such cases, a widow is forced to return to her natal village and, or, left to eke out a living in the margins of society (Day, 2011). Under the levirate system, a widow may be inherited by her deceased husband's brother as a minor wife where she is retained as a (re)productive member of the patri-clan. While this system may provide a widow with livelihood security in terms of a home and land, it may not be the life she chooses or one that is healthy and safe. In cases where a widow is forced to leave her marital home and essentially, dispossessed of livelihood resources, she is at once pushed into a life of social, economic and cultural marginalization because she lacks access to basic human needs, and human rights (Peters and Wolper, 1995). Out of survival, widows may engage in poverty-induced transactional sex as a means to

²⁰ This chapter will be submitted to *Health Care for Women International*, <http://www.tandfonline.com/toc/uhcw20/current#.VbZn8I3bLIV>

obtain a home, food, clothing and other necessities for themselves and their dependent children (UNICEF, 2006) and at the same time, increase their chances of contracting and spreading HIV/AIDS (von Struensee 2004; Young 2006).

In northwestern Tanzania, widows are similarly marginalized in Bahaya society, which is agriculturally based, virilocal and patrilineal (Cory and Hartnoll, 1971; Rugalema 1999, 2004). Customarily, Bahaya women marry and bear children at a young age, and are disadvantaged in their access to land, education, livelihood economic alternatives and capital - essentially basic human rights and choices. (Swantz, 1985; Githinji 2009a, b, 2011b; Mitti and Rweyemamu, 2001; Rugalema 1999, 2004). Although they are the primary farmers and providers of household food and nutrition (Swantz 1985; Rugalema 1999; Githinji, 2009a, b, 2011a, b), Bahaya women's access to land is restricted and mediated by men - their husbands, brothers, fathers, uncles and sons (Cory and Hartnoll, 1971; Rugalema, 1999; Gondwe, 1990; Larsson, 1991; Mhoja, 1995; Muchunguzi, 2002; FAO/OXFAM, 2003; Yngstrom 2002). Traditionally, Bahaya widows who did not 'produce' sons could be forced off the *kibanja* - the banana homegarden - upon the death of their husbands, rendering widows land and livelihood insecure. This customary practice typically forces widows to return to their natal village - often unwelcomed - to reside on and farm a marginal slice of the *kibanja* which belongs to their brother, father or uncle. Upon widowhood, Bahaya women could be inherited by a brother-in-law under the levirate system (Cory and Hartnoll, 1971; Lugalla et al., 1999; Manji 1999). While the levirate provides widows a sense of land, home and livelihood security through their new husband, few livelihood choices exist which buffer widows from a life of patriarchal control. Widows who are inherited by their brother-in-law, for example, are not guaranteed livelihood security or good treatment. Some widows may refuse to participate in the levirate system, or do not have the choice to remarry because there is not a (willing) brother-in-law. Widows in these situations face similar fates to widows who traditionally, did not produce sons, and can be forced off from their marital *kibanja* - and left land, home and livelihood insecure. These customary practices are oppressive, forcing widows to live in the margins of patriarchal dictates and customs, where their basic human needs, rights and choices are essentially, controlled by men (Swantz, 1985; Potash, 1986; Mhoja 1995; Peters and Wolper, 1995; Rwebangira, 1996; Cotula, 2002; Cattell, 2003; Young, 2006; Bird, 2011).

Myriad socio-ecological factors challenge Bahaya livelihoods including a decline in agriculture, specifically bananas - the cultural and staple food - and other food crops, farming land and soil fertility (Rald and Rald 1975; Schoenbrun, 1993a, b; Weiss 1993, 1996; Berry, 1995; Schmidt, 1997; Baijukya, 2004), negative effects wrought by climate variability

(Githinji and Crane, 2014), and widespread poverty, illness, and HIV/AIDS (Kaijage, 1993; Tibaijuka, 1997; Lugalla et al., 1999; Rugalema, 1999 2004; Lundberg et al., 2000; Kessy, 2005; Tumushabe, 2005; Rugalema and Mathieson, 2009; Rugalema et al., 2009; Githinji 2008, 2009a, b, 2011a, b; De Weerd, 2009; Kamanzi, 2009). The HIV/AIDS epidemic in particular has increased the number of widows (Owen, 1996b; Manji 1999, 2000; Rugalema, 1999; Kalipeni et al., 2004; Iliffe, 2006) in Buhaya and combined with the other socio-ecological challenges, intensified widows' livelihood challenges to provide for orphaned and sometimes sick children single-handedly (Urassa et al., 1997; Rugalema 1999, 2004; Foster and Williamson, 2000; Gillespie et al., 2005; de Wagt et al., 2005; Beegle et al., 2006; Iliffe, 2006; Githinji 2009 a, b, 2011b; Day, 2011).

Widows are sometimes blamed (Faden et al., 1996; Rugalema, 2004; Iliffe, 2006) for 'killing' their husbands who die from HIV/AIDS, reigniting strict patriarchal practices such as being "chased away" from the marital home and *kibanja* (Manji 1999, 2000; Muchunguzi, 2002), and dispossession of assets (Kalipeni et al., 2004; Young, 2006) such as livestock, furniture and cooking pots. These practices result in social and psychological oppression (Duffy, 2005; Kalipeni, 2008), marginalization, and entrenched poverty (Owen, 1996b; von Struensee, 2004; Young, 2006; Bird, 2011).

This article contributes to social science research on widows' lives in the context of patriarchy, poverty and HIV/AIDS (Potash, 1986; Wanitzek, 1994; Owen 1996a, b; Cattell, 2003; von Struensee, 2004; Young, 2006; Day, 2011; WRI, 2011). Through a detailed examination of widows' life histories, the objective of this article is to enrich the understanding of the specific challenges that widows face, the coping strategies that they utilize and how they remain resilient living within the confines of patriarchy at a time of widespread poverty and HIV/AIDS. Despite some common challenges and experiences that unite them, widows are not a homogeneous social category (Cattell, 2003). Their vulnerabilities to issues of poverty vary based on their 'intersections' (Crenshaw, 1991) of age, health, dependency and caretaking status, and knowledge of and access to social empowerment resources (Hunter et al., 1997). By focusing on widows' life histories and highlighting differences and similarities between the most and least vulnerable widows, I argue that the synergies of multiple factors combine which exacerbate and buffer against widows' marginalization and level of livelihood vulnerability.

Research Methods

Ethnographic research was conducted from June 2005 to June 2006 in two locales close to Bukoba town: a semi-urban neighborhood situated within a short walking distance from town, and a rural village located twelve kilometers from town. The research focused on widows' livelihood challenges, coping strategies and resilience vis-à-vis HIV/AIDS, poverty, land and food insecurity. Structured and unstructured interviews were conducted with thirty-four widows; twenty-nine widows living in the rural village of Nsisha and five widows living in the semi-urban area outside of Bukoba town. All five of the widows living in the outskirts of Bukoba town self-disclosed their HIV positive status. Of the twenty-nine widows interviewed in Nsisha, one knew and openly disclosed her positive HIV status. In addition, two widows in Nsisha were suspected of being HIV positive based on information obtained from key informants.

Life history interviews and participant observation focused on issues of HIV/AIDS, land access, poverty dynamics and food and nutrition insecurity. Analyses of widows' experiences of these aspects of their livelihood illustrate the commonalities and peculiarities. Specific case studies will be highlighted to illustrate the range of vulnerability factors faced by widows and their particular and shared challenges. Widows' vulnerability factors include their HIV/AIDS status, age, dependency and caretaking status, and access to social empowerment resources - such as food, cash and legal assistance provided by local development organizations. For clarity of presentation, the case studies in the following section are primarily organized according to the widows' age group: young, middle-aged, aging and elderly, and - which overlaps with - their HIV/AIDS status (see Table 2 below). In section III, I focus on two young widows in Nsisha who are suspected of being HIV positive; case studies of middle-aged widows interviewed in Nsisha who are not HIV positive; middle-aged and aging widows in Bukoba town and Nsisha who are HIV positive; and case studies of aging and elderly widows in Nsisha - none of whom were HIV positive.

Results and Discussion

Age Range of 34 Widows	Number of Widows in Age Range	HIV/AIDS infected	Suspected to be HIV/AIDS infected
Young: 25 - 30 years	2		2
Middle-aged: 35 – 54 years	8	5	
Aging: 55 - 72 years	16	1	
Elderly: 73 - 96 years	8		

Table 2: Age Range and HIV/AIDS Status of Widows Interviewed

Young widows

Young widows include those in their most productive and reproductive years, and those most vulnerable to HIV/AIDS (Faden et al., 1996; Barnett and Whiteside, 2002; Baylies et al., 2002; Wiegers, 2008). As household heads, they are often particularly vulnerable to the manifestations of poverty and poor health if, for example, they lack adequate access to livelihood resources including land, assistance from kin, income, knowledge of their legal rights and available social assistance, and if they have young dependents (Hunter et al., 1997; Chant, 2003; Day, 2011). As many informants mentioned during interview sessions, “two adult heads yield more than one,” referring to the fact that in general, single, female-headed households struggle and are more prone to issues of poverty, food insecurity and poor health. Given that Bahaya men have a greater access to livelihood resources (Cory and Hartnoll, 1971; Rald and Rald, 1975; Swantz, 1985; Tibaijuka, 1997; Rugalema 1999, 2004) - such as land, income, assets, capital, an education - and because they mediate women’s livelihood resources, upon widowhood, most widows experience a livelihood shock and an acute intensification of poverty due to the loss of household income, labor, access to land, livestock and other assets (Potash, 1986; Owen 1996a, b; Cattell, 2003; Young, 2006). The situation is generally worse if a widow lacks access to adequate land (Gondwe, 1990; Wanitzek, 1994; Mhoja, 1995; Manji 1999, 2000; Yngstrom, 2002; FAO/OXFAM 2003; Muchunguzi, 2002; Day, 2011) for farming and procuring household food and nutrition security for her dependent children, if she is stripped of assets such as livestock, and if she is ill and afflicted with HIV/AIDS (Rugalema 1999, 2004; FAO 2005; UNICEF, 2006; von Struensee 2004, WRI, 2011). Consequently, the more vulnerable a widow is to poverty, land food and nutrition insecurity, the more vulnerable her dependents are to poor health (UNICEF 2006,

2007; FAO, 2005; Githinji 2009a, b, 2011b; Foster et al., 2000; Gillespie, 2005; de Wagt, 2005; Beegle et al., 2006; Hecht et al., 2006; De Weerd, 2009; Chowdhary, 2011; Day, 2011). For example, see the case studies below of the two young widows living in Nsisha:

i. Pamela²¹, the youngest widow in Nsisha who is suspected to be infected with HIV/AIDS

At age twenty-five, Pamela was allegedly an HIV/AIDS infected widow whose husband died from AIDS. She was not very open about her status, but many Nsishans mentioned that she and her husband's HIV/AIDS cases were well known. Prior to his death, she was living in Bukoba town where her husband worked as a mason and received a decent, regular salary. Upon widowhood, Pamela lacked an income, and her access to food and nutrition security declined greatly. She was no longer able to purchase milk, for example, which added important nutritional value to their tea and porridge. Given the sharp decline into poverty, Pamela decided to return to Nsisha for survival where she resided on her maternal grandmother's *kibanja*, and lived with one of her sons, her two sisters and their children, and her cousin's family who lived in the house next door.

In spite of her young age and status as a widow who was also suspected of being HIV positive due to her visibly weakening physical state and life history, Pamela was living in a relatively secure and economically better-off situation than many people in Nsisha. She lived on a *kibanja* where she and all the other adults were in their most productive years, and they collectively contributed to farming. Their house was in good condition and they had access to regular income since they ran a small shop from their home. In addition, her sisters seemed happy to have Pamela living with them. Pamela's eldest child, age six, was living with her late husband's parents and would eventually inherit his legitimate portion of the *kibanja* when the grandfather, who owned the land, passed away.

Although her situation seemed secure, Pamela was visibly withdrawn and sad. She lived with her other son, aged four, and was pregnant with another child. It was unclear if her eldest son lived with her in-laws in recompense for her having children with another man in spite of the fact that she had a son; a Bahaya practice which protects and builds the patri-clan when the widowed mother of a son decides to leave her husband's *kibanja* (Cory and Hartnoll, 1971). Alternatively, perhaps her eldest child was living with his grandparents to keep them company, which is also a common Bahaya practice. Although she had reliable access to the *kibanja*, she also utilized four other parcels of farming land; two parcels of

²¹ Pseudonyms are used in this article.

orweya - the farm plots located in the grasslands surrounding and separating villages where seasonal and secondary food crops are grown - and two parcels of land which she rented from Nsishans, repaying them with a portion of the harvest. She also sold bananas used for making beer as an alternative source of income. She owned chickens and along with the other small livestock on the *kibanja*, they had regular access to manure used for enriching the soil. She was not necessarily poor or food and nutrition insecure. However, she was deeply sad and worried about AIDS which she had lost several relatives and friends to, and that she said “was increasing in the village” based on her observation that many Nsishans “were walking around sick...” The fact that she was pregnant suggests that she may be in denial of her status, and could potentially infect her child, and orphan her children.

Unlike Pamela, Leticia, another young widow suspected of HIV/AIDS infection in Nsisha, was the household head. Given the high demands of childrearing her infant, two young children and two step-children, compounded by the loss of regular income since her husband’s death, and lack of assistance from other adults - specifically in terms of labor - Leticia’s household was much more vulnerable to the manifestations of poverty and poor health than Pamela:

ii. Leticia: a young, poor widow suspected of HIV/AIDS infection and household head

At twenty-eight years, Leticia was a widowed mother of three young children. Her husband had recently died of AIDS and she and her newborn were potentially infected. She had lived in deep poverty most of her life and lost both of her parents and several siblings to AIDS. She was a victim of *kushtula* (Cory and Hartnoll, 1971) in which a woman is kidnapped, raped and then married by her rapist. Unbeknownst to Leticia prior to this marriage ordeal, her husband was infected with HIV/AIDS and had forced his first wife away from their home, blaming her for causing his HIV infection. Two of the four children died of AIDS, leaving Leticia to be partially responsible²² for the two remaining children who were not infected. Leticia’s husband did not leave a will stating that she would inherit the *kibanja*, but she was confident that as long as she maintained an amicable relationship with her in-laws, she would maintain secure access to land. As the mother to three sons, she knew she was protected by customary law. In addition she said, “women have to inherit the land ... it is not like the past when women could not inherit...” implying that Tanzanian law would override patriarchal Bahaya customs regarding women’s rights to land inheritance²³. Prior to her husband’s death, they lived in a comparatively well-off position to many in Nsisha. Her husband had also been

²² The children often spent time with their grandmother and auntie who lived in a house on their shared *kibanja*

²³ Daughters and widows were granted the legal right to land inheritance in 1994 (Curtis, 1989), however, this does not always equate to practice. In many cases, women have been denied their rightful inheritance, and lack the knowledge and courage to challenge dated, customary laws and practices.

a prosperous mason, and they enjoyed a regular salary until he fell seriously ill and was too weak to work. They had a cow and two goats which provided nutritious milk, a meager income, and manure for the *kibanja*. Upon widowhood, Leticia's *kibanja* was in complete disarray because of the time spent caring for her husband during his illness, and the mourning rituals upon his death which diverted time away from farming. Leticia was very worried about her AIDS status and her children's future. She seemed resigned to the fact that she was also a victim of this impending disease which she stated "neither declined nor increased in the past decade, but remained a constant reality in Nsisha." Leticia exclaimed, "AIDS is common everywhere ... isn't it the disease of the time?" She stated that although all people were vulnerable to AIDS, and most people in Nsisha suffered from poverty and land and food insecurity, it was possible to work hard and survive. She knew that her future would be full of struggle, and laughed at the idea of remarrying, stating, "I would have to leave all my children behind ... to be taken care of by whom?"

