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# Articulate.



Undergraduate Research Applied to International Development

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Preventing HIV/AIDS through Microeconomic Development:  
Social Outcomes of the CAPAIDS Project in Ethiopia  
*Jongbloed*


Islam, Christianity, and AIDS: Lessons From Embracing Religion  
in the HIV/AIDS Policies of Uganda and Senegal  
*Efevbera*

The Polio Vaccine: Conspiracy and Resistance in the Kano State of Nigeria  
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On Filling Gaps and Breaking Silences: Justice, Agriculture,  
and Sovereignty on the African Continent  
*Kershner*

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*Wolaver*

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Undergraduate Research Applied to International Development

**Editor-in-Chief**

Monica Mukerjee  
*Michigan State University*  
*monica@scoutbanana.org*

**Editorial Board**

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*Michigan State University*  
*alex.h@scoutbanana.org*

Nicholas Micinski  
*Michigan State University*  
*nick@scoutbanana.org*

Sarah Schrauben  
*Michigan State University*  
*sarah@scoutbanana.org*

**Design and Layout**

Jay Shah  
Katie Colpaert

**Faculty Advisors**

John Metzler, Outreach Director  
*Michigan State University*  
*metzler@msu.edu*

Mary Anne Walker, Director.  
*Michigan State University*  
*mawalker@msu.edu*

**Peer Reviewers**

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*Articulate* is an undergraduate scholarly journal that publishes academic papers and writings online and in-print on issues in international development and healthcare in Africa. *Articulate* is a sub-division and publication of SCOUT BANANA Inc. and seeks to educate, motivate, and activate the public about its mission, vision, and the healthcare crisis in Africa. This journal will provide a forum for students to contribute to, as well as make, the debates in international development. We believe undergraduate students are a vital, untapped force to bring new ideas, perspectives, and concepts into the development dialogue. Our goal is to spark, share, and spread knowledge for the sake of innovative change now.

*SCOUT BANANA Mission:* To combine efforts with commitment and determination to save lives in Africa by promoting and supporting community based projects including: fighting preventable diseases, providing a secure source for food and clean water, improving child and maternal health, and sponsoring community health-worker training and other related initiatives.

Current and past issues of *Articulate* can be accessed at [www.scoutbanana.org](http://www.scoutbanana.org).

# Letter From the Editor

Dear *Articulate* Readers,

After much hard work on my part and that of our staff, we are ecstatic to debut *Articulate: Undergraduate Scholarship Applied to International Development*. Sponsored by the Michigan State University African Studies Center and the MSU Office of International Development, *Articulate* is an extension of SCOUT BANANA (Serving Citizens of Uganda Today Because Africa Needs a New Ambulance Now), which aims to educate, motivate, and activate individuals who want to spark change in African healthcare. With a primary focus on the African continent and health, *Articulate* hopes to capture and inspire transformation in the field of international development through the work of promising undergraduate scholars.

Though this approach may not seem revolutionary, the staff of *Articulate* firmly believes that individuals who begin being involved early in Africa and international development are more likely to maintain their interests within their college and professional careers. Our journal, then, provides a space to nurture potential scholars and practitioners on Africa and development and to challenge them to write articles that clarify myths, invent new policies, and reframe old ideas in innovative ways.

In this issue, **Kate Jongbloed** contends through her own research that in addition to improving income for women, microcredit programs foster independence, skill development and hope, which can increase protective behavior of individuals against HIV/AIDS for men and women. Two articles in this issue also highlight the complicated entanglement of religion and virus prevention. **Yvette Efevbera** examines how integrating religion and politics has been essential for national responses to the HIV/AIDS epidemics in Uganda and Senegal, while **Justin Lockwood** writes on how Muslim leaders in the Kano State of Nigeria have become a barrier to polio vaccinations across the region. In efforts to provoke new conceptualizations, **Heidi Kershner** argues that rather than relying on current international law, the crime of biopiracy in the African context requires a non-Western ethics of care to achieve more comprehensive justice. In similar attempts of evaluating policies, **Laura Wolaver** identifies successful elements of national eradication programs in Uganda and Ghana, and she illustrates that contrary to popular belief, eradication efforts do not require the most expensive or intensive methods to be most effective.

As founding editor-in-chief, I have strived to connect my own understandings of international development to the writing development process; if the vision of SCOUT BANANA infuses development with empowerment, *Articulate* must also equip and empower its readers and writers to participate in the debates on international healthcare, policy, and aid. I hope this issue is successful in its mission, and our staff looks forward to hearing from you.

Sincerely,  
Monica Mukerjee, *Editor-in-Chief*  
Michigan State University  
April 2008





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## Foreword

The inaugurating in 2008 of this new journal, *Articulate: Undergraduate Research Applied to International Development*, is timely and important. Increasingly, the unsustainable environmental costs of Western “development” and the urgent crisis for satisfying the most basic of needs for the people of the poorer nations, sometimes termed “the developing world,” are looming large in the public consciousness. After decades of only moderate debates about how to mount development and development assistance, now the most basic of questions arise freshly about what is development in the face of global food deficits, climate shifts for farmers, the surging costs of energy, and the budgetary focus of so many governments on security, intelligence, and military power.

Now, the environmental crises no longer allow us to avoid facing these questions and require us to abandon some of the earlier simple received knowledge about the prescriptive neo-liberal models and structural adjustments that were forced on many “developing societies.”

Also, evidence is mounting that increased economic development has not inevitably trickled down to the poor in the wealthier nations nor brought satisfaction and happiness to even the middle and upper classes of the rich there. Indeed, the World Values Study reveals that economic growth and material consumption have not increased happiness in the U.S. and much of the Western world, but rising levels of happiness are found in Nigeria and South Africa. So, what is development, how do we measure it, and to what extent should we include human personal well-being as a core component in addition to the usual measures of health, consumption, and material improvements?

The important good news, which this new journal reflects, is that our colleges and universities have a new generation of compassionate, intelligent, and empowered young people who are ready to wrestle with these looming questions and to take action on them. Our service learning and internship programs are filled with many students who are committed to human rights, greater global economic equity, and building volunteer networks of action for the well-being of the larger community. Indeed, there are more than 7,800 Peace Corps volunteers (2005), the highest number in 30 years, embody this new volunteerism abroad. Berman notes that since 2004, more than 22,000 nonprofit voluntary groups of teen-and-young-adults have signed on to MySpace to rally supporters for various good works. In the same period, STAND, the anti-genocide coalition focusing now on Sudan has developed nearly 800 chapters in colleges and high schools in the U.S. It is as if Gandhi’s admonition that, “We must be the change we wish to see in the world” has been taken up by young people.

As the editors of this journal indicate in their organizational vision, “We see young people as the key drivers of social change. For so many years international development has been tackled in simplified single-issue campaigns, which only create band-aid effects in the short-term. . . . The way to bring about increased political will on development issues will lie in the creation of a long-term cultural and social movement, spurred by young people, to change the way in which many Americans think about international development.”

That is a goal that all of us share in seeking development of this fragile earth we call home.

David Wiley, *Director*

Michigan State University African Studies Center and Professor of Sociology

April 2008



# Preventing HIV/AIDS through Microeconomic Development:

Kate Jongbloed  
International Development Studies  
University of Toronto

## Abstract

*HIV/AIDS in sub-Saharan Africa is increasingly understood as a disease of poverty, inequality and marginalization. In this conceptualization, some groups and individuals are more at risk for infection than others as a result of their place in an “environment of risk” that affects vulnerability beyond individual behavior. This study assesses the impact of grassroots microeconomic development projects on reducing the environment of risk for adolescent orphans living in slum areas of Addis Ababa, Ethiopia. It looks at a group of HIV-affected adolescents who inhabit multiple vulnerabilities due to their age, socio-economic status, proximity to HIV/AIDS, and often their gender. Through the CAPAIDS Safe Livelihoods project, this group received vocational training and micro-finance to help reduce their vulnerability. This case study suggests that these types of projects can increase income and income security, provide alternatives to risky employment, decrease dependency, reduce community stigma, improve social networks, and raise self-esteem for participants. As a result, microeconomic empowerment is an important new tool in the battle against HIV/AIDS.*

## Introduction

Microeconomic empowerment projects, including those that focus on vocational training, income generation, and micro-credit initiatives, have become a new tool to the medley of approaches used against the HIV/AIDS pandemic. The opportunity provided by this approach lies in its potential to address what this paper considers the underlying social causes of HIV--powerlessness, inequality, and marginalization. Specifically, this paper focuses on a case study of a microeconomic development project operating in slum areas of Addis Ababa,

Ethiopia. The Canada Africa Partnership on AIDS (CAPAIDS) Safe Livelihoods project works to reduce the vulnerability of adolescent orphan heads-of-households to HIV infection by providing vocational training and micro-credit, with the particular goal of providing alternatives to commercial and transactional sex work.