Pamela and Leticia are young widows, potentially HIV/AIDS infected. In spite of their suspected HIV/AIDS status, prior to and even upon widowhood, they lived more securely than other poor Nsishans; Pamela is welcomed by her relatives on the *kibanja* where they reside and which they inherited from their maternal grandmother, and Leticia has access to her marital home and *kibanja* - "unless my in-laws change their mind," as she stated. Both have experienced the income, food and nutrition decline related to widowhood, but are still buffered by assets, such as their associations with their families and in-laws, and access to land, livestock, and some income. Like many women in Nsisha, Pamela also utilized several slices of farming land to make ends meet. However, she is fortunate to have access to income by co-owning a small store and selling beer-bananas. Leticia is land secure on her marital *kibanja*, and has some income through the sale of milk. Her greater challenge will be maintaining the farm and rearing her young children without the assistance from family, which differs greatly from Pamela's situation. They both shared the constant, silent worry about their HIV status and their future - a psychological burden that compounds their social and material struggles.

Middle-aged widows

Many middle-aged widows are still in their productive and reproductive years, but unlike the youngest widows, they tend to be less vulnerable to the manifestations of poverty because they have older children who assist with household chores and who send remittances, if employed. They may also be less inclined to engage in risky sexual relationships and are therefore, less vulnerable to HIV/AIDS compared to younger widows. The eight middle-aged widows living in the outskirts of Bukoba town and in Nsisha portray a diverse array of

livelihood challenges, strategies for coping and resilience patterns in regard to issues of poverty, land, food, and nutrition insecurity. Their cases illustrate the extreme vulnerability some widows are confronted with, as well as how some widows are quite well supported by kin and in all respects, coping well as household heads (Hunter et al., 1997; Chant 2003, 2006). For example:

i. Felesta, a middle-aged widow of nearly two decades living in Nsisha

Although Felesta has two children she was raising by herself, her sister in Dar es Salaam sends her regular remittances to educate them, to take care of their mother, and the *kibanja*. She lives in a very new and nicely built home on the periphery of the village and has access to a large *kibanja*. Although her sister truly owns the land and home, Felesta feels very secure - as if the home and *kibanja* are hers. Having lost three siblings to AIDS, Felesta inherited their land and was therefore quite unusually land secure. She and her children live in a much better off condition than most in Nsisha given that their basic needs are met by Felesta's sister and they have reliable access to income and enjoy land, food, nutrition, education and health security, and she was able to purchase needed inputs to maintain the soil fertility on the *kibanja* to ensure productive crop yields.

Having secure access to land is a very important part of a rural, agriculturally-based livelihood. However, even for those who have secure access to land, soil infertility, lack of income and a sense of hopelessness threaten household and livelihood security as the case below shows:

ii. Patricia, a middle-aged land secure widow in Nsisha

Patricia's late husband owned two *bibanja* (plural of *kibanja*) and bequeathed one to each of his wives. Patricia lived fairly well, in spite of the fact that her "fear of having AIDS drove her to drink" and she stated, "engage in dangerous situations." Like Leticia, Patricia was a victim of *kushtula* at a young age by her first husband, who later died of AIDS. She had married several times in life and had children from different fathers. She had lost many siblings, friends and family members to HIV/AIDS, which she referred to as "*ajali kazini*," or, a "work hazard." In spite of the fact that she was land secure, her food and nutritional security declined very much since widowhood, mostly because she lacked the assistance and income her husband provided, and as stated by most Nsishans, "soil infertility yielded inadequate crop output - particularly for bananas." Without labor assistance on the farm and access to inputs to increase the soil fertility, she was unable to attain food security. She rarely ate bananas from her farm since they would not grow and furthermore, lacked money to purchase foods to supplement her diet like she was able to do when her husband was alive. In spite of her amiable relationship with her co-wife and secure access to land, Patricia exclaimed, "Bahaya women are more land insecure than men because customarily men own and inherit the land." She also stated vehemently that, "women are also more vulnerable to HIV/AIDS because they can never reject sex from their husbands and if they do, they are physically beaten." She observed that men spend time "drinking and hiring prostitutes, while the women are busy farming, feeding, caretaking and worrying about food for tomorrow, then

they return home from the bar drunk and infect their wives.” When Patricia found the courage to test for HIV, and found out she was seronegative, she shrieked with joy at the news, exclaiming that it was life-changing for her. She claimed to stop drinking and engaging in risky sexual behavior and instead, settle down, remarry and plan for a future.

An essential aspect of land access dynamics in Buhaya is that although women are more land insecure than men, married women know that as long as their marriage sustains, they have land security, as Leticia’s case illustrates. Women are generally not concerned about a will, saying that it is an unsaid yet known custom that upon widowhood, they can remain in their marital home and exercise farming rights. Most widows, like many other single women in the village, utilize several pieces of farming land in addition to the *kibanja*, and sell bananas used for brewing beer and gin, and grasses used for thatching, fertilizing, fodder, and fuel. Some also engage in *kibarua*, or day wage-labor, whereby they work on other people’s farms for money.

Poverty-induced transactional sex is widely recognized as a coping and survival strategy, especially for poor women with children, whether single or married (see also Lockhart, 2005). Often the prisoners from a nearby prison, who walk freely during the day and engage in *kibarua*, are known to entice women in the village. For example, Felesta exclaimed about the notorious relationships between mothers and prisoners, “can you refuse something given to you which you need?” - referring to prisoners bribing women with a promise of salt, kerosene, sugar or a few shillings in exchange for sex. Although all informants interviewed observe that in general, poverty, food and nutrition insecurity increase upon widowhood, they also recognize that these livelihood challenges are also a result of the increase in soil infertility and the ubiquitous manifestations of poverty in the village which make life difficult for most people in Nsisha - and especially so for poor, single women with children who struggle daily and are not buffered by a regular salary, remittances, assistance from kin, livestock, manure and other livelihood assets.

HIV/AIDS affected widows

There is one HIV/AIDS infected widow living in Nsisha, and five HIV/AIDS infected widows residing in the outskirts of Bukoba town whom were interviewed. Most live in extreme poverty and suffer from ailing health. The case below illustrates one of the more extreme cases of the life of an HIV/AIDS widow:

i. Kokoshubira, a middle-aged HIV/AIDS infected widow in Nsisha

Kokoshubira articulately discussed how patriarchal practices and norms in Buhaya - like polygyny, patrilineal land inheritance customs and enculturation patterns which teach girls to be submissive and agreeable - marginalize women, making them poor, socially vulnerable, and susceptible to HIV/AIDS. Kokoshubira stated that although polygyny has been on the decline in Buhaya in recent decades due to widespread poverty, HIV/AIDS and Christianization, her “father, brothers and uncles were all polygynous and most got HIV/AIDS and died because of it.” Kokoshubira believed that because of the very vulnerable way in which she grew up, where girls and women are viewed as inferior to boys and men, she was “trapped” by patriarchy which led to her marrying a polygynous man and ultimately, “inheriting” HIV/AIDS and her acute poverty. Kokoshubira was quite weakened by HIV/AIDS and struggled daily to provide for her three young children whom lived with her. Her fourth child, a young boy who “was constantly hungry” was being cared for by her mother living in a nearby village, because Kokoshubira couldn’t. Kokoshubira was land secure because she inherited the *kibanja* from her late husband. Other portions of the *kibanja* were owned by the children of her late husband’s other wives, however, their whereabouts had been unknown for some time, and Kokoshubira believed that they had passed away due to HIV/AIDS. Kokoshubira did not feel land insecure because she had access to the marital *kibanja* and if she needed, she could use the other portions which were not being utilized. However, Kokoshubira could not maintain her *kibanja*, given her progressively worsening health and lack of strength needed for weeding, planting and harvesting. The *kibanja* was in disarray and appeared unproductive, unkempt and littered. Food crops were not visible. Her mud home was deteriorating and falling down, and posed a danger to her and the children especially during heavy bouts of rains, when puddles formed in several spots on the floors inside and surrounding the walls on the outside. She and her children were living in one of the most extreme situations of poverty in Nsisha. As an HIV/AIDS infected widow who lacked assistance of adult labor, had failing health and irregular access to money, she couldn’t afford the 500 TZ shillings - approximately \$0.50 - needed monthly to send one of her young children to kindergarten. Kokoshubira was caught up in a cycle of grinding poverty, ailing health and hunger. In order to get money needed to purchase food, she sought *kibarua*, day-wage labor, which diverted time away from her farm, thereby increasing unproductivity of the *kibanja* and household food and nutrition insecurity. Because of the widespread poverty in Nsisha, opportunities for *kibarua* were declining. One of her children was also ill with HIV/AIDS and was “chronically sick and took a long time to recover.” Kokoshubira’s weakening state prevented her from walking to the government hospital in Bukoba town to access free medicines for herself and her child. Kokoshubira did begin receiving assistance from a local organization, HUYAWA, which helped HIV/AIDS affected widows and had given her a goat. Kokoshubira was appreciative because the goat provided her family nutritious milk, and she could begin to sell milk, using the money to purchase food and other necessities.

Kokoshubira’s case illustrates that the combination of widowhood and HIV/AIDS, in spite of land security, can still result in acute poverty and food and nutrition insecurity. If Kokoshubira had greater strength and labor to assist her in farming, her household would have been much more secure. However, Kokoshubira and her children were living in deep poverty and suffered from food and nutrition insecurity, poor health and lack of access to

education and a suitable shelter. Kokoshubira's case illustrates the extreme marginalization and acute poverty that poor, HIV/AIDS widows and their children face.

The case below highlights issues of blaming, homelessness and landlessness some widows endure, and the remarkable courage they show in fighting for their rights:

ii. Vivian: a landless, elderly HIV/AIDS widow living near Bukoba town

Prior to her husband's death to AIDS, Vivian enjoyed an amiable relationship with her mother-in-law. However like many widows in the time of AIDS, Vivian was blamed for 'killing her husband' and was forced by her mother-in-law from her marital home and *kibanja*. With nowhere to go, Vivian moved from a rural village in Buhaya to Hamugembe - a shanty area outside of Bukoba town. She rented one tiny room for her and her two school-aged sons at a boarding house. Her thirteen year old child whom she had breastfed as a baby was quite ill with AIDS; however the eleven year old son whom was formula-fed, remained healthy. She made a living by engaging in petty business whereby she re-sold purchased fruits and vegetables and made and sold *chapattis*, or fried flat bread, and *maandazi*, or doughnuts, across the street. She was eagerly trying to save money so that she could assist her grown son, who was in his twenties, to travel back and forth from their home village to town to represent and fight her land case in court. Although elderly and HIV infected, Vivian courageously intended to get her land and home back. She had been receiving assistance from a few local development organizations (See Lugalla et al., 1997), including HUYAWA, an organization which among other forms of aid, provides free legal assistance to support widows' land cases. Although she had originally won the case, her brother in-law appealed it. In addition to the assistance she receives from HUYAWA, she and her infected son receive free medication, which is available to all those who are HIV/AIDS infected, from Médecins du Monde, and every three months, she received two kilos of rice, sugar, and flour from World Vision. Vivian's mental state and overall health were ailing considerably. She was losing strength to carry on, but she continued to do so for months, as her son made weekly trips to town to represent and fight the land case. By the time this research concluded, she was still in the process of fighting the case, and like Vivian, her young son, appeared thinner and sicklier.

One of the striking differences for widows living near Bukoba town compared to those living in the village of Nsisha is that they lived closer to available resources. They learned about the various local organizations which could assist them through outreach and word of mouth. Compared to widows living in the semi-urban context, widows in Nsisha often did not travel to the hospital for lack of fare, so they and their dependents often suffered without medicines to treat and palliate symptoms. In addition, many of the AIDS infected widows in the outskirts of Bukoba town established a social network and sense of community. Although similar to the women's guilds (Rugalema, 1999) found in Nsisha, in which groups of women work together to assist each other with farming and raising money for school expenses, weddings and funerals, the widows living in the semi-urban context were able to take

advantage of more potential assistance than those in Nsisha, particularly in regard to health care, food and legal assistance, and cope better in the face of daunting livelihood challenges.

Although HIV/AIDS progressively deteriorates health and can lead to household economic decline and poverty, as the case below illustrates, HIV/AIDS is not always considered to be a widow's greatest concern in regard to poverty and coping:

iii. Edith, a middle-aged AIDS widow in Bukoba Urban: “loss of salary is my biggest problem”

Edith was the only widow interviewed who did not find that her household income and food and nutrition security declined upon widowhood. At fifty-three, losing her government job was her greatest life shock which had caused a decline in her household income and food and nutrition security, more than widowhood and HIV/AIDS. However, she had managed to build her own home, and rented out a room for income. She received assistance from WAMATA, an organization which assists people with HIV/AIDS, to help support her son's education. Edith was also able to periodically take advantage of small interest loans from the organization KAYAWADO, which had also provided fertilizers for her farm. Her main source of income was from selling farm products, which she used to pay for her nephew's educational expenses because he who was an HIV/AIDS orphan. In spite of her sources of income, she said that she remains food insecure and rarely can afford to eat protein-rich foods such as fish, eggs, meat and dairy. This situation was exacerbated by the fact that WAMATA could no longer afford to provide food assistance, which she came to depend on. She wished that she had a stock of food, rather than purchasing small amounts of food daily because that is all she can afford but which is more expensive in the end.

Although suffering from the manifestations of poverty and HIV/AIDS, Edith's situation appeared much better than that of Margarita's:

iv. Margarita, the youngest AIDS widow living near Bukoba town

Margarita, aged thirty-five, lived in a shanty area outside of Bukoba town. Like Vivian and her HIV/AIDS infected and widowed neighbor, Christina, Margarita rented one room in a row of an overcrowded and dingy boarding house. The four times I visited Margarita, all her neighbors were drinking, drunk, selling or buying brew; it was a horrible environment to inhabit - particularly for young children - because it was very unsanitary, unsafe, and flooded with alcohol, abusive language and noise all day and all night. She had three children; the youngest an infant. The first time I met Margarita, her baby appeared very plump, healthy, alert, and playful. However, his health progressively deteriorated. The last time I visited them he was withered, graying and crying in pain. Margarita was poor, landless and had no assistance from kin. She eked out a living by engaging in tasks like washing clothes and *kibarua*. The petty cash she received was irregular, and she could never save enough to move to a better environment for herself and the children. She was thankful and increasingly dependent on the assistance she received from local development organizations. Margarita exclaimed that she was scared because, due to a shortage of funding, WAMATA and World

Vision had decreased the frequency and amount of food assistance, and her strength and health were deteriorating.

Like Kokoshubira, Margarita was caught in a cycle of deepening household poverty and food, nutrition and health security. As a poor, sick widow with dependent children who lacked assistance from kin, she wasn't sure what would happen to her and the children when she became too ill to care for them. In addition, Margarita exclaimed that she felt very stigmatized and "stared at" everywhere she went in the neighborhood, because everyone knew she was ill and referred to her as *Mama Dudu* – or "Mama Bug". Margarita felt there was no "escape" from her situation living in the margins. Margarita's case illustrates the deep poverty and suffering HIV/AIDS widows with young dependents who are poor, sick and unassisted by kin endure. They are often forced to live in extreme impoverishment and in Margarita's case, unsafe living conditions and are stigmatized and heckled for being ill (Duffy, 2005). In the process, their young children also suffer from the consequences of HIV/AIDS and poverty, and are orphaned (Gillespie et al., 2005; UNICEF, 2006; Githinji 2009a).

Aging and elderly Widows

Most of the widows in Nsisha, and those interviewed for this research (twenty-four out of thirty four) were between the ages of fifty-five and ninety-six years old and fall into the category of 'aging' or 'elderly', respectively. Only one widow in these age groups, Vivian, whose case was stated above, was known to be infected with HIV/AIDS. Many of these widows, however, were taking care of grandchildren who had been orphaned by AIDS. Some of them were rearing their grandchildren simply because of the company they provided, or so their parents could engage in work which was far away. Some of the parents sent remittances; others did not. In addition, some of the elderly widows were coping well because their adult children were providing for them. Many aging and elderly widows had lost children²⁴ to HIV/AIDS.