As economic empowerment models of development are increasingly used in the fight against HIV/AIDS, it is crucial to better understand their impact on vulnerability to HIV/AIDS. In order to successfully evaluate the opportunity for microeconomic development as a tool for HIV prevention among vulnerable groups, it is necessary to look beyond its poverty-reduction capabilities and examine the way in which it changes the environment of HIV risk. The paper begins by examining the links between poverty and HIV/AIDS, with a specific focus on how low socio-economic status increases young women’s vulnerability to HIV infection. It then explores the opportunity presented by microeconomic development in preventing new HIV infections by investigating participants’ experiences of the CAPAIDS project. Findings suggest that microeconomic development projects are able to affect vulnerability beyond improving incomes, by impacting a number of different social factors.

## Description of CAPAIDS Project

In 2006, CAPAIDS, a Canadian non-governmental organization, initiated a vocational training and micro-credit project in Addis Ababa through funding from the Canadian International Development Agency. Implemented by two local non-governmental organizations, 60 adolescent orphans received training in trades, including carpentry, leather work, and hairdressing. Upon completion of vocational training, the participants were given

training in business skills, organized into business cooperatives, and provided with start-up capital. The project was implemented with the goal of creating employment alternatives to entering the sex trade, and in the long term, reducing participants' risk of contracting HIV.

CAPAIDS project participants were chosen based on their role as guardians for younger siblings after the death of their parents. All had graduated from or dropped out of high school and lived in slum areas of Addis Ababa, Ethiopia. Prior to involvement in the project some lived with older siblings or other family members, though most were the head of their households. Before completing their training with CAPAIDS, they earned income through work in the informal sector or in the sex trade, as well as some who received support from family members or non-governmental organizations. Three-quarters of all participants were females and all were between 18 and 27 years old.

## Methodology

To investigate how microeconomic development initiatives affect the "environment of risk," a 10-month quantitative study of the CAPAIDS Safe Livelihoods project was undertaken in Addis Ababa, Ethiopia between September 2006 and June 2007. Data was collected through two self-esteem surveys administered at the six-month and one-year points of the project and twenty-two in-depth interviews conducted with project participants, NGO staff and community leaders. Observation of project planning and implementation has also formed an important part of the analysis provided below.

The tools available to the researcher limit the scope of the study, and as a result data on the HIV prevalence among the participants before and after the project is not available. As well, quantitative data on the economic changes experienced by project participants is unavailable, as most participants had only recently begun to establish their businesses and engage in income generating activities at the time of the researcher's departure from Ethiopia.

## Poverty, Gender and HIV/AIDS

Global AIDS data suggests that 33.2 million people worldwide are living with the virus.<sup>1</sup> An

<sup>1</sup> UNAIDS, and WHO. 2007. AIDS epidemic update. Geneva: UNAIDS.

estimated 2.8 million people have died from AIDS already, and 2.5 million more were infected in 2007.<sup>2</sup> These statistics, however, fail to illustrate *who* is being infected, and *why*. Richard G. Parker argues against conceptualizing HIV/AIDS as a "democratic disease," suggesting instead that the virus is concentrated among the most marginalized and powerless.<sup>3</sup> Upon closer examination of global AIDS statistics, it would seem that this is true. Sub-Saharan Africa is considered the most affected region in the global AIDS epidemic, where 68 percent of people are estimated to be living with HIV.<sup>4</sup> It is also home to the 25 countries with the lowest human development in the world.<sup>5</sup>

Paul Farmer has suggested that "poverty is the most pernicious and least studied risk factor of AIDS. Through myriad mechanisms, it creates an environment of risk"<sup>6</sup>. Since the publication of this view, substantial empirical evidence has been presented to give strength to this argument. Alan Whiteside has noted in his study of HIV sub-epidemics that a common characteristic in both the rich and poor world is that HIV spreads among people marginalized within society, particularly "the poor and dispossessed."<sup>7</sup> According to Lynda Fenton, it is possible to see the positive correlation between poverty and HIV prevalence at a global level, whether it is measured by gross domestic product per person, income inequality or the Human Poverty Index.<sup>8</sup>

If we look closer at HIV/AIDS data from Sub-Saharan Africa, we see that of those living with HIV, 61 percent are women.<sup>9</sup> Looking closer still, we see that new infections are concentrated among individuals between the ages of 15-24, with women in this age group three times more likely

<sup>2</sup> Ibid.

<sup>3</sup> Parker, Richard G. 1996. Empowerment, community mobilization and social change in the face of HIV/AIDS. AIDS 10, (Suppl 3): S27-S31.

<sup>4</sup> UNAIDS, and WHO. 2007. AIDS epidemic update. Geneva: UNAIDS.

<sup>5</sup> Mabala, Richard. 2006. From HIV prevention to HIV protection: Addressing the vulnerability of girls and young women in urban areas. Environment and Urbanization 18, (2) (October 1): 407-32

<sup>6</sup> Farmer, Paul. 1996. A global perspective. *Women poverty and AIDS: Sex, drugs and structural violence*. Maine: Common Courage Press.

<sup>7</sup> Whiteside, Alan. 2002. Poverty and HIV/AIDS in Africa. Third World Quarterly 23, (2): 313-332.

<sup>8</sup> Fenton, Lynda. 2004. Preventing HIV/AIDS through poverty reduction: The only sustainable solution? The Lancet 364: 1186-87.

<sup>9</sup> UNAIDS, and WHO. 2007. AIDS epidemic update. Geneva: UNAIDS.

to become infected than men.<sup>10</sup> Clearly, AIDS is affecting some more than others. A close look at the disease distribution indicates that gender, socio-economic status, and adolescence are crucial factors in understanding the environment of HIV risk.

### The Environment of Risk

In Africa, heterosexual sex is the primary mode of HIV transmission.<sup>11</sup> It is with this in mind that the particular “environment of risk” must be understood when examining HIV/AIDS in Africa. Esther Sumartojo expands on Farmer’s notion of the “environment of risk” by suggesting that there are economic, social, policy and organizational aspects that act as structural barriers to or facilitators of an individual’s HIV prevention behaviors.<sup>12</sup> To better understand the “environment of risk,” I will highlight risky income-generating activities, sexual violence, power in relationships, economic dependency, social isolation, community stigma, and self-esteem, as factors that make individuals more or less able to protect themselves from HIV infection.

Lack of access to income, employment, and basic needs can lead individuals to engage in dangerous activities as a survival strategy. In relation to HIV/AIDS, this is referred to as “prioritizing risk” as the immediate needs of food and shelter come before protecting oneself against HIV infection.<sup>13</sup> This often means working in the insecure informal sector, or in the case of women, trading sex for material goods such money, shelter, food and clothing. As well, lack of income can mean living in insecure communities and housing which put individuals at risk of sexual violence. According to a recent study among adolescents living in slum areas of Addis Ababa, two-thirds of women reported being scared of someone in their neighborhood, and over half reported having fear of being raped.<sup>14</sup>

<sup>10</sup> Hallman, Kelly. 2006. Orphanhood, poverty, and HIV risk behaviors among adolescents in KwaZulu-Natal, South Africa. New York: Population Council.

<sup>11</sup> Ackermann, Leane, and Gerhardt de Klerk. 2002. Social factors that make South African women vulnerable to HIV infection. *Health Care for Women International* 23: 162-72.

<sup>12</sup> Sumartojo, Esther. 2000. Structural factors in HIV prevention: Concepts, examples, and implications for research. *AIDS* 14, (Supplement 1): S3.

<sup>13</sup> Mabala, Richard. 2006. From HIV prevention to HIV protection: Addressing the vulnerability of girls and young women in urban areas. *Environment and Urbanization* 18, (2) (October 1): 407-32

<sup>14</sup> Erulkar, Annabel S., Tekle-Ab Mekbib, Negussie Simie, and

Both sexual violence and participation in the sex trade are dangerous realities of participants in the CAPAIDS project. A third of the women who were interviewed acknowledged that they had experienced rape or participated in the sex trade. One woman explained that both her and her younger brother had been raped by men in their community, indicating that it is not only women who are affected by sexual violence. Because direct questions about experiencing sexual violence and participation in the sex trade were not explicit in the surveys or interviews, it is likely that more participants have been affected than those who volunteered information.