²⁴ In addition to HIV/AIDS, most widows had lost children to childhood diseases and stillbirths.

Widows	Dependent	Lost Children to AIDS	Caring for Dependents
16 Aging Widows (55 -72 years)	2	6	8
8 Elderly Widows (73 - 96 years)	6	4	3

Table 3: Aging and Elderly Widows - Dependent, Independent and AIDS Affected

As Table 3 shows, many aging and elderly widows lost children to AIDS and are caring for dependents, primarily their orphaned grandchildren. However, as stated, some of the grandchildren are living with their grandmothers to keep them company. Most aging widows' households do not depend on remittances from their independent children. In contrast, most elderly widows are dependent on their children and receive regular remittances. Most aging and elderly widows' households consist of three to four generations of family members who work together interdependently. The exception to this is the case of one elderly widow in Nsisha:

i. Advela, elderly and parenting her grandchildren

Advela is quite poor and the sole provider for her three young grandchildren whose mother disappeared nine years ago. Two of her five children died; one due to an illness experienced in infancy, and the other died of HIV/AIDS. Her other daughter whose whereabouts are unknown may also be infected or died of HIV/AIDS, given that this is a common experience for those who "disappear." She stated that upon widowhood, the *kibanja* was divided and inherited by other family members, most likely her co-wife's children. This situation, combined with the decreasing soil fertility, led to an increase in food and nutrition insecurity and overall household poverty. Advela very sparingly receives money or assistance from kin however, she manages to pay for her grandchildren's school expenses with the money she makes from selling grasses used by villagers for fertilizer, fodder and thatching, and occasionally from the sale of coffee, a declining cash crop in Buhaya. The money Advela makes covers basic necessities, including salt and paraffin, but she rarely purchases supplementary food; most food that they consume on a daily basis comes directly from the *kibanja*, and primarily includes cassava and sweet potatoes, as well as maize, bananas, and beans. Advela stated that "by good fortune," she owns chickens and the grandchildren can regularly consume eggs. Although she stated that since 2000 AIDS has decreased in Nsisha, "the disease continues to leave a lot of pain to us grandmothers because we have to take care of orphans during old age when we need help the most ..." Advela's case illustrates how HIV/AIDS has killed a generation of parents, reversing socio-cultural order and forcing elderly grandmothers to be the primary caregivers to dependent children. This creates a very precarious situation when unassisted, elderly grandmothers like Advela are limited in their

ability and time that they have to care well for themselves and their young grandchildren, and ensure household economic, food, nutrition, health and education security.

ii. The case of Methilda; an elderly and well-cared for widow

Methilda is in her seventies and had married twice. When her second husband discovered that she could not conceive, he married another wife who subsequently gave birth to a daughter and a son. The co-wife left her husband, and Methilda raised the children as her own. The son, a head teacher in Kiziba, owned the *kibanja* and home where she resided and regularly sent her remittances and ensured that the large *kibanja* was well fertilized with cow and goat manure, and coffee shells. Her daughter died of AIDS a few years previously, and her daughter's orphaned children reside with their uncle. In spite of the fact that Methilda seemed to have relative land, food, and nutrition security, she stated that "widowhood is torture ... some people abuse us widows because they know that we are alone ... they disregard widows and our rights cease when the husband dies and in-laws and other predators take everything - even our cooking pots and clothes ..." Her sentiments and observations on widowhood come from comparing her seemingly secure situation with other widows who live much more insecurely, and also shed light on the treatment bestowed to elderly widows. Unlike others, Methilda said that her household food and nutrition security did not decline upon widowhood and she never had to rely on farming more than the *kibanja*.

Interestingly, Methilda's case illustrates that while the husbands of 'barren' women may seek another wife in order to reproduce, these women are not necessarily abandoned and chased away from the marital home, as confirmed by many elderly Nsishans, both male and female. Also, Methilda's case shows that not all widows are poor and living in deeply impoverished and land insecure situations. As for Methilda, her major challenge in regard to livelihood productivity is old age, and she felt lonely living by herself, which she remarked she remedies by keeping a cat as a pet, and visiting and sharing meals with neighbors.

Of the ten aging and elderly widows who stated that they lost children to AIDS, many were taking care of orphaned children, and were therefore dealing with the triple burden of being left unassisted during old age, dealing with the grief of losing their children, and the burden of rearing and providing for their orphaned grandchildren. Widows in these situations are afflicted by the daily worry of how they will cope and meet their household's daily needs (Ainsworth and Dayton, 2000; Dilger, 2008; Githinji 2009a, 2011a). Aging and elderly widows who do not receive assistance from kin are particularly challenged given that they need to be the sole provider to young children during old age when they are less physically strong and productive. By far, the most vulnerable households are those whereby the aging or elderly widowed household head is caring for her sick children and grandchildren, such as this case:

iii. Mary, an aging widow caring for her sick daughter and orphaned, sick grandchildren

At seventy, Mary had been a widow for the past twenty years. Her husband worked as a clerical professional and they were used to living well prior to his death. Upon widowhood, the *kibanja* was parceled between Mary and her late husband's four children, and the household income declined sharply. Mary was not able to take care of the livestock and eventually, the cows and goats died. Then, Mary and her dependent children began to live a life of acute and chronic poverty. While Mary was able to farm the parcels of the *kibanja* bequeathed to one of her sons who was living in Dar es Salaam and another son who was attending school, she primarily relied on parcels of *rweya* for their daily food because the soil was progressively infertile and the parcels of *kibanja* were inadequate for ensuring household food security. Mary suspected that her son who was living in Dar was "hiding" there - sick with AIDS and suffering alone - since his wife died of the disease and he rarely kept in contact with anyone in the family. Mary took care of her son's abandoned and orphaned child. In addition, she helped to take care of her daughter, Geti, who along with her four young children, were living with and depending on Mary. Geti and her children were very thin, frail and chronically ill, and Mary - and Geti - suspected that they were sick with AIDS. Mary's household lived in poverty and they were visibly malnourished. Geti finally gained the courage to test for HIV/AIDS; her results came back ambivalent and she was told to retest in a few months. One of Mary's sons, James, who lived next door, was very judgmental of his sister Geti. Although not living nearly as poor as his mother and his sister, James refused to help them, particularly Geti and her children, because James felt that Geti was a disgrace to the family for having left her husband. Although Geti's husband was known in the village to be a physically abusive alcoholic who cheated on her, James said Geti was not a "real woman" since she was no longer married and had "illegitimate children." James emphatically stated that "no woman should ever leave her husband no matter the circumstances," and that "Geti and her children deserved the fate that they were dealt." Mary carried a heavy burden trying to sustain the household when she was frail due to old age, worry, and grief, and had no comfort from James who was bitterly judgmental and unhelpful to his extended family, while he and his immediate family lived comparatively well. Because of their household poverty and food and nutrition insecurity, Mary stated that Geti felt inclined to engage in poverty-induced transactional sex in order to get money for food and other household needs. Geti exclaimed defensively that, "married and single women in the village do this - it is a way of life for us...some may think we are lazy, but, after farming all day, this is what I get," showing me a handful of small potatoes," and that isn't enough for us to eat!"

Mary's case shows the burden aging widows carry in the time of HIV/AIDS and widespread poverty. She is the primary provider to her daughter and grandchildren who are most likely sick with HIV/AIDS and to her other grandchild who was orphaned by HIV/AIDS. While stricken with worry about her children who are suspected of being infected with HIV/AIDS, Mary is burdened by how to provide for her household when she is limited by her age, strength and access to livelihood resources, and lacks the support from her son who could help, but chooses not to.

There were at least three other aging widows who were helping to take care of their children who were sick - or suspected of being infected - with HIV/AIDS and orphaned grandchildren. Tamara, an aging widow whose daughter, Evangelina worked as a prostitute on the islands of Lake Victoria states emotionally:

Every time Evangelina comes back to Nsisha, she leaves me with another child to take care of, but when she returns to the islands to work, she never sends money for food, clothes, medicine or anything we need and I am left alone in old age, worrying about how I am going to survive and care for my grandchildren at a time when I need to rest...

Another widow, Helen, lost four children to AIDS and was living in a state of emotional shock, yet was forced to take care of two grandchildren orphaned by AIDS and another grandchild who was chronically ill due to sickle cell anemia. The family had been so devastated by the effects of AIDS that her co-wife, with whom she shared an amiable relationship, allegedly “died due to the grief” after the death of Helen’s fourth son to have died from the disease. Two of Helen’s other sons living in the village were allegedly infected, according to informants, and so too was her young, widowed daughter-in-law, Leticia, who has three young children. Compared to Lestuta however, they were living more land, food, and nutrition secure.

Lestuta’s case below highlights issues of land and food insecurity that widows often face - and which are sometimes caused by their own sons - and the challenge of caring for sick children and dependent grandchildren in old age.

iv. Lestuta, another courageous widow who fought for land rights

Like Vivian, Lestuta courageously fought for women’s land rights - her own and those of her HIV positive daughter, Opal. Lestuta lived with her son Mitchell and his new wife, her daughter Opal who was sick with AIDS, and Opal’s three children. Lestuta’s other son, Michael, who was allegedly dying of AIDS, also lived in the village. Upon marriage, Mitchell kicked Lestuta out of the home and she was forced to live in the *kikamba*, or outerlying portion of the *kibanja* for some time. Lestuta brought the case to the clan court. Mitchell was arrested and imprisoned for four days and Lestuta eventually won a portion of the *kikamba*. Lestuta was in the process of converting the *kikamba* to a *kibanja*, which is a long, laborious procedure of turning a wild portion of land into a homegarden. When Opal’s husband died of AIDS, Opal’s husband’s uncle interfered with the customary inheritance practices and tried to prevent Opal’s children from inheriting their rightful portions of their *kibanja*. However, Lestuta fought back on behalf of her daughter and grandchildren, and won usufruct rights for Opal and Opal’s children.

Lestuta, Opal and Opal's children lived in deep poverty and very insecurely, wondering if Mitchell would kick them out of the home or allow them to live there peacefully and continue to share food with them until the *kibanja* was more productive and they could maintain their own food security. Although Lestuta had experienced the shock of widowhood years ago - which subsequently led to the dispossession of livestock and a decline into chronic poverty, food, nutrition, and land insecurity - she was never able to recover. Trying to help her two HIV/AIDS infected children in old age, deal with her unsupportive and threatening son, and provide for the grandchildren was challenging for her and made her feel "sick with worry" about their futures.

Discussion

The diverse range of the cases presented here argue that the particular livelihood challenges which widows face, the strategies they employ, how well they are coping, and their ability to remain resilient. All of these vary greatly depending on their place of residence, resource and support base, age, health, and caretaking and dependency status. Except for Edith, who owns assets, the five widows interviewed in the outskirts of Bukoba town are living in acute poverty, and their health and that of their infected children is failing due to HIV/AIDS. The twenty-nine widows in the village of Nsisha, are affected by the myriad of socio-ecological issues which challenge people in the village and include widespread poverty, declining agriculture, soil infertility, and the effects of HIV/AIDS and caring for sick dependents and orphans (Rugalema 1999, 2004). However, widows' challenges are compounded in general, by their age, dependency and poverty status, and socio-cultural subordination and marginalization which compromise their abilities to cope and remain resilient.

In spite of their positive HIV/AIDS status, widows living in the outskirts of Bukoba town are all able to readily access knowledge of, and assistance from, local development organizations which help people like them who have HIV/AIDS, are widowed, require assistance with food, healthcare, and educational expenses for their children - and like Vivian - who are in need of free legal aid and representation to fight their land cases in court. All five widows living near Bukoba town took advantage of the resources available to assist their families which helped to buffer against a more extreme experience of HIV/AIDS, widowhood, poverty, and food, nutrition and healthcare insecurity.

Although only twelve kilometers away, these socially empowering resources were mostly out of reach for poor widows in Nsisha. Some widows did receive assistance from development organizations based in town, however, they did not have as much knowledge of reliable access to these forms of assistance compared to widows living closer to town. Often, when widows afflicted with HIV/AIDS - like Kokoshubira - are too sick to walk and cannot afford to pay for transportation to go to the government hospital in town and access healthcare and free medicine, widows living nearby could. In addition to the material assistance organizations provide widows living near to town, local development organizations provide psychological and emotional support to widows living with HIV/AIDS and a sense of community not seen in Nsisha.

In Nsisha, some elderly widows have a good resource and support base, and are being cared for well by their children, whom they live with and depend on daily, and those who send regular remittances. In addition, some of the aging and elderly widows who are caring for dependent grandchildren are doing so for the company they provide (Rugalema, 1994); a common practice which is more of a blessing to these grandmothers during old-age than a burden. For the most part, these widows are coping well and are able to remain resilient because they are not infected with HIV/AIDS and they have the resource and support base from kin to buffer against their livelihood challenges, and more extreme experiences of widowhood, poverty, aging, caretaking and social and material marginalization. However, as the cases of Mary, Lestuta and Tamara show, some widows are neglected by their children who could assist them, but choose not to, thereby exacerbating their vulnerable experiences of widowhood, poverty and marginalization.

The most vulnerable widows include those like Kokoshubira who are poor, infected with HIV/AIDS - or suspected to be like Leticia - have young dependents to care for, and lack support from kin, and access to social assistance and resources for social empowerment. Furthermore, the young dependents of the most vulnerable widows are also highly vulnerable to the manifestations of poverty and HIV/AIDS (Gillespie et al., 2005; Chant 2006; UNICEF, 2006; de Weerd, 2009; Githinji 2009a; Bird, 2011; Day, 2011).

Most widows in Nsisha do not feel land insecure, because they know that their children, including daughters, will secure them to their marital home and *kibanja*. “Unlike the past,” women, particularly younger women, are aware of their land rights. However, the fact that women, specifically widows, live land insecurely should not be dismissed. Without a clear will, widows like Leticia can be thrown off their marital *kibanja* and home, particularly during times of duress such as household poverty and HIV/AIDS affliction and blame, as the

cases of Vivian and Lestuta's daughter, Opal, demonstrate. At these times, patriarchal customs and practices tend to become more stringent, affecting those, like widows, who tend to be most socio-culturally marginalized (Manji 1999, 2000).

According to Bahaya customary law (Cory and Hartnoll, 1971), women risk being forced off their marital *kibanja* and returned to their natal village upon widowhood if they had not produced a male heir. This research did not directly encounter such cases most likely because the widows who experienced this no longer lived in Nsisha, given clan exogamous practices, and had returned to their natal village. However, several male and female informants stated that they were aware of many cases of widows who had experienced being "chased away" from the marital home and *kibanja* and that this was a common occurrence, especially during the height of the AIDS epidemic. Given this situation, future research should investigate cases in which upon widowhood, (sonless) widows were forced to leave their marital *kibanja*, and if so, what became of their and their dependents' lives. This recommended research would furthermore enrich knowledge of widows' lives and experiences, specifically in regard to land rights and customary practices (Gondwe, 1990; Wanitzek, 1994; Mhoja, 1995; Gopal and Salim, 1998; Manji, 1999, 2000; Cotula, 2002; Yngstrom, 2002; Muchunguzi, 2002; Young, 2006; Day, 2011; Bird, 2011; see also Makura-Paradza, 2010).

This article contributes to research on widows' lives (Owen 1996a, b; Cattell, 2003, WRI, 2011) by illustrating the survival and coping strategies thirty-four widows employ and their varying abilities to maintain resilient in the face of patriarchy, poverty, HIV/AIDS, and food and nutrition insecurity. As the case studies above illustrate, widows are not a homogenous group. Many aging and elderly widows in Nsisha for example, are coping well and are cared for by kin. However, some widows are abused, mistreated and infected with HIV/AIDS by the hands of patriarchal and customary norms which restrict widows' access to basic human needs including land, food, shelter (Wanitzek, 1994; Mhoja, 1995; Rwebangira, 1996; Gopal and Salim, 1998; Manji 1999, 2000; Yngstrom, 2002; Muchunguzi, 2002), their choices and essentially, their human rights (Peters and Wolper, 1995; Mann et al., 1999; Nagengast, 2004; von Struensee, 2004, Young, 2006). Given that widows are often the sole provider for dependent children, including orphans (Urassa et al., 1997) and that their overall poverty and well-being status affects children, this article contributes to literature focusing on the recognition of this interrelationship (UNICEF 2006, 2007). Particularly in agriculturally-based societies (Cotula, 2002), widows' legal and customary rights to land inheritance and land security is crucial to improving women's and children's status, and furthermore to

overall food and nutrition security, health, gender parity, human development (Swantz, 1985; Gordon, 2001; Billson and Fluehr-Lobban, 2005; Grown et al., 2005; ADF VI, 2008; Bird, 2011) and a decline in HIV/AIDS (Müller 2004, 2005a, b; Schoepf, 2010, Seeley et al., 2010).

Conclusion

Widows are in general, a marginalized group of women who face unique livelihood challenges, particularly in the patriarchal Bahaya agricultural society which is virilocal and patrilineal. In general, Bahaya women's rights and basic needs in regard to access to resources, including land, income, assets, education, and livelihood choices are controlled by men. The HIV/AIDS epidemic has led to an increase in widows, and coincides with a myriad of socio-ecological challenges, including the negative effects of climate variability and a decline in farmland, soil fertility, and overall agricultural productivity.

This research illustrates the lives of thirty-four widows; five living in the outskirts of Bukoba town; and twenty-nine living in the rural village of Nsisha. As the case studies show, widows are not a homogeneous group of women, and their experiences of vulnerability and marginalization depend on their age, health, dependency and caretaking status, and access to social empowerment resources. Some widows face severe challenges, including being blamed for killing their husbands and subsequently, are thrown off their marital *kibanja* and home, and they experience a life of severe marginalization as they attempt to raise their children and foster HIV/AIDS orphans, without access to adequate livelihood resources. Some young, middle-aged, aging and elderly widows are coping quite well and depend on their matrikin including children and grandchildren whom they live with, as well as their children who send regular remittances. Some aging and elderly widows are living with grandchildren just for the company they provide; others are triple-burdened by having to rear young children during the time when they are becoming frail, while bearing the grief of having lost their children to HIV/AIDS and dealing with the daily worry of how to provide household necessities. By far, the widows who struggle the most include those - whether young, middle-aged, aging, or elderly - who are poor, sick with HIV/AIDS, lack assistance, and are rearing young dependents. Consequently, their dependents are living in a precarious situation, since their health, food and nutrition security is intricately intertwined.

Compared to the widows living in Nsisha, those living in the outskirts of Bukoba town are generally more aware and empowered in regard to the social, legal, and health assistance they and their dependents can receive for free (Lugalla et al., 1997). The

knowledge and means - including the courage - to access this assistance is very beneficial to widows and their dependents in general (Githinji 2009a), and could be specifically helpful to those living in rural contexts. The assistance these organizations provide helps to ensure access to basic human needs and rights including school fees and clothing for children, healthcare, free medicine, legal assistance to fight land cases in court, and assistance with food and nutrition security. In addition, these organizations provide a social network and forum for women's education, mobilization and social empowerment (Kalipeni et al., 2007; ADF VI, 2008; Kalipeni, 2008). This research recommends that development, health and human rights initiatives focus on the socio-cultural marginalization widows face, widows' vulnerability to poverty and HIV/AIDS, and the important roles that widows play in caretaking and providing food and nutrition security. By implementing development, health and human rights strategies - particularly in the rural areas - which assist in providing greater access to livelihood resources, ensure widows' rights to land, and recognize the primary role that widows play in the cycle of poverty, HIV/AIDS, and food and nutrition insecurity, widows would be better equipped with strategies for coping well and remaining resilient amidst livelihood challenges. Providing ways for widows to meet their and their dependents' needs and become more socially empowered will assist in breaking the cycles of patriarchy, poverty, HIV/AIDS, food and nutrition insecurity and women's and children's social and material marginalization.

Chapter 6: General concluding discussion

In Buhaya, ‘vulnerability’ is shaped by a multitude of bio-physical and socio-ecological challenges which synergistically intertwine, yielding varying levels of individual struggle and abilities to cope and maintain livelihood resilience. The physical terrain of this region is marked by high rainfall, undulating ridges and overused soils which are increasingly acidic and infertile. Given that most people in the area are semi-subsistent farmers, their ability to derive food, nutrition and health security from the land is critical to their survival. The more recent events of climate variability phenomena - which are projected to endure - compound the challenges posed by the physical landscape and result in unpredictable seasonality, erratic and heavier rains and longer drought periods - which can result in increased rates of malaria, cholera, food, nutrition and health insecurity and HIV/AIDS. Buhaya is a region with a heavy disease burden which affect plants, animals, and humans and which independent of other forces, pose great threats to livelihood security, and like climate variability, lead to declines in food, nutrition, arable land and widespread and chronic poverty. High population densities combined with land shortages and soil infertility escalate and perpetuate poverty and its emanations. When these aforementioned bio-physical challenges intermix, emanations of livelihood vulnerability escalate exponentially, especially for poor people who lack needed buffers - and specifically for women and dependent children in this patriarchal society where land is primarily still bequeathed patrilineally. Given women’s subordinate position in Buhaya in general, they lack as much access to basic human needs – land, food, nutrition, health and economic security – as compared to men.

The HIV/AIDS epidemic emerged in Buhaya at a time of agricultural decline and socio-cultural change. At this time, bananas – the cultural staple food crop – were being ravaged by a variety of pathogens, leading to a significant reduction in yield and a change in the daily diet. In addition, cattle husbandry was on the decline due to disease and the inability to maintain their health. Given this situation, farmers lacked the green manure essential for maintaining soil fertility, and for the ample growth of bananas, as well as other important food crops. These compounding factors lead to permutations of household poverty and food and nutrition insecurity, including the scarcity of protein and capital traditionally derived from livestock and milk. Similarly, socio-cultural chaos and change at the onset of the HIV/AIDS epidemic was punctuated by an influx of refugees from the border countries and consequently, high competition over livelihood resources, poverty imposed by the aftermath

of the Kagera War and historical neglect from mainland Tanzania. While not an exhaustive list of the bio-physical and socio-ecological challenges which synergistically react in Buhaya, these common challenges affect most farmers in Buhaya.

In this context, those most vulnerable and susceptible to acquiring HIV/AIDS are the poor who lack buffers to livelihood challenges, and alternatives to their impoverished situation (Tibaijuka, 1997; see also Setel, 1999). The status of one's age, dependency, health, marital and socio-economic status intermix, affecting their ability to buffer against widespread challenges. Due to socio-cultural and physiological reasons, women - and consequently their dependent children - are by far the most vulnerable to the cycle of poverty, HIV/AIDS and their manifestations, and the situation can repeat generationally (WHO, 2014; Baylies and Bujra, 2002).

In whole, the tiers of research, the in-depth questions asked, and detailed answers recorded yield four different cross-sectional analyses of the 'ecology' of poverty and HIV/AIDS

in Buhaya: (1) one which cuts across social stratification within the community, arguing who has more social capital and how this affects their vulnerability; (2) a second which focuses primarily on food and agricultural issues, and more specifically – bananas; (3) a third cross-sectional category which centers on climate factors; (4) and a fourth and final category for this thesis which cuts across age categories and focuses on the social variation of widowhood. Ultimately, each chapter of this dissertation provides a composite emphasis focusing on social stratification, food and agriculture security, climate variability and age, respectively. Taken as a collective whole, this thesis argues that understanding the lived reality of HIV/AIDS in Buhaya requires the acknowledgement that each cross-sectional analysis reacts synergistically, creating emanations of vulnerability which yield a greater and more nuanced, dimensional reality and understanding of HIV/AIDS that can be expressed in a single chapter.

This thesis argues, and contributes a newer comprehensive understanding of HIV/AIDS, that a variety of bio-physical *and* socio-ecological factors synergistically intertwine creating and sustaining a fertile terrain for an HIV/AIDS epidemic where, based on networkings of statuses, individual abilities to cope and remain resilient, vary. Bio-physical factors, including challenges posed by a high rainfall area affected by climate variability, acidic and infertile soils, pathogens which affect plants, animals and humans intertwine to create a livelihood reality which is insecure for many people who rely on semi-subsistent agriculture. Poor people who lack buffers suffer the most in this context of poverty and HIV/AIDS, since they lack the abilities to stave off negative effects of soil infertility,

agriculture decline, and widespread poverty and poor health. The combination of women's asymmetrical physiological predisposition to HIV/AIDS and their inferior status socio-culturally leads to their generalized and gendered vulnerability to the plethora of socio-ecological challenges. As argued ethnographically in the preceding chapters, varying levels of vulnerability are disaggregated based on individual networkings of socio-economic, age, health, marital and food and nutrition status. By focusing on detailed case studies which take into account individuals' statuses in regard to poverty, social capital, health, age and dependency and the lived realities and perceptions of their daily struggles (Scheper-Hughes, 1992; Hulme, 2003) we can see how the HIV/AIDS epidemic takes roots and spreads, and why in spite of three decades of development assistance, extensive research, and many deaths, people are still experiencing HIV/AIDS as a part of their everyday life (Rugalema, 1999; Kamanzi, 2008). Furthermore, due to social and physiological reasons whereby women are oppressed by patriarchal and patrilineal norms (Cory and Hartnoll, 1971), and are more susceptible to contracting HIV/AIDS, they are in general, more vulnerable to men in this context of poverty and HIV/AIDS (WHO, 2014; Baylies and Bujra, 2002). While women in general may share a collective experience, their experiences of the manifestations of poverty and HIV/AIDS is invariably influenced by the 'intersectionality' of their socio-economic, age, health, dependency, caretaking and marital status (Crenshaw, 1991, Kakuru and van der Burg, 2008).

The preceding four chapters are organized in a synergistic fashion focusing on four cross-sectional analyses of the ecology of poverty and HIV/AIDS: (1) *social stratification* - whereby the poor -particularly single mothers - emerge as those most vulnerable and susceptible in an ecology of poverty and HIV/AIDS; (2) how *agricultural decline* - specifically in regard to bananas - leads to vulnerability to poverty, food and nutrition insecurity, and poor health and how this simultaneously coincides with - and compounds the effects of - the HIV/AIDS epidemic; (3) *climate variability* - and how negative effects exacerbate generalized agricultural decline, poverty, food and nutrition insecurity and poor health in the region, disproportionately affecting the poorest; and (4) a focus on *widowhood and age categories* -which argues that age, health and dependency status influences people's abilities to cope and adapt in the face of poverty and HIV/AIDS. The following discussion argues that the sum of the chapters is greater than each chapter emphasis and includes new analyses, concluding with suggestions as to ways out of poverty and HIV/AIDS, and a move toward an advance in human development and livelihood and health security.

The first chapter of this dissertation titled, *Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania*, focuses on how the multi-factorial livelihood challenges in this context of widespread poverty, agricultural decline, climate variability, food and nutrition insecurity, poor health and HIV/AIDS synergistically intertwine, affecting poor people the most. More specifically, what emerges through a focus on detailed descriptions and case studies is that single women who have young dependents and lack adequate land security, social capital, and have ailing health suffer disproportionately when compared to other individuals in this landscape. Patriarchal and patrilineal constraints which restrict women's access to basic livelihood necessities and resources in this semi-subsistent agricultural context intermix with generalized emanations of poverty, severely limiting a woman's choices and ability to live above poverty. Often single women with dependents who lack social buffers, such as support from family and kin, struggle chronically, and so too do their young dependents. Patriarchal Bahaya customs dictate that ownership and user rights to land in this agricultural society are mediated by men: fathers, brothers, uncles and sons - ultimately the patri-clan (Cory and Hartnoll, 1971). Although land laws in Tanzania have changed, theoretically usurping traditional patrilineal customs, in practice males are still favored (Manji, 2000). For example, daughters typically inherit a tree on a father's *kibanja*, where the *musika*, or the chosen - and often eldest - son, inherit the largest section of the homegarden. While it has become more common for daughters to say that they inherited a part of their father's *kibanja*, in most cases, the slice is much smaller than what sons inherit, and almost always - unless there weren't any living sons - the daughter wouldn't be able to survive on the inherited *kibanja* anyway. Without the ability to inherit this needed livelihood asset, a woman gains access to land via her husband; but she is not allowed to sell this land, since it belongs to her husband and his patri-clan ultimately, and to her sons. Without adequate land in a rural, semi-subsistent agricultural context, it is very difficult to achieve food and nutrition insecurity. When a woman is single, typically she begs, borrows and rents slices of farming land from villagers in attempt to achieve food and nutrition security. Given issues of widespread poverty, *kibarua*, or day-wage labor, has become scarce and does not provide a sustainable livelihood strategy upon which to depend. Lack of viable livelihood alternatives pose another challenge for single women, who often resort to poverty-induced transactional sex as a means to achieve needed money to pay for food, school fees, hospital visits, supplementary food, etc. When single women with young dependents have ailing health, the situation is even more difficult, and in all cases, the welfare of young dependents is inextricably interconnected to that of their mother - the primary caretaker. Thus, the

combination of patriarchy, patrilineality and socio-ecological constraints in this context disproportionately and negatively affect poor, single women who lack the needed social buffers to combat widespread poverty, lack of viable livelihood alternatives and chronic food and nutrition insecurity. Taking risks via poverty-induced transactional sex is a choice often made when the future is an abstract, bleak notion. In the process, women who engage in this available livelihood alternative risk endangering the health of themselves, their sexual partners, their children and the wider community (Faden et al., 1996).

While the first chapter of this thesis focuses on the broader landscape of the ecology of poverty and HIV/AIDS in rural northwestern Tanzania where women emerge as those who are typically more vulnerable, particularly if they lack social support and buffers, the second chapter, *Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania*, argues that HIV/AIDS is but one everyday challenge that people in Buhaya face. This reality is poignantly referenced by the term ‘*ekiuka*’ which in Luhaya, the native language of the Bahaya people, refers to the pathogens which threaten and kill their bananas - their traditional, cultural and staple food crop – and to HIV/AIDS, the pathogen which threatens and kills their people: both forms of *ekiuka* lead to devastation, socio-cultural confusion and change, poverty, poor health and death. From a historical and socio-ecological perspective, Buhaya is a terrain prone to an abundance of rainfall and fragile, acidic and infertile soils which require primarily cow manure to maintain the traditional *kibanja-rutabiro-rweya* agricultural system which centers on banana cultivation. Coffee as a cash crop and secondary food crops including potatoes, beans, greens and fruits which concentrically surround the *kibanja* banana homegarden spatially and in significance are grown in the *rutabiro* and *rweya* areas. A history of high rainfall, a significant decline in cattle husbandry and green manure, and a landscape vulnerable to erosion, soil infertility, high population, widespread poverty and land intensification mark Buhaya. The coincidence of the HIV/AIDS epidemic and an increase in pathogens which kill the traditional banana plants literally and metaphorically, threaten the Bahaya way of life. *Ekiuka* of the *kibanja* and the people (Rugalema, 1999) have led to a great crisis socio-culturally, and to the nexus of widespread poverty, food and nutrition insecurity and subsequently poor health and an increase in vulnerability and susceptibility to HIV/AIDS. The fact that the Bahaya utilize one word to refer to pathogens which kill their agricultural mainstay and cultural core as well as their people demonstrates literally and metaphorically how people experience the coincidences of poverty and HIV/AIDS, signifying an alarm to those on the outside that addressing the roots of poverty and food and nutrition insecurity is

the premise for eradicating cycles of poverty and poor health. This example can be extrapolated to any impoverished context afflicted by the synergistic coincidences of agricultural decline - which leads to widespread impoverishment, food, nutrition and health insecurity - and an HIV/AIDS epidemic. *Ekiuka* of the farm and the body divert reliance and time on the farm, respectively, forcing people to change their diets to drought foods which grow more quickly and require less inputs, but that are not viewed as valuable culturally. A decline in cultural meaning and the loss of practical nutrition and capital forces Bahaya people to dispose of assets in order to procure needed food security and capital to pay for hospital bills and medicine. As the household economy and food and nutrition liquidate, families experience a slide into poverty which may be impossible to emerge from and consequently, their vulnerability and susceptibility to poor health and HIV/AIDS increases. This situation spreads concentrically through rural villages situated in an ecology of poverty and HIV/AIDS. Essentially, this chapter highlights the fact – as mentioned in the first chapter - that there are a variety of bio-physical and socio-ecological co-factors which combine to create a vulnerable terrain in Buhaya, where while many are exposed to vulnerability factors, the playing field is not level. In other words, chapter two adds the emphasis that food insecurity is an important dimensions to understanding HIV/AIDS vulnerability in Buhaya, and that those who are food insecure are more vulnerable in an ecology of poverty and HIV/AIDS, than those who are food secure. Additionally, chapter two argues that not only are women in general more vulnerable to the emanations of poverty and HIV/AIDS in Buhaya, but particularly those that experience the lived reality of land, food and nutrition insecurity face even more challenges. In essence the emphasis on food insecurity in chapter two shows how this co-factor synergizes with generalized poverty and HIV/AIDS vulnerability, disaggregating those who are most vulnerable – and not, weaving a richer hue of the lived reality of HIV/AIDS in an ecology of poverty.