Beyond sexual relationships that are forced or paid for, risk of HIV infection is also a part of marriage and other monogamous relationships. Here, the interplay between trust, fidelity and condom use intersect with economic dependency and power. In relationships where both partners are expected to be monogamous, demanding condom use can be seen as distrustful or indicative of infidelity. When one’s spouse is relied on for economic stability, the cost of ending the relationship can be higher than the risk of HIV infection if a condom is not used.<sup>15</sup> Further, in societies where marriage is seen as an economic relationship, women of low socio-economic status are likely to enter relationships with men who are older. This age differential has implications for the power dynamics of the relationship, and also makes it more likely that the husband has had more sexual partners and is HIV positive. One project participant recounted her experience of marrying a significantly older man after the death of her father, the family’s main breadwinner. It was only after she had been married for some time that the father of her new husband told her that his son’s previous wife had died from AIDS. She has been tested and has found out that she is also HIV positive. Thus, power and especially the ability to negotiate condom use (or HIV testing) within monogamous relationships plays an important role in whether or not individuals are able to actively protect themselves from the disease.<sup>16</sup>

While the effects of social isolation, community stigma, individual agency and self-esteem

Tsehailu Gulema. 2004. Adolescent life in low income and slum areas of Addis Ababa, Ethiopia. Ghana: Population Council.

<sup>15</sup> Zierler, Sally, and Nancy Krieger. 1997. Reframing women’s risk: Social inequalities and HIV infection. *Annual Review Public Health* 18: 401-436.

<sup>16</sup> de Guzman, A. 2001. Reducing social vulnerability to HIV/AIDS: Models of care and their impact in resource-poor settings. *AIDS Care* 13, (5) (October 1, 2001): 663-75.

on HIV risk are less obvious than those to do with sexual relationships, studies have shown that they play an important role in affecting an individual's ability to resist infection. Social isolation, a direct outcome of orphanhood and living away from family, is associated with forced sex, earlier sexual debut, exploitative working conditions, and unwanted marriage which all put individuals at higher risk for HIV.<sup>17</sup> Individuals who are isolated from their communities are also less likely to have access to information about HIV/AIDS.<sup>18</sup> Community stigma can affect adolescent orphans as a result of both their affiliation with AIDS and their age; approximately half of the research participants indicated that they experienced stigma. Negative community perceptions can lead to social isolation and make it difficult to seek material or social support from neighbors at a time when it is most needed.<sup>19</sup> Stigma can also affect individuals' self-perceptions. Self-esteem is related to HIV risk in a number of ways, though it needs to be better understood. Sally Zierler and Nancy Krieger note that feelings of powerlessness and low self-esteem are associated with sex without condoms.<sup>20</sup> Ronald Valdeserri further writes that low self-esteem can diminish motivators for self-protection.<sup>21</sup>

The adolescent orphans who participated in the first year of the CAPAIDS Safe Livelihoods project were included because of their particular location within this "environment of risk." The overlapping vulnerabilities associated with their age, socio-economic status, proximity to AIDS (through the death of their parents), and often gender put this group at significant risk of contracting HIV at some point during their life. Clearly, the location of certain vulnerable groups within this concept of the "environment of risk" suggests that the response by governmental and nongovernmental agencies must be

<sup>17</sup> Mabala, Richard. 2006. From HIV prevention to HIV protection: Addressing the vulnerability of girls and young women in urban areas. *Environment and Urbanization* 18, (2) (October 1): 407-32

<sup>18</sup> Hallman, Kelly, Kasthuri Govender, Eva Roca, Rob Pattman, Emmanuel Mbatha, and Deevia Bhana. 2007. *Enhancing financial literacy, HIV/AIDS skills, and safe social spaces among vulnerable South African youth*. New York: Population Council, 4.

<sup>19</sup> de Guzman, A. 2001. Reducing social vulnerability to HIV/AIDS: Models of care and their impact in resource-poor settings. *AIDS Care* 13, (5) (October 1, 2001): 663-75.

<sup>20</sup> Zierler, Sally, and Nancy Krieger. 1997. Reframing women's risk: Social inequalities and HIV infection. *Annual Review Public Health* 18: 401-436.