The third chapter, *Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania*, focuses on how the effects of climate variability - which results in erratic and intense rainfall and drought patterns - is another contributing factor to the everyday livelihood challenges people in Buhaya face. The negative effects of climate variability compound the challenges of agricultural decline given that farmers are not always successful at knowing when to plant or not, and if they plant too soon for example, high rainfall washes seeds away; if they plant too late, seeds are desiccated by drought. Either situation leads to food insecurity since they are unable to attain adequate yields for the household and for sale. Without enough nutritious food to eat, people's overall health

declines, and they become more vulnerable and susceptible to illness. Without adequate yields, people have little surplus to sell which results in less overall capital and needed foods to complement diets, school fees, clothing, medication and agro-inputs to maintain the fertility of the soil. This situation renders a vicious cycle. Those that suffer the most are the poorest who lack livelihood buffers including a regular salary, reliable remittances, farm-labor assistance, capital, access to land security, and help from family and support groups. Often, the most vulnerable, as mentioned in the previous chapters, are single women with dependent children who are marginalized socio-culturally and commonly, lack an adequate *kibanja* which yields household food and nutrition security. Lacking alternative livelihood opportunities, single women engage in poverty-induced transactional sex as a means to garner adequate meals for themselves and their children: a situation which illustrates that the risk of engaging in 'risky' sex is viewed less than the need to secure food for a daily meal. Given that the negative effects of climate variability are projected to continue in the future, this chapter specifically highlights the challenges that poor people who lack buffers are likely to continue facing. Furthermore, as argued in both the first and second chapter of this thesis, developing and implementing strategies to combat everyday livelihood challenges are needed now to help curb, prevent and alleviate poor people from sliding into even deeper hardship. Resources such as livestock, agricultural inputs, and knowledge on how to effectively raise the efficiency and sustainability of farming methods is needed to stave the plight that an extra layer of hardship wrought by climate variability impinges on the ability of poor households to cope and remain resilient. Additionally, more viable professional opportunities related to farming and outside of farming are needed to raise the overall economy, livelihood sustainability, standard of living and level of human development in the region. The implementation of such livelihood strategies are expected to help alleviate the overall challenges faced in an ecology of poverty and HIV/AIDS and provide a sense of hope for a better future.

The fourth chapter of the dissertation, *Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience*, focuses on the particular plights widows face in the time of HIV/AIDS in Buhaya. As the culminating chapter of this thesis, this chapter weaves in the emphasis of 'age', and how this vulnerability co-factor reacts with general and gendered vulnerability as outlined in chapter 1, food insecurity as argued in chapter 2, and climate variability as emphasized in chapter 3. Focusing on widows adds dimension to the understanding of general and gendered vulnerability, since widows are often presumed to be alone, lacking assistance, of 'old' age and caring for orphans. Additionally, by emphasizing

this category of women, we see that levels of vulnerability and resilience are largely shaped by age, dependency and caretaking status, and of course, that not all widows have the same experiences and challenges, although some shared experiences may unite them.

At the height of the HIV/AIDS epidemic when so many people were dying in overwhelming succession, stringent patriarchal and patrilineal practices of the past were reified (Manji, 2000) and widows were not only blamed for ‘killing’ their husbands, but forced out of their marital home and farming land and forced to return to their natal villages. Given that this is a patriarchal society, women are in many ways oppressed and easily made into scape goats, such as during a time of crisis. Widows were - and can be - dispossessed of their household assets, such as furniture and cooking pots, other personal material items – and even their children. Given that HIV/AIDS wreaks havoc on livelihoods, households and communities at large, during time of chaos, strife and shock, some people – such as in-laws and other members of a deceased husband’s patri-clan - eagerly seek to grab resources, such as land and other livelihood assets in order to buffer their own challenges. In the process, widows can be abused, dispossessed of their marital home and *kibanja*, and forced to return to their natal villages - often unwelcomed by their own patri-clan and viewed as a burden. This process of marginalization and subordination leaves little hope for widows in such a position, particularly if they are ill themselves. Contrary to my initial thought, not all widows are living in deep impoverishment. In general, while widows form a category of women who may collectively share unique livelihood experiences and challenges in an ecology of poverty and HIV/AIDS, not all widows are suffering and living in intense poverty. Many aging and elderly widows in fact, have reliable support from grown, independent children who provide their daily needs and affections. However, even the widows who are well-assisted discuss the life of isolation women and widows endure within a patriarchal and patrilineal society that generally reveres men and married women with children, while others are often marginalized in terms of livelihood resources such as land, home, and access to food, nutrition and health security. The widows who face the greatest daily challenges are poor widows with dependent children and grandchildren whose health is compromised by HIV/AIDS and, or, poor health, and who lack reliable access to basic households needs and familial and social assistance. Often widows in the direst situations are those still in their reproductive years who are tempted into poverty-induced transactional sex which puts themselves, their sexual partners, and their dependent children at risk to poor health and a bequeathed life of impoverishment and marginalization. This chapter argues that while rural, poor widows in northwestern Tanzania face unique experiences which may be commonly shared among this category of

women, their ability to cope and remain resilient in the face of HIV/AIDS and the emanations of poverty are largely shaped by the networkings (Crenshaw, 1991; Kakuru and van der Burg, 2008) of support that they receive from their families and kin, resources that they can utilize, and strategies that they can employ to buffer against the nexus of challenges farmers now face. It is through a focus on case studies and women's voices that we can truly begin to understand the everyday challenges that poor people face in an ecology of poverty and HIV/AIDS. By listening to these voices, we can better comprehend the connections of lived realities, 'who' suffers most and why, and how the poorest can be empowered and better buffer livelihood challenges.

There are very few livelihood alternatives to peasant agricultural life, and many people want choices. An ecology of poverty and AIDS creates a situations where 'risk' is a normalized part of everyday life. A way out of poverty and HIV/AIDS vulnerability and susceptibility is based on addressing the roots of the HIV/AIDS epidemic – poverty. People are in need of human development in the forms of a sustainable farming system where food and nutrition security is achievable for all, and where all children have the opportunity to attain an education and plan for a future inside or outside farming. Women living in patriarchal societies need to have livelihood alternatives to a life mediated by men where their basic needs are essentially controlled and limited. A realization of how embedded HIV/AIDS is within contexts of poverty is needed so that development programs can focus on addressing and eradicating the true, root causes of the epidemic. Effective strategies should be devised and implemented with a holistic understanding that gender parity; health; food, nutrition and household economic security; human development and progress work in tandem. Collectively, the four chapters of this thesis argue that multiple co-factors synergize, predisposing people to varying levels of social vulnerability and biological susceptibility to the emanations of poverty and HIV/AIDS. Social stratification, declining agriculture, climate variability, and marital, gender, age and health status combine to shape each person's abilities to cope and remain resilient – or not – in this ecology of poverty and HIV/AIDS.

Three main questions initiated the design, influenced the methods and led to the results of this research and thesis: *1) How and why the HIV/AIDS epidemic became so entrenched in the socio-cultural region of Buhaya; 2) Why in spite of significant statistical decline in sero-prevalence, HIV/AIDS continues to affect so many households in the region; and 3) Why, according to recent research, HIV/AIDS has increased from 3.4% in 2008 to 4.8% in 2011* (Mulisa, 2013; Tanzania Daily News, 2014). Each chapter of this thesis uniquely addresses these questions and collectively, the four chapters provide comprehensive

theoretical explanations which connect with and reflect the deep realities of life in Buhaya in the time of HIV/AIDS and poverty through the lens of detailed ethnography and a focus on case studies.

Chapter 1, *Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania*; cuts across social stratification within the community, arguing who has more social capital and how this affects their vulnerability; Chapter 2, *Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania*, focuses primarily on food and agricultural issues, and more specifically – bananas; Chapter 3, *Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania*; focuses on the cross sectional category which centers on climate factors; and Chapter 4, *Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience* focuses on how age categories and the social variation of widowhood.

To answer the first main question of *how and why the HIV/AIDS epidemic became so entrenched in Buhaya*, collectively and respectively, the four chapters of this thesis argue that social capital, food, climate variability and age combine to create the bio-physical and socio-ecological terrain where the HIV virus has been able to successfully and syndemically take root and spread. Furthermore, these same enduring and co-occurring factors maintain the socially gendered and epidemic presence today. Buhaya formed a fertile terrain for the epidemic root and spread of HIV/AIDS given this region's geographical isolation from the rest of mainland Tanzania and to sharing porous borders with countries like Uganda, where the heartbeat of the global epidemic began and their shared involvements in war – which resulted in a high rate of insecurity, influx of refugees, infection and widespread poverty. These issues coupled with a long tradition of patriarchy, patrilineality, polygyny, land insecurity, high population, soil infertility, agricultural decline, climate variability and an increase in pathogens affecting plants, animals and human combine to create a socially gendered epidemic which typically affects those who are poor, struggling the most, and lack buffers to myriad livelihood changes. With this said, due to physiological and socio-cultural factors, women – primarily those who are poor and have dependent children – are asymmetrically infected and affected.

As Chapter 1 argues, HIV/AIDS infects and affects women more than men, given the female physiology as well as the socio-cultural institutions of patriarchy and polygyny which can act to oppress women and drive them into poor health, unviable livelihood choices – such as poverty-induced transactional sex – and overall, restrict their access to basic human needs. Particularly women who lack social buffers supplied by familial support, capital, reliable

access to food, nutrition, shelter, farming land, education and healthcare are in general, more vulnerable to HIV and AIDS acquisition and the cyclical manifestations of poverty than women who are more supported. More specifically, single women with dependent children who lack needed livelihood buffers are most vulnerable in this ecology of poverty and HIV/AIDS because they single-handedly aim to keep their and their children's heads above acute poverty while at the same time, eke out a life in the margins of ubiquitous poverty and oppressive forces of patriarchy which keep them down. These are the lives that are affected and infected the most by HIV/AIDS, and this is the segment of society who are most vulnerable to poverty entrapment and inheritance given that few opportunities are available for escape. Furthermore, poor women with dependents, as Chapter 2 demonstrates, are also more affected by food insecurity in Buhaya. While the primary farmers and providers of food and nutrition, women's access to farming land is mediated and restricted by men, rendering them 'temporary' and, or, insecure users. Their access to needed inputs necessary for staving off pathogens which affect bananas, as well as other important food crops, is too, limited by their access to capital and ability to purchase these essentials which affect harvest, overall household food and nutrition security, and health. As Chapter 3 argues, the bio-physical factor of climate variability negatively affects women more than men because of the aforementioned reasons, as well as because this co-factor synergistically escalates vulnerability to the manifestation of poverty in general, and for women - particularly single women with dependents who lack social buffers – disproportionately and asymmetrically. As Chapter 4 argues, age and dependency status combine with the issues of social capital, food, and climate to sustain gendered vulnerability to HIV/AIDS acquisition and the cycles of poverty – an entrapment that is difficult to escape. Equipping poor people and single women with dependents with basic needs will go a long way toward eradicating the epidemic in Buhaya. Similarly, given that the myriad of socio-ecological livelihood factors in the terrain of poverty and HIV/AIDS in Buhaya inflicts women and young children more, allowing this to continue allows for the continual presence of HIV/AIDS infection and manifestations of bequeathed poverty (Kakuru and van der Burg, 2008).

To answer question 2, *Why in spite of significant statistical decline in sero-prevalence, HIV/AIDS continues to affect so many households in the region?*, the simple answer is because biologically, the HIV virus still exists and still has a 'infectious life' in Buhaya, which is largely shaped and influenced by the contagions of the myriad, interconnected socio-ecological and biological pathways which still allow the virus and syndrome to thrive. As discussed in Chapter 2, food insecurity is widespread in the region,

and without adequate access to reliable food and nutrition, one's body is more biologically susceptible to any illness, including HIV infection. Furthermore, when infected with a virus or any disease, lacking adequate food and nutrition exacerbates the effects and duration it takes to overcome an illness. Lack of a good diet and access to healthcare expedites HIV to AIDS, particularly in poor, farming contexts like Buhaya where one's livelihood status, general health and well-being are directly and intricately connected to the land, ability to farm, household harvest, food and nutrition, access to health care and economic status. Given this situation, the biological reality of HIV/AIDS is hard to beat, and since so many people have been infected and affected in the past three decades, it has also become one part of the livelihood reality in Buhaya. In other words, HIV/AIDS is but one aspect of the challenges people in the region face, and its impact tends to have as much gravity in some cases, as does the array of other livelihood challenges being faced daily. Chapter 2, where the concept of *ekiuka* is discussed, argues that Bahaya are affected by the decimation of their staple food supply – bananas – and of their people through HIV/AIDS. This ethno-cognitive connection metaphorically and literally translates how Bahaya have been experiencing – and likening – both travesties of the farm and their culture. As argued in Chapter 3, the negative effects of climate variability have added another layer of livelihood challenges to the Bahaya, and are forecasted to continue. The multiple, intertwining livelihood challenges sustain an epidemic and continue to cripple households and communities that are trying to move out of poverty, but find themselves sinking. In the face of so many livelihood challenges, standing still is not sustaining, it is declining. People need buffers to the bio-physical challenges wrought by climate variability, poor soils, pathogen infestations and poverty. Furthermore, as Chapter 4 shows, one's marital, age, gender, caretaking and dependency status largely shapes whether they are struggling, maintaining or surviving, and this is intricately connected to their and their dependents' vulnerability to HIV/AIDS. As mentioned across the dissertation chapters, for people in their twenties and thirties, HIV/AIDS is ubiquitous; they were born at the time of HIV/AIDS and have witnessed so many deaths in their families, villages and Buhaya at large, that it has become normalized. While this reaction ironically is a survival defense mechanism which allows people to go on and live in spite of the ominous threat of HIV/AIDS, this type of thinking also permits people to take risks – and jeopardize their health and lives. This realization helps to explain why in spite of significant decline, the HIV/AIDS epidemic is still hurting people in Buhaya.