<sup>21</sup> Valdeserri, Ronald. 2002. HIV/AIDS stigma: An impediment to public health. *American Journal of Public Health* 92, (3): 341-342.

one that does more than simply educates individuals about AIDS, and instead works to provide people with the tools to act on this information.

### **Reducing Poverty to Prevent AIDS**

According to the previously noted literature, poverty affects the ability of individuals to protect themselves from HIV infection. Does this necessarily mean that it is possible reduce HIV infection rates among certain groups by reducing poverty? This is the basic premise of recent microeconomic development initiatives to tackle HIV/AIDS. By involving individuals infected and affected by HIV/AIDS in income-generating activities, micro-credit and micro-finance has been seen as a way to improve families' abilities to cope with the financial burden of AIDS, nutrition and thus the effectiveness of ARVs, and prevention of new infections.

Microeconomic development--such as micro-credit, micro-finance, small business promotion, and provision of vocational training--attempts to affect how people earn money, how much money people earn, and how reliable this income is. It has been used widely as a way to alleviate poverty and empower women in resource-poor settings. As an instrument for HIV prevention, it works to provide women and other vulnerable groups with the tools needed to act on information provided in information-centered prevention campaigns. In other words, microeconomic development can be seen as an opportunity to reduce the environment of risk by promoting alternatives to risky professions, reducing underemployment, increasing incomes, and improving income stability. As we will see, the CAPAIDS microeconomic development initiative has also affected the environment of risk by improving peer networks, reducing community stigma, and improving self confidence.

### **Research Findings**

To explore the effects of microeconomic development programs, I will examine the economic and social changes experienced by CAPAIDS Safe Livelihood project participants immediately after completing vocational training and as their cooperative businesses were established. During this time, almost all participants were employed in their new field, either in the private sector or in recently formed

cooperatives with other participants. In several areas, male and female participants had different experiences based on their gender.

All four male participants interviewed had been employed before joining the project, and in many cases, had taken a pay cut to be involved. For these men, their economic benefit came from having power over their own productivity. A 20-year-old male participant, who was employed in leatherwork, explained, “An individual business is better than everything else. I am more independent through this. Before I was employed as a cook, working 16 hours a day with very low salary.”<sup>22</sup> In reference to their current productivity, male interviewees spoke of being exploited by employers in the past, and the insecurity and danger of working as informal laborers. A 25-year old male carpenter elaborated, “There is a big difference between being an employee and being self employed. With employment, you always get an agreed amount, but here I get as much as I work for. Also, I get satisfaction from knowing it is my own work.”<sup>23</sup> Another man employed in leatherwork responded, “I was a welder and it was bad for my health. Now, I do some brain work – I have made designs on my own and that makes me very happy.”<sup>24</sup> All men interviewed indicated an increased sense of self worth provided by being self-employed and a confidence that while they might be earning less at the moment, they would be able to earn more in the long term through their own persistence.

For women interviewed involvement in the project seemed to have a more direct and visible economic impact: all except one of those interviewed indicated that their income had improved. Half indicated that the improvement came from income stability, while only one noted that she was now able to save. A 23-year-old female hairdresser stated, “I have a better economic situation because my income is stable and a little bit more. Before I could sometimes go to bed hungry.”<sup>25</sup>

Prior to the project, participants had often been dependent on the support of family and the community members. Six respondents had received the support of non-governmental organizations, including all

four male participants. Some women were engaged in work that is categorized under the informal sector, such as taking in laundry, or as being ‘bar girls’, local terminology for prostitutes. Being a ‘bar girl’ often increased women’s vulnerability to other problems, as a 23-year-old female hairdresser disclosed, “After my mom died I lived on the street and worked in a bar, that’s where I got my child.”<sup>26</sup>

Having completed their training, female participants acknowledged increased independence, and the opportunity to stop unsafe employment. One participant emphasized that she was able to find housing of her own, outside of the home of her older siblings. Another, who had undertaken carpentry training, proudly announced that she had actually made the bed that she now sleeps in. So, along with the changes in economic situation occurring among female participants, they also shared similarity with male participants in having an increase in self-pride and confidence. A 23-year-old female carpenter, described, “Before I lived with my older brother and sister, now my younger sister and I have our own household.”<sup>27</sup> Another woman of the same age working in carpentry, stated, “Because I have money of my own, I don’t feel dependent.”<sup>28</sup>

The pride and confidence expounded by project participants might seem secondary to the concreteness of increased income, but when looking at the structural risk determinants of HIV/AIDS, this and other social factors, are equally as important. While alternative employment opportunities and access to income can promote exit or abstinence from the sex trade, it is social factors such as improved self-esteem and confidence in the future that allow adolescent orphans to act on their knowledge of HIV prevention methods.