To answer the third question, *why, according to recent research, HIV/AIDS has increased from 3.4% in 2008 to 4.8% in 2011* (Mulisa, 2013; Tanzania Daily News, 2014), it

is important to realize that the factors which contribute to poverty and HIV/AIDS vulnerability in Buhaya, still exist, although tremendous progress has been made in many ways. Researchers, doctors, scientists, volunteers, missionaries and helpful – minded people and organizations have been involved with trying to help people in Buhaya and curb poverty manifestations and HIV/AIDS. The government hospital in Bukoba town provides free testing and medication for those who test positive to TB and HIV. However, as characterized by many impoverished contexts globally, there are few doctors to attend to all patients, and it is not uncommon to learn that doctors themselves are infected with and dying from HIV/AIDS. While people are aware that medications are available and free, they still have to get to the hospital and wait in long lines. Although Nsisha is approximately 12 kilometers to the hospital, it seems like a world apart from the rural village context. Often people still see the hospital as a death sentence, and know that if they are hospitalized, they will need someone to bring them there and pay for their stay, as well as provide bedding, water, food, clothing, etc. People interviewed for this thesis mentioned that the free ARVs make people sicker, especially if they do not have good food to eat to absorb some of the negative side effects of the strong medicine. Often, sickly people prefer to see the traditional healers anyway, and know that in weakened health, they will not be able to pay for the transportation to hospitals for care. As argued in the chapters, respectively, social capital, food security, climate variability and age and dependency status largely shapes who suffers the most and is most vulnerable to the cycles of poverty, poor health and HIV/AIDS acquisition. The rates may have increased in Buhaya due to people living longer with medicines, but research on increased infection rates suggest that perhaps HIV rates are increasing once again. As discussed in all chapters through the illumination of cases studies, people are ‘used to’ HIV/AIDS. Some live in fear thinking that they have it, but are too scared to test. They live their lives not knowing which can lead to some taking risks to spread the disease – or acquire and spread the disease -leading to a self-fulfilling prophecy. For many, life is tough, getting by daily and not knowing whether you have enough food to feed your family or wondering how to take care of your sickly children leads to a state of mental impoverishment that is entrapping, and people don’t think about planning for the future because that is a luxurious concept to ponder. People need a sense of hope to cling to in order to encourage themselves to dig their way out of impoverishment. The availability of buffers for poor people will go a long way to preventing future infections through educational outreach, social support and counseling; access to agricultural inputs to better ensure harvest and food and nutrition

security; and the creation of livelihood opportunities and individualized assistance programs for those most vulnerable.

In conclusion, this thesis argues that within a context of poverty and HIV/AIDS, multiple factors synergize, causing widespread poverty, and the threats and lived realities of land, food, nutrition and health insecurity, and to persistent and bequeathed cycles of entrapment. While poverty and its emanations are ubiquitous in Buhaya, a detailed focus on case studies reveals that while people are poor and suffering, they are still employing the strategies that they can and the resources that they can garner to buffer against livelihood challenges, and attempt to get ahead (Hulme, 2003). I have chosen to focus on case studies because the detailed realities of people's lives provide the best understanding to revealing where people are falling short, and how their lives can be buffered and improved. As the chapters and case studies collectively show, in an 'ecology of poverty and HIV/AIDS', those that suffer the most are those least equipped to deal with the poverty and marginalization bestowed on them by patriarchal and patrilineal customs and social stratification; the threats of agricultural decline and food insecurity; the negative effects wrought by climate variability; and ultimately, age and the social variation of widowhood. These four themes of socio-ecological vulnerability, as argued in this thesis, combine to perpetuate vulnerability to HIV/AIDS, poverty and its bequeathed manifestations and cycles. HIV/AIDS rates have waned significantly since its apex in this region, however recent reports suggest sero-prevalence (Mulisa, 2013) and infections rates (Tanzania Daily News, 2014) have increased. While this news is alarming, this thesis offers detailed explanations as to why people in Buhaya are still vulnerable, affected and infected. When people are struggling daily because they lack access to basic human needs – gender parity, access to safe water, reliable and nutritious food, viable livelihood opportunities inside and outside farming, education, and health care knowledge and assistance, they are vulnerable and susceptible to poverty and HIV/AIDS. Knowing and understanding this, and creating and implementing sustainable strategies to buffer those most vulnerable will go a long way to curbing the epidemic and achieving greater strides toward human development and well-being.

This thesis contributes to research on HIV/AIDS, particularly in the context of rural, agriculturally-based societies which are affected by myriad livelihood challenges, including poverty, agricultural decline, climate variability, food insecurity and lack of livelihood choices. The significance of this thesis is the aim to provide a comprehensive theoretical explanation and understanding of HIV/AIDS in this context and to show, through a detailed emphasis on people's real life situations, how someone can become caught up in a web of

poverty and HIV/AIDS, and how this can spread to the wider community and become bequeathed to future generations. With an emphasis on the nexus of livelihood challenges that people face, this thesis contributes not only a scholarly analysis of life in the time of AIDS in sub-Saharan Africa, but argues that there are myriad vantage points at which making a positive difference and providing buffers will go a long way to decreasing individual vulnerability.

The limitations of this research include the fact this this research is dated at this point. However, I recommend that ethnographically-based research which is essentially holistic, comprehensive and multi-disciplinary continue which can too, be applied to similar epidemiological, geographical, and socio-cultural contexts. Another limitation of this study is the fact that given that Bahaya practice clan exogamy which generally leads to women marrying into their husband's clan and living in their husband's patrilineal village (patrilocality), this study wasn't able to truly discover the plight of widows; many were forced away after divorce or being found out to be HIV positive. Therefore, to gain a better understanding of widows' lives in the time of HIV/AIDS, a much more mobile research would need to be conducted which is premised on finding widows who were forced to return to their natal villages. Such research is important because not only will it provide a truer picture of widows' plights, but will enrich the understanding in regard to whether women are indeed inheriting farming land, or are still being 'thrown off' despite changes in land laws. Another limitation – and future – emanating from this thesis is premised on the children highlighted in the case studies. It is important to know what has happened to the children affected and orphaned. Knowing this information will indicate the capacity and will of organic, cultural support systems in the face of orphanhood, and points at which communities and individuals can be better supported.

Works cited

- ADF VI (African Development Forum). 2008. "Achieving Gender Equality and Women's Empowerment in Africa." Progress report presented at the Sixth African Development Forum, Addis Ababa, Ethiopia, November 19-21.
- Adger, W. Neil, 2006. "Vulnerability." *Global Environmental Change* 16:268-281.
- Ainsworth, Martha, and Julia Dayton. 2000. "Is the AIDS epidemic having an impact on the coping behaviour and health status of the elderly?" UNAIDS Report, December.
- Alley, Christopher, and Johannes Sommerfield. 2014. "Infectious disease in times of social and ecological change." *Medical Anthropology: Cross-Cultural Studies in Health and Illness*. 33:85-91. doi: [10.1080/01459740.2013.850590](https://doi.org/10.1080/01459740.2013.850590).
- Almekinders, Conny, Margreet van der Burg, Todd A. Crane. 2010. "Participatory research and gender in the face of climate change." Abstract of paper prepared for PRGA, June 10: Wageningen University.
- Anonymous. 2008. "Plantains, cooked." Last modified March 17. <http://nutritiondata.self.com/facts/fruits-and-fruit-juices/2031/22>.
- Arnot, Madeleine. 2002. *Reproducing Gender? Essays on Educational Theory and Feminist Politics*. London: Routledge Falver.
- Baijukya, Frederick. 2004. "Adapting to Change in Banana-based Farming Systems of Northwest Tanzania." PhD Thesis, Wageningen University.
- Barnett, Tony, and Alan Whiteside. 2002. *AIDS in the Twenty-First Century*. New York: Palgrave Macmillan.
- Baylies, Caroline, and Janet Bujra. 2002. *AIDS, Sexuality and Gender in Africa: Collective Strategies and Struggles in Tanzania and Zambia*. London: Routledge.
- Beck, Melinda A., Jean Handy, and Orville A. Levander. 2004. "Host nutritional status: the neglected virulence factor." *TRENDS in Microbiology* 12(9):417-23.
- Beegle, Kathleen, Joachim De Weerd, and Stefan Dercon. 2006. "Orphanhood and the long-run impact on children." *American Journal of Agricultural Economics* 88(5):1266-72.
- Bernard, H. Russell. 2002. *Research Methods in Anthropology – Qualitative and Quantitative Approaches*. Walnut Creek: Altamira Press.
- Berry, Veronica, ed. 1995. *Culwick Papers, 1934-44: Population, Food and Health in Colonial Tanganyika*. London: Academy Books.
- Billson, Janet Mancini, and Carolyn Fluehr-Lobban, eds. 2005. *Female Well-Being: Toward a Global Theory of Social Change*. London: Zed Books.

Bird, Kate. 2011. "Land inheritance: a gendered analysis of factors influencing the intergenerational transmission of poverty." Working Paper 181. London: Chronic Poverty Research Centre.

Boyd, Emily, Henny Osbahr, Polly J. Ericksen, Emma L. Tompkins, Maria Carmen Lemos, and Fiona Miller. 2008. "Resilience and 'climatizing' development: examples and policy implications." *Development* 51:390-396.

Brooks, Nick, W. Neil Adger, and P. Mick Kelly. 2004. "The determinants of vulnerability and adaptive capacity at the national level and the implications for adaptation." *Global Environmental Change* 15:151-163.

Cattell, Maria G. 2003. "African widows: anthropological and historical perspectives." *Journal of Women and Aging* 15:49-66.

Chant, Sylvia. 2003. "Female household headship and the feminisation of poverty: facts, fictions and forward strategies." New Working Paper Series Issue 9. London School of Economics, Gender Institute: London.
<http://www.lse.ac.uk/genderInstitute/pdf/femaleHouseholdHeadship.pdf>.

----. 2006. "Poverty begins at home? Questioning some (mis)conceptions about children, poverty and privation in female-headed households." London School of Economics: UNICEF. <http://www.unicef.org/sowc07/docs/chant.pdf>.

Chowdhary, Pooja. 2011. "Vulnerability of agricultural youth." Oxford: Oxfam.
http://www.ccivs.org/New-SiteCCSVI/institutions/jpc-youth/youth-open-forum/Section_for_Youth/Resources_and_tools/Other_documents_on_youth/OXFAM_INTERNATIONAL_YOUTH_PARLIAMENT/Vulnerability_of_agricultural_youth.pdf.

Colby, Benjamin C., James W. Fernandez, and David B. Kronenfeld. 1981. "Toward a convergence of cognitive and symbolic anthropology." *American Ethnologist* 8(3):422-450.

Confalonieri, Ulisses, Bettina Menne, Rais Akhtar, Kristie L. Ebi, Maria Hauengue, R.Sari Kovats, Boris Revich, and Alistair Woodward. 2007. "Human health." In *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by Martin L. Parry, O.F. Canziani, Jean P. Palutikof, Paul Jean van der Linden, and C.E. Hanson, 391-431. Cambridge: Cambridge University Press.

Cory, Hans, and M. M. Hartnoll. 1971. *Customary Law of the Haya Tribe*. London: Frank Cass & Co. Ltd.

Cotula, Lorenzo. 2002. *Gender and Law: Women's Rights in Agriculture*. Rome: FAO.

Crane, Todd A. 2010. "Of models and meanings: cultural resilience in social-ecological systems." *Ecology and Society* 15(4). <http://www.ecologyandsociety.org/vol15/iss4/art19/>.

---. 2013. The role of local institutions in adaptive processes to climate variability – the cases of southern Ethiopia and southern Mali, Research Report, *Oxfam America*. Washington DC. 34 pp.

Crane, Todd A., Carla Roncoli, and Gerrit Hoogenboom. 2011. "Adaptation to climate change and climate variability: the importance of understanding agriculture as performance." *NJAS - Wageningen Journal of Life Science* 57:179-185.

Crenshaw, Kimberle. 1991. "Mapping the margins: intersectionality, identity politics, and violence against women of color." *Stanford Law Review* 43(6):1241-1299.

Curtis, Kenneth. 1989. "Capitalism Fettered: State, Merchant and Peasant in Northwestern Tanzania, 1917-1960." PhD Thesis, University of Wisconsin.

Day, Caroline. 2011. "Inheritance, poverty and HIV/AIDS: experiences of widows and orphaned youth heading households in Tanzania and Uganda." Working Paper 185, Chronic Poverty Research Centre.

Demetriades, Justina, and Emily Esplen, 2008: "The gender dimensions of poverty and climate change Adaptation." *Institute of Development Studies (IDS) Bulletin* 39(4):24-31.

Denton, Fatma. 2002. "Climate change vulnerability, impacts, and adaptation: why does gender matter?" *Gender and Development* 10 (2):10-20.

De Waal, Alex. 2006: *AIDS and Power – Why There is Not a Political Crisis – Yet*. London: Zed Books.

De Wagt, Arjan, and Mark Connolly. 2005. "Orphans and the impact of HIV/AIDS in sub-Saharan Africa." *Food, Nutrition and Agriculture* 34:1-9.

De Weerd, Joachim. 2009. "Moving out of poverty in Tanzania: evidence from Kagera." *Journal of Development Studies* 46(2):331-49.

Dilger, Hansjörg. 2008. "'We are all going to die': Kinship, belonging, and the mortality of HIV/AIDS-related illnesses and deaths in rural Tanzania." *Anthropological Quarterly* 81(1):207-32.

Duffy, Lynne. 2005. "Suffering, shame, and silence: the stigma of HIV/AIDS." *Journal of the Association of Nurses in AIDS Care* 16(1):13-20.

Eriksen, Siri H., Katrina Brown, and P. Mick Kelly. 2005. "The dynamics of vulnerability: locating coping strategies in Kenya and Tanzania." *The Geographical Journal* 171:287-305.

Faden, Ruth, Nancy Kass, and Deven McGraw. 1996. "Women as vessels and vectors: lessons from the HIV epidemic." In *Feminism and Bioethics: Beyond Reproduction*, edited by Susan M. Wolf, 252-281. Oxford: Oxford University Press.

FAO. 2005. "The state of food insecurity in the world 2005: Eradicating world hunger- key to achieving the millennium development goals." Rome, Italy: FAO.

FAO/OXFAM. 2003. "Report of the FAO/OXFAM GB workshop on women's land rights in southern and eastern Africa." Pretoria, South Africa, June 17-19.

Ford, James D., E. C. H. Keskitalo, Tanya Smith, Tristan Pearce, Lea Berrang-Ford, Frank Duerden, and Barry Smit. 2010. "Case study and analogue methodologies in climate change vulnerability research." *Wiley International Reviews: Climate Change* 1:374-392.

Foster, Geoff, and John Williamson. 2000. "A review of current literature of the impact of HIV/AIDS on children in sub-Saharan Africa." *AIDS* 14: 275-84.

Gillespie, Stuart, Amy Norman, and Bestsy Finley. 2005. "Child vulnerability and HIV/AIDS in sub-Saharan Africa: what we know and what can be done." Washington D.C.: International Food Policy Research Institute (IFPRI).

Githinji, Valerie. (*in preparation*) "Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania." Will be submitted to *African Journal of AIDS Research*.

---. 2008. "Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania." *NJAS - Wageningen Journal of Life Sciences* 56(3):191-200.

Githinji, Valerie. 2009a. "Children's vulnerability to HIV/AIDS, poverty and malnutrition in Buhaya: advancement through women's empowerment." *Childhood in Africa* 1(1):11-18

---. 2009b. "Food insecurity in Buhaya: the cycle of women's marginalization and the spread of hunger and disease. *National Association for the Practice of Anthropology* (NAPA) Bulletin 32 (1):92-114.

---. 2011a. "Banana symbolism and change in Bahaya culture." In *Bananas: Nutrition, Diseases and Trade Issues*, edited by Alisha E. Cohen, 277- 287. New York: Nova Science Publishers.