Participants often referred to a shift from hopelessness to hope, and from powerlessness to agency. Prior to involvement in the project, one participant had been perceived as a ‘hooligan’ within his community, but as neighbors saw him attending vocational training regularly, they began to see him as an asset to the community: “Before the program, when I was jobless, even police considered me

<sup>22</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 May 2007.

<sup>23</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 9 June 2007.

<sup>24</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 May 2007.

<sup>25</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 June 2007.

<sup>26</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 June 2007.

<sup>27</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 9 June 2007.

<sup>28</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 9 June 2007.

unworthy. Now they have changed their mind.”<sup>29</sup>

Among many participants, this sense of hope and agency has made them create goals for the future, whether it is continuing their education or expanding their business. Sixty percent of respondents referred to having a new sense of purpose. A 21-year-old male participant explained, “Before, I had nowhere to go, my time was spent idle at home. Now, I have purpose.”<sup>30</sup> Another participant, a 27-year-old female hairdresser, responded, “I’ve changed my thoughts of death to thoughts of future.”<sup>31</sup> According to Kelly Hallman and Eva Roca, this “future-oriented attitude” helps to reduce HIV incidence as it leads to protective behavior.<sup>32</sup> Perception of agency and, in turn, self-efficacy, can help increase confidence in negotiating safe sex and condom use as well.

Improvements in social networks that have come about as an indirect result of the project are also important in reducing HIV risk. The project provided an entry point for participants to connect with other youth in similar situations. A male leatherworker commented, “Since we are orphans, we have had to struggle harder for a better life. The program creates a supporting environment among us.”<sup>33</sup> Another male carpenter explained, “Being involved in the group means that I can freely discuss HIV with the others in the association which gives me knowledge.”<sup>34</sup> This interaction with peers, then, also provided opportunities for informal discussion on issues surrounding HIV/AIDS, sibling care, sex and relationships.

Sexual violence remains a difficult aspect of HIV risk to address, as it requires fundamental changes in society. Despite that the explicit goal of the project is not to undertake these types of changes, it is possible that the CAPAIDS Safe Livelihoods project has had an impact in this area in two ways. First, since women are particularly susceptible to sexual abuse when they are socially isolated, it is possible that the creation of peer networks and reduction of stigma against participants could have

a positive impact on reducing their risk of sexual violence. Second, according to Richard Mabala, women are significantly less able than men to identify “safe spaces” in their communities, and also are more likely to identify feelings of bodily insecurity in their households and neighborhoods. Mabala suggests that there is an opportunity to reduce the ‘environment of risk’ by providing women with safe spaces apart from family “where they can meet, learn, and provide support to one another.”<sup>35</sup> Thus, it is possible that the accidental “safe spaces” created by a number of participants spending each day at a gender-segregated training institution have also played a role in reducing their HIV risk.

## Conclusion

Through the voices of the CAPAIDS project participants, the social impact of microeconomic empowerment is apparent. It is here that the most compelling data about the project’s results on systemic causes of HIV/AIDS become visible. When asked how involvement in the program has affected their lives, about half said that the job they secured with the help of the program was a better way of generating income. Others emphasized increased independence, skill development, and hope. In the long term, participants expected the program to help increase their income, make more education possible, open their own businesses and allow them to have a “better life.” All participants felt that they were more able to take care of themselves and their families as a result of their participation, and all felt that they were either less vulnerable or no longer vulnerable to working in dangerous conditions to make ends meet.

In working towards HIV/AIDS prevention, former UN Secretary-General Kofi Annan has called for a “deep social revolution that transforms relations between women and men, so that women will be able to take greater control of their lives—financially, as well as physically.”<sup>36</sup> Microeconomic development is designed to alleviate poverty, and as this research suggests, it also presents an opportunity to impact

<sup>29</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 May 2007.

<sup>30</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 May 2007.

<sup>31</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 14 June 2007.

<sup>32</sup> Hallman, Kelly, and Eva Roca. 2007. Reducing the social exclusion of girls. New York: Population Council, 27.