---. 2011b. "Food and nutrition insecurity, HIV/AIDS and gendered vulnerability in Buhaya, Tanzania. *Journal of Research in Peace, Gender and Development* 1(9):257-64.

Githinji, Valerie, and Todd A. Crane. 2014. "Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania." *Weather, Climate and Society* (6):9-21.

Gondwe, Zebron Steven. 1990. "Female intestate succession to land in rural Tanzania – whither equality?" Working Paper 2, University of Dar es Salaam.

Gopal, Gita, and Maryam Salim, eds. 1998. "Gender and law: eastern Africa speaks." Proceedings of the conference organized by the World Bank and the Economic Commission for Africa. Washington D.C.: The World Bank.

Gordon, April A. 2001. "Women and sustainable development in Africa." In *Contending Issues in African Development: Advances, Challenges and the Future*, edited by Obioma M. Iheduru, 213-38. Westport, CT: Greenwood Press.

Grown, Caren, Geeta Rao Gupta, and Rohini Prabha Pande. 2005. "Taking action to improve women's health through gender equality and women's empowerment." *Lancet* 365:542-43.

Haddad, Lawrence, and Stuart Gillespie. 2001. "Effective food and nutrition policy responses to HIV/AIDS: what we know and what we need to know." *Journal of International Development* 13:487-511.

Hecht, Robert, Anita Alban, Kate Taylor, Sarah Post, Nina B. Andersen, and Ryan Schwarz. 2006. "Putting it together: AIDS and the millennium development goals." *PLoS Medicine* 3(11):1992-98.

Hulme, David. 2003. "Thinking 'small' and the understanding of poverty: Mayama and Mofizul's story." Working Paper No 22. UK: Institute for Development Policy and Management.

Hunter, Sarah, Frederick Kaijage, Peter Maack, Andrew Kiondo, and P. Masanja. 1997. "Using rapid research to develop a national strategy to assist families affected by AIDS in Tanzania." *Health Transition Review* (7):393-419.

Hooks, Bell. 2015. "Understanding patriarchy." Anti-imperialism.com: Louisville Anarchist Federation Federation (LAFF). <http://anti-imperialism.com/2014/03/23/understanding-patriarchy-by-bell-hooks/>

Iliffe, John. 1987. *The African Poor: A history*. Cambridge, UK: Cambridge University Press.

---. 2006. *A History of the African AIDS Epidemic*. Athens: Ohio University Press.

Jones, Anne E., Ulrika Uddenfeldt Wort, Andrew P. Morse, Ian M Hastings, and Alexandre S. Gagnon. 2007. "Climate prediction of El Niño malaria epidemics in north-west Tanzania." *Malaria Journal* 6(162). doi:10.1186/1475-2875-6-162.

Kaijage, Frederick, J. 1993. "AIDS control and the burden of history in northwestern Tanzania." *Population and Environment: A Journal of Interdisciplinary Studies* 14:279-300.

Kakuru, Doris M., and Margreet van der Burg. 2008. "Intersectionality and HIV/AIDS: towards a framework for understanding educational gender inequality in rural Uganda." *The International Journal of Diversity in Organisations, Communities and Nations* 7(6):25-37.

Kalipeni, Ezekiel. 2008. HIV/AIDS in women: stigma and gender empowerment in Africa. *Future HIV Therapy* 2(2):147-53.

Kalipeni, Ezekiel, Susan Craddock, Joseph R. Oppong, and Jayati Ghosh. 2004. *HIV & AIDS in Africa – Beyond Epidemiology*. Malden, MA: Blackwell Publishing.

Kalipeni, Ezekiel, Joseph Oppong, and Assata Zerai. 2007. "HIV/AIDS, gender, agency and empowerment issues in Africa." *Social Sciences and Medicine* 64:1015-18.

Kamanzi, Adalbertus. 2008. "Evolution of HIV/AIDS discourse among the Haya on ten landing sites on the western shores of Lake Victoria, Tanzania: need for a shift from a biomedical to a meaningful life discourse." *Health Policy and Development* 6(3):95-101.

Kangalawe, Richard, Shadrack Mwakalila, Petra Masolwa. 2011. "Climate change impacts, local knowledge and coping strategies in the Great Ruaha River catchment area, Tanzania." *Natural Resources* 2:212-223.

Kessy, Flora. 2005. "Rural income dynamics in Kagera Region, Tanzania. Economic and Social Research Foundation." Washington, D.C.: World Bank.

Kisangu, Daniel P., Herbert V. M. Lyaruu, Ken M. Hosea, and Cosam C. Joseph. 2007. "Use of traditional medicines in the opportunistic management of HIV/AIDS opportunistic infections in Tanzania: a case study in the Bukoba Rural District. *Journal of Ethnobiology and Ethnomedicine* 3(29).

Kizza, Michael, Allen Rodhe, Chong-Yu Xu, Henrya Ntale, and Sven Halldin. 2009. "Temporal rainfall variability in the Lake Victoria Basin in East Africa during the twentieth century." *Theoretical and Applied Climatology* 98:119-135.

Kjekshus, Helge. 1996[1977]. *Ecology Control and Economic Development in East African History: Case of Tanganyika, 1850–1950*. London: James Currey.

Lackoff, George, 1992. "The contemporary theory of metaphor." In *Metaphor and Thought* (2nd edition), edited by Andrew Ortony, 202-251. Cambridge: Cambridge University Press.

Larsson, B. 1991. "Conversion to Greater Freedom?: Women, Church and Social Change in North-Western Tanzania under Colonial Rule." PhD dissertation, Uppsala University.

Lemos, Maria Carmen, Emily Boyd, Emma L. Tompkins, Henry Osbahr, and Diana Liverman. 2007. "Developing adaptation and adapting development." *Ecology and Society* <http://www.ecologyandsociety.org/vol12/iss2/art26/>.

Leonard-Green, Tina K., and Ronald Ross Watson. 1989. "The AIDS-immunocompetence-nutrition-infection cycle." In *Co-factors in HIV-1 Infection*, edited by Ronald Ross Watson, 189-199. Boca Raton, FL: CRC Press.

Lerner, Gerda. 1986. *The Creation of Patriarchy*. New York: Oxford Press.

Lockhart, Chris. 2005. "Previously married women & HIV/AIDS in urban Tanzania: sex, exchange & the search for social legitimacy." *Women's Health and Urban Life* 4(2):6-26.

Loevinsohn, Michael, and Stuart Gillespie. 2003. "HIV/AIDS, food security and rural livelihoods: understanding and responding." RENEWAL Working Paper no. 2. Washington DC: IFPRI.

Lugalla, Joe, Ch. Comoro, Aldin Mutembei, L. Dahlgren, Maria Emmelin, Japhet Killewo, Gideon Kwesigabo, and A. Sandstrom. 1997. "The availability and acceptability of intervention strategies against HIV/AIDS." *Internationales Afrikaforum*: 33(4):355-66.

- Lugalla, J.L.P., with M.A.C. Emmelin, A.K. Mutembei, C.J. Comoro, J.Z.J. Killewo, G. Kwesigabo, A.I.M. Sandstrom, and L.G. Dahlgreen. 1999. "The social and cultural contexts of HIV/AIDS transmission in Kagera Region, Tanzania." *Journal of Asian and African Studies* 34:378-402.
- Lundberg, Matthias, Mead Over, and Phare Mujinja. 2000. "Sources of financial assistance for households suffering an adult death in Kagera, Tanzania." *The South African Journal of Economics* 68(5):947-84.
- Makuru-Paradza, Gaynor G. 2010. "Single Women, Land and Livelihood Vulnerability in a Communal Area in Zimbabwe." PhD Wageningen University.
- Manji, Ambreena. 1999. "The AIDS epidemic and women's land rights in Tanzania." *Recht in Afrika* 1:31-50.
- Manji, Ambreena. 2000. "'Her name is Kamundage': rethinking women and property among the Haya of Tanzania." *Africa* 70(3):482-500.
- Mann, Jonathan M., Michael A. Grodin, Sofia Gruskin, and George J. Vivians. 1999. *Health and Human Rights: A Reader*. New York: Routledge.
- Maruo, Satoshi. 2002. "Differentiation of subsistence farming patterns among the Haya banana growers in northwestern Tanzania." *African Study Monographs* 23(4):147-75.
- Mattes, Dominik. 2014. "Caught in transition: the struggle to live a 'normal' life with HIV in Tanzania." *Medical Anthropology: Cross-Cultural Studies in Health and Illness*. <http://dx.doi.org/10.1080/014579740.2013.877899>
- McNamara, Regina. 1997. "Female genital health and the risk of HIV transmission." In *AIDS in Africa and the Caribbean*, edited by George C. Bond, John Kreniske, Ida Susser, and Joan Vincent, 115-130. Boulder, CO: Westview Press.
- Mhoja, Monica E. 1995. "Women and land rights: an outline of Tanzania experience." In *Habitat. Report, International Workshop on Women's Access, Control, and Tenure of Land, Property, and Settlement*. Nairobi: Habitat.
- Mitchell, Matthew Craig, and Margaret Egudo. 2003. "A review of narrative methodology". DSTO Systems Science Library: Edinburgh, South Australia.
- Mitti, Respichius D., and Thadeus G. Rweyemamu. 2001. A Socio-economic profile of Nyakatoke. Unpublished, University of Dar Es Salaam, Tanzania & University of Leuven, Belgium.
- Morgen, Sandra, ed. 2002. *The Impoverishment of Women*, theme issue, *Voices: Association for Feminist Anthropology*, December.
- Muchunguzi, Justinian K. 2002. "HIV/AIDS and women's land ownership rights in Kagera Region - North Western Tanzania." Workshop on HIV/AIDS and Land Tenure, June 24-25, in Pretoria, South Africa.

- Mulisa, Meddy. "Tanzania: HIV/AIDS prevalence rate increases in Kagera." 2013. <http://allafrica.com/stories/201309250287.html>.
- Müller, Tanja. R. 2004. *HIV/AIDS and Agriculture in sub-Saharan Africa*. An overview and annotated bibliography, Volume 1. Wageningen, NL: Wageningen Academic Publishers.
- . 2005a. *HIV/AIDS, Gender, and Rural Livelihoods in sub-Saharan Africa*. An overview and annotated bibliography, Volume 2. Wageningen, NL: Wageningen Academic Publishers.
- . 2005b. *HIV/AIDS and Human Development in sub-Saharan Africa*. An overview and annotated bibliography, Volume 3. Wageningen, NL: Wageningen Academic Publishers.
- Mutembei, Aldin Kaizilege, 2001. *Poetry and AIDS in Tanzania: Changing Metaphors and Metonymies in Haya Oral Traditions*. Leiden: CNWS Publications.
- Mutembei, A. K., M. A. C. Emmelin, J. L. P. Lugalla, and L. G. Dahlgren. 2002. "Communication about AIDS - changes in understanding and coping with help of language in urban Kagera, Tanzania." *Journal of Asian and African Studies* 37(1):1-16.
- Nagengast, Carole. 2004. "Human rights, women's rights, and the politics of cultural relativity." In *Human Rights: Scholar as Activist*, 109-29. Oklahoma City: Society for Applied Anthropology (SFAA).
- Niehof, Anke, Gabriel Rugalema, and Stuart Gillespie. 2010. *AIDS and Rural Livelihoods – dynamics and diversity in sub-Saharan Africa*. London: Earthscan Ltd.
- Okigbo, Bede N. 2008. Nutritional implications of projects giving high priority to the production of staples low in nutritive quality: the case for cassava (*Manihot esculenta*, Crantz) in the humid tropics of West Africa. International Institute of Tropical Agriculture: Ibadan, Nigeria.
- Owen, Margaret. 1996a. *A World of Widows*. London: Zed Books.
- . 1996b. "Widowhood in the context of AIDS." In *A World of Widows*, 81-101. London: Zed Books.
- Paavola, Jouni. 2008. "Livelihoods, vulnerability and adaptation to climate change in Morogoro, Tanzania." *Environmental Science and Policy* 11:642-654.
- Parker, R., and P. Aggleton. 2003. "HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action." *Social Science and Medicine* 57(2003):13-24.
- Patz, Jonathan A., Thaddeus K. Graczyk, Nina Geller, and Amy Y. Vittor. 2000. "Effects of environmental change on emerging parasitic diseases." *International Journal for Parasitology* 30:395-1405.
- Peters, Julie, and Andrea Wolper, eds. 1995. *Women's Rights, Human Rights: International Feminist Perspectives*. New York: Routledge.

- Potash, Betty, ed. 1986. *Widows in African Societies: Choices and Constraints*. Stanford, CA: Stanford University Press.
- Rald, Jørgen, and Karen Rald. 1975. *Rural Organization in Bukoba District, Tanzania*. New York: Africana Publishing Company.
- Rankin, W. W., S. Brennan, E. Schell, J. Laviva, and S. H. Rankin 2005. "The stigma of being HIV-positive in Africa: HIV-related stigma is fueling the epidemic, and disempowering women even further." *Future HIV Therapy* 2(2):147-53.
- Roncoli, Carla, Todd Crane, and Ben Orlove. 2009. "Fielding climate change in cultural anthropology." In *Anthropology and climate change: from encounters to actions*, edited by Susan A. Crate and Mark Nutall, 87-115. California: Left Coast Press
- Rowhani, Pedram, David B. Lobell, Marc Linderman, and Navin Ramankutty. 2011. "Climate variability and crop production in Tanzania." *Agricultural and Forest Meteorology* 151:449-460.
- Rugalema, Gabriel. 1999. "Adult Mortality as Entitlement Failure: AIDS and the Crisis of Rural Livelihoods in a Tanzanian Village." PhD thesis, The Hague.
- Rugalema, Gabriel. 2004. "Understanding the African HIV pandemic: an appraisal of the contexts and lay explanation of the HIV/AIDS pandemic with examples from Tanzania and Kenya. In *HIV & AIDS in Africa*, edited by Ezekiel Kalipeni, Susan Craddock, Joseph R. Oppong, and Jayati Ghosh, 191-203. Malden, MA: Blackwell Publishing.
- Rugalema, G., Guilia Muir, Kirsten Mathieson, Emily Measures, Friderike Oehler, and Libor Stloukal. 2009. "Emerging and re-emerging diseases of agricultural importance: why local perspectives matter." *Food Security* 1:441-55.
- Rugalema, Gabriel, and Kirsten Mathieson, eds. 2009. "Disease, vulnerability, and livelihoods on the Tanzania – Uganda interface ecosystem to the West of Lake Victoria – diagnostic survey of North-Western Tanzania." Rome: UNFAO.
- Rwebangira, Magdalena K. 1996. "The legal status of women and poverty in Tanzania." Research Report No. 100. Uppsala: Nordiska Afrikanstitutet.
- Sawers, Larry, Eileen. Stillwaggon, and Tom Hertz. 2008. "Cofactor infections and HIV epidemics in developing countries: implications for treatment." *AIDS Care* 20(4):488-494.
- Sawers, Larry, and E. Stillwaggon. 2010a. "Concurrent sexual partnerships do not explain the HIV epidemics in Africa: a systematic review of the evidence." *Journal of the International AIDS Society* 13:34.
- . 2010b. "Understanding the southern 'anomaly': poverty, endemic disease and HIV." *Development and Change* 41(2):195-224.
- Scheper-Hughes, Nancy. 1992. *Death without Weeping: The Violence of Everyday Life in Brazil*. San Francisco: University of California Press.

- Schmidt, Peter. 1997. "Archaeological views on a history of landscape change in East Africa." *Journal of African History* 38(3):393-421.
- Schoenbrun, David L. 1993a. "Cattle herds and banana gardens: the historical geography of the western Great Lakes region', Ca 800-1500." *The African Archaeological Review* 11:39-72.
- . 1993b. "We are what we eat: ancient agriculture between the Great Lakes." *African History* 34:1-31.
- Schoepf, Brooke G. 2010. "Assessing AIDS research in Africa: twenty-five years later." *African Studies Review* 53:105-42.
- Seeley, Janet, Stefan Dercon, and Tony Barnett. 2010. "The effects of HIV/AIDS on rural communities in East Africa: a 20 year perspective." *Tropical Medicine and International Health* 15:329-35.
- Setel, Peter. 1999. *A Plague of Paradoxes: AIDS, Culture, and Demography in Northern Tanzania*. Chicago: The University of Chicago Press.
- Smith, Charles David. 1989. "Did colonialism capture the peasantry? A case study of the Kagera District, Tanzania." Research Report 83. Uppsala: Scandinavian Institute of African Studies.
- Stevens, Lesley. 1995. "Bananas, babies, and women who buy their graves: matrifocal values in a patrilineal Tanzanian society." *Canadian Journal of African Studies* 29(3):454-80.
- Stillwaggon, Eileen. 2006. *AIDS and the Ecology of Poverty*. Oxford: Oxford University Press, Inc.
- Stillwaggon, Eileen. 2008. Race, sex, and the neglected risks for women and girls in sub-Saharan Africa. *Feminist Economics* 14(4):67-86.
- . 2009. "Complexity, co-factors, and the failure of AIDS policy in Africa." *Journal of the International AIDS Society* 12(12).
- Sundkler, Bengt. 1980. *Bara Bukoba: Church and Community in Tanzania*. London: C. Hurst & Company.
- Swantz, Marja-Liisa. 1985. "Woman as the producer and provider in Bukoba District." In *Women in Development: A Creative Role Denied? The Case of Tanzania*, 48-78. London: C. Hurst & Co.
- Sweetman, Caroline, ed. 2001. *Gender, Development, and Health*. Oxford: Oxfam.
- Tanzania Daily News. 2014. "Tanzania: HIV/AIDS infection rate increases in Kagera." <http://allafrica.com/stories/201409260444.html>.
- Tibaijuka, Anna Kajumulo. 1997. "AIDS and economic welfare in peasant agriculture: case studies from Kagabiro Village, Kagera Region, Tanzania." *World Development* 25:963-975.

Thornton, Philip K., Peter G. Jones, Gopal Alagarswamy, Jeff Andresen, and Mario Herrero. 2010. "Adapting to climate change: agricultural system and household impacts in East Africa." *Agricultural Systems* 103:73-82.

Tschakert, Petra. 2006. "Views from the vulnerable: understanding climatic and other stressors in the Sahel." *Global Environmental Change* 17:381-396.

Tumushabe, Joseph. 2005. "HIV/AIDS and changing vulnerability to crisis in Tanzania: implications for food security and poverty reduction." Paper presented at the International Conference on HIV/AIDS, Food and Nutrition Security, April 14-16, in Durban, South Africa.

UNICEF. 2006. *The State of the World's Children 2007: Women and Children- The Double Dividend of Gender Equality*. New York: UNICEF.

----.2007. "Supporting the realization of children's rights through a rights-based approach to legislative reform. Working Paper, New York: UNICEF.

Urassa, Mark, J. Ties Boerma, Japheth Z. L. Ng'weshemi, Rapahel Isingo, Dick Schapink, and Yusufu Kumogola. 1997. "Orphanhood, child fostering and the AIDS epidemic in rural Tanzania." *Health Transition Review* 7:141-53.

van Asten, Piat J. A., Clifford S. Gold, Suleman H. Okech, Svetlana V. Gaidashova, Wilberforce K. Tushemereirwe, and Dirk De Wael 2004. "Soil quality problems in East African banana systems and their relation with other yield loss factors." *The International Journal on Banana and Plantain* 13(2):20-23.

von Struensee, Vanessa M. G. 2004. "Widows, AIDS, health and human rights." Social Science Research Network." (Independent) July 26. <http://ssrn.com/abstract=569665>.

Wanitzek, Ulrike. 1994. "The legal position of widows in Tanzania." *VENA Journal, Gender, Family and the State* 6:15-20.

Weiss, Brad. 1993. "'Buying her grave': money, movement and AIDS in north-west Tanzania." *Africa*: 63(1):19-35.

Weiss, Brad. 1996. *The making and Unmaking of the Haya Lived World: Consumption, Commodization, and Everyday Practice*. Durham: Duke University Press.

Weiss, Brad. 2003. *Sacred Trees, Bitter Harvest: Globalizing Coffee in Northwest Tanzania*. Portsmouth, NH: Heinemann.

(WRI) Widows Rights International. 2011. "Memorandum for empowering widows in development." <http://www.widowsrights.org>.

Wiegiers, Esther. S. 2008. "Gendered Vulnerability to AIDS and its Research Implications." PhD dissertation, Wageningen University.

World Health Organization (WHO). 2014. "Gender inequalities and HIV." http://www.who.int/gender/hiv_aids/en/.

Yanda, Puis Z., Richard Y. M. Kangalawe, and Rehema J. Sigalla. 2005. "Climatic and socio-economic influences on malaria and cholera risks in the Lake Victoria region of Tanzania." Working paper no. 12 (June 2005). Assessments of Impacts and Adaptations to Climate Change (AIACC). http://www.researchgate.net/profile/Richard_Kangalawe.

Yngstrom, Ingrid. 2002. "Women, wives and land rights in Africa: situating gender beyond the household in the debate over land policy and changing tenure systems." *Oxford Development Studies* 30:21- 40.

Young, Kate. 2006. "Widows without rights: challenging marginalization and dispossession." *Gender and Development* 14(2):199-209.

Executive Summary

Everyday social dynamics and cultural drivers of women's experiences with HIV/AIDS: voices from Buhaya, Tanzania is based on ethnographic research conducted in 2005-06 in the village of Nsisha, which is located close to the shores of Lake Victoria and is approximately twelve kilometers from the town of Bukoba. Nsisha is a rural village comprised of 184 households and approximately one thousand inhabitants. Like most households in northwestern Tanzania, which is referred to as 'Buhaya' and refers to the homeland of the Bahaya people who form the largest ethnic group in this area (Rugalema, 1999), each and every household in Nsisha has been indirectly or directly affected by HIV/AIDS, meaning that either household members have been infected by HIV/AIDS, or households have absorbed children from their extended family and clan who have been orphaned by HIV/AIDS.

The HIV/AIDS epidemic was so intense in this region that at the apex, infection rates reached 32.8% in some areas, such as in Bukoba Urban District (Kaijage 1993: 280). Those who became infected often had a history of being involved in the cross-border trade, were soldiers in Uganda during the Kagera War, and, or, had become infected through their spouses and sexual partners, and via informal and formal prostitution. As the wave of the HIV/AIDS epidemic made its impact, many wives became widowed, and children orphaned. Female-headed households increased and often, single women became the caretakers of those orphaned (Rugalema, 1999). This situation created generalized and intense poverty situations for many families burdened by decreasing agricultural yields, land insecurity, soil infertility, climate variability, and a lack of capital and social buffers. As the disease took its toll on caretakers, often disposable assets such as cattle, bikes, radios, land, and other household and personal items were sold to pay for medications to treat HIV/AIDS, and to pay for hospitalizations and traditional funeral ceremonies. As more time was spent on caretaking, less time was spent on farming, which directly leads to issues of household food and nutrition insecurity, livelihood vulnerability, and susceptibility to poor health (Tibaijuka, 1997). Lack of assets, capital, adequate labor on the farm and social assistance exacerbates the livelihood situation, leading to widespread poverty and generalized and chronic food and nutrition insecurity, poor health, lack of livelihood choices and HIV/AIDS in the region, and to its cycle as children inherit vulnerability and impoverishment.

Thus in Buhaya, ‘vulnerability’ is shaped by a multitude of bio-physical and socio-ecological challenges which synergistically intertwine, yielding varying levels of individual struggle and abilities to cope and maintain livelihood resilience. The physical terrain of this region is marked by high rainfall, undulating ridges and overused soils which are increasingly acidic and infertile. Given that most people in the area are semi-subsistent farmers, their ability to derive food, nutrition and health security from the land is critical to their survival. The more recent events of climate variability phenomena - which are projected to endure - compound the challenges posed by the physical landscape and result in unpredictable seasonality, erratic and heavier rains and longer drought periods - which can result in increased rates of malaria, cholera, food, nutrition and health insecurity and HIV/AIDS. Buhaya is a region with a heavy disease burden which affect plants, animals, and humans and which independent of other forces, pose great threats to livelihood security, and like climate variability, lead to declines in food, nutrition, arable land and widespread and chronic poverty. High population densities combined with land shortages and soil infertility escalate and perpetuate poverty and its emanations. When these aforementioned bio-physical challenges intermix, emanations of livelihood vulnerability escalate exponentially, especially for poor people who lack needed buffers - and specifically for women and dependent children in this patriarchal society where land is primarily still bequeathed patrilineally. Given women’s subordinate position in Buhaya in general, they lack as much access to basic human needs – land, food, nutrition, health and economic security – as compared to men.

The HIV/AIDS epidemic emerged in Buhaya at a time of agricultural decline and socio-cultural change. At this time, bananas – the cultural staple food crop – were being ravaged by a variety of pathogens, leading to a significant reduction in yield and a change in the daily diet. In addition, cattle husbandry was on the decline due to disease and the inability to maintain their health. Given this situation, farmers lacked the green manure essential for maintaining soil fertility, and for the ample growth of bananas, as well as other important food crops. These compounding factors lead to permutations of household poverty and food and nutrition insecurity, including the scarcity of protein and capital traditionally derived from livestock and milk. Similarly, socio-cultural chaos and change at the onset of the HIV/AIDS epidemic was punctuated by an influx of refugees from the border countries and consequently, high competition over livelihood resources, poverty imposed by the aftermath of the Kagera War and historical neglect from mainland Tanzania. While not an exhaustive list of the bio-physical and socio-ecological challenges which synergistically react in Buhaya, these common challenges affect most farmers in Buhaya.

In this context, those most vulnerable and susceptible to acquiring HIV/AIDS are the poor who lack buffers to livelihood challenges, and alternatives to their impoverished situation (Tibaijuka, 1997; See also Setel, 1999). The status of one's age, dependency, health, marital and socio-economic status intermix, affecting their ability to buffer against widespread challenges. Due to socio-cultural and physiological reasons, women - and consequently their dependent children - are by far the most vulnerable to the cycle of poverty, HIV/AIDS and their manifestations, and the situation can repeat generationally (WHO, 2014; Baylies and Bujra, 2002).

The conceptual framework for this dissertation thesis draws primarily from Stillwaggon's (2006) comprehensive articulation of the HIV/AIDS epidemic; research which focuses on the gendered vulnerability to HIV/AIDS (WHO, 2014) in Tanzania (Baylies and Bujra, 2000); Crenshaw's (1991) foundational feminist work focusing on 'intersectionality'; and Scheper-Hughes' (1992) detailed ethnography premised on the lived realities of poverty, suffering and dying in Brazil. A comprehensive, socio-ecological ethnographic approach is used to address the connections of vulnerability to poverty, food and nutrition insecurity and HIV/AIDS in this research. Research questions focused on attaining an understanding of each respondent's life history specifically in regard to poverty, health, agriculture, food and nutrition insecurity and HIV/AIDS. Questions asked elicited each respondent's view on these issues in regard to themselves, the family they came from, the family they married into, and their perceptions of these issues in the village. Given that the native language in Bukoba is Luhaya, interview questions for all 316 interviews were translated from English to Luhaya, and respondents' answers were translated into English and at times, Kiswahili. A research assistant fluent in Luhaya, Kiswahili and English accompanied the researcher during all phases of this research. The research was divided into three tiers. The first tier consisted of a village census, whereby each adult household head of the 184 households was interviewed based on semi-structured questions relating to household composition, aspects of economic livelihood, possessions – including livestock, radio, bike, - the type of housing (thatch, corrugated roof), number of orphans, number of children attending school, expenditures, remittances received, etc. The second tier of research consisted of interviewing all widowers and widows in the village, as well as some informants who were married or single, for a total of 97 interviews. Semi-structured and open-ended questions were asked which reflect life histories, perceptions of agricultural change, poverty, food and nutrition insecurity and HIV/AIDS in their lives and overall, their perceptions of poverty and HIV/AIDS in the village. Each interview could last up to 2.5 or 3 hours. The third tier of research consisted of

re-interviewing 30 key informants and gaining more in-depth information in regard to HIV/AIDS, poverty and food and nutrition insecurity, and agricultural change as affected by climate variability, soil infertility and pathogens affecting banana plants and other food crops. In addition, 5 interviews were conducted with HIV/AIDS widows living in Bukoba Urban and are showcased in the chapter on widows.

In whole, the tiers of research and the in-depth questions asked and detailed answers recorded yield four different cross-sectional analyses of the ‘ecology’ of poverty and HIV/AIDS in Buhaya: (1) one which cuts across social stratification within the community, arguing who has more social capital and how this affects their vulnerability; (2) a second which focuses primarily on food and agricultural issues, and more specifically – bananas; (3) a third cross sectional category which centers on climate factors; (4) and a fourth and final category for this thesis which cuts across age categories and focuses on the social variation of widowhood.

This dissertation is comprised of six subsequent sections; an Introduction chapter which lays out the thinking behind the design of the research topic, field research methods used, and general thematic analyses which emerge; which is followed by four thematic chapters, and ends with the General Concluding Discussion. The four chapters appear as follows: (1) *Gendered vulnerability in an ecology of poverty and AIDS in northwestern Tanzania*; (2) *Ethno-cognitive connections between HIV/AIDS and banana plants in the Bahaya agricultural society of northwestern Tanzania*; (3) *Compound vulnerabilities: the intersection of climate variability and HIV/AIDS in northwestern Tanzania*; (4) *Widowhood in Buhaya, Tanzania: livelihood challenges, strategies for coping and resilience*. The General Concluding Discussion closes, highlighting how each chapter is a specific emanation of the thesis topic, and how collectively, they combine to comprehensively illustrate the everyday challenges women in Buhaya, Tanzania experience in regard to surviving and coping in the face of patriarchy, poverty and HIV/AIDS.

As will be illustrated, this thesis argues that within a context of poverty and HIV/AIDS, multiple factors synergize, causing widespread poverty, and the threats and lived realities of land, food, nutrition and health insecurity, and to persistent and bequeathed cycles of entrapment. While poverty and its emanations are ubiquitous in Buhaya, a detailed focus on case studies reveals that while people are poor and suffering, they are still employing the strategies that they can and the resources that they can garner to buffer against livelihood challenges, and attempt to get ahead (Hulme, 2003). I have chosen to focus on case studies

because the detailed realities of people's lives provide the best understanding to revealing where people are falling short, and how their lives can be buffered and improved. As the chapters and case studies collectively show, in an 'ecology of poverty and HIV/AIDS', those that suffer the most are those least equipped to deal with the poverty and marginalization bestowed on them by patriarchal and patrilineal customs and social stratification; the threats of agricultural decline and food insecurity; the negative effects wrought by climate variability; and ultimately, age and the social variation of widowhood. These four themes of socio-ecological vulnerability, as argued in this thesis, combine to perpetuate vulnerability to HIV/AIDS, poverty and its bequeathed manifestations and cycles. HIV/AIDS rates have waned significantly since its apex in this region, however recent reports suggest sero-prevalence (Mulisa, 2013) and infections rates (Tanzania Daily News, 2014) have increased. While this news is alarming, this thesis offers detailed explanations as to why people in Buhaya are still vulnerable, affected and infected. When people are struggling daily because they lack access to basic human needs – gender parity, access to safe water, reliable and nutritious food, viable livelihood opportunities inside and outside farming, education, and health care knowledge and assistance, they are vulnerable and susceptible to poverty and HIV/AIDS. Knowing and understanding this, and creating and implementing sustainable strategies to buffer those most vulnerable will go a long way to curbing the epidemic and achieving greater strides toward human development and well-being.