<sup>33</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 25 May 2007.

<sup>34</sup> Interview by author. Minidisc recording. Addis Ababa, Ethiopia, 9 June 2007.

<sup>35</sup> Mabala, Richard. 2006. From HIV prevention to HIV protection: Addressing the vulnerability of girls and young women in urban areas. *Environment and Urbanization* 18, (2) (October 1): 407-32

<sup>36</sup> Annan, Kofi. 2001. Secretary-general proposals Global Fund for fight against HIV/AIDS and other infectious diseases at African Leaders Summit. At African Leaders Summit, Nigeria, <http://www.un.org.myaccess.library.utoronto.ca/News/Press/docs/2001/SGSM7779R1.doc.htm> (accessed 2 March 2008).

the social factors that contribute to HIV risk. When it is pitted against HIV/AIDS, microeconomic development projects such as the one undertaken by CAPAIDS in Ethiopia can be a powerful tool for dismantling the environment of risk associated with poverty.

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# Islam, Christianity, and AIDS: Lessons From Embracing Religion in the HIV/AIDS Policies of Uganda and Senegal

Yvette Efevbera  
International Relations  
Michigan State University

## Abstract

*This paper examines the complex relationship between religion and politics in HIV/AIDS policy in the case studies of Uganda and Senegal. Using an interdisciplinary approach, this paper focuses on two countries that have successfully responded to HIV/AIDS epidemic domestically: Uganda, whose high prevalence rate of 15% was decreased by more than half in under a decade, and Senegal, whose epidemic has been contained at less than 2% prevalence since the debut of HIV. Both countries have experienced success in different ways, yet the commonalities in response methods include a strong, multisectoral government-led approach. The government alone, however, is not sufficient in responding to a global health, social, economic, and political epidemic and these countries are again comparable for their effective incorporation of civil society, particularly through religion. This paper will examine the role that religion has played in both countries in its ability to legitimize government-led HIV/AIDS campaigns and mobilize the population in ways that effectively reduce infection and improve treatment, care, and prevention. It will do so by providing historical context of the HIV/AIDS crisis in the case studies, underlying the capacities of the state that allowed for such responses, and investigating religious influences in contemporary HIV/AIDS policies in both countries. This paper will demonstrate that in cultures where religion is important, such as Uganda and Senegal, the interrelatedness of religion and politics is essential in effectively responding to the HIV/AIDS epidemic.*

## Introduction

Having killed more than 36 million individuals worldwide, AIDS has emerged as one of the deadliest diseases in the world.<sup>1</sup> HIV/AIDS has consequently orphaned more than 14 million children since its discovery and has disproportionately affected women worldwide. The effects of HIV/AIDS have spanned beyond merely health concerns; the political, economic, and particularly social realms of life have been disturbed by the epidemic.<sup>2</sup> HIV/AIDS is in a reciprocal relationship with poor development and poverty, and without viable solutions, the affected are likely to continue to denigrate. What is more striking is that 70% of the HIV/AIDS population—that is over 25 million individuals—is concentrated in sub-Saharan Africa, thus raising AIDS to the number one killer on the African continent and a concern in the realm of development.<sup>3</sup> HIV/AIDS infects more than one-quarter of the adult population in some regions and is killing “young women and men in their most productive years, including those in the best-educated and skilled sectors of populations, as well women of child bearing age, together with attendant transmission to children”.<sup>4</sup> As a result, the African continent is disproportionately affected.

Equally disturbing is that while the global HIV/AIDS epidemic is now addressed as a serious concern, the impact of the crisis is not decreasing. In

<sup>1</sup> UNAIDS. “AIDS Epidemic Update: December 2007.” The Joint Program on HIV/AIDS and the World Health Organization. Nov. (2007).

<sup>2</sup> Peter Piot, Michael Bartos, Peter D. Ghys, Neff Walker, and Bernhard Schwartlander. “The global impact of HIV/AIDS.” *Nature*. 410 (19 April 2001): pp. 968 – 973.

<sup>3</sup> USAID. “The ABCs of HIV Prevention.” *USAID Health: HIV/AIDS*. 24 Aug. 2006.

<sup>4</sup> Peter Piot, Michael Bartos, Peter D. Ghys, Neff Walker, and Bernhard Schwartlander. “The global impact of HIV/AIDS.” *Nature*. 410 (19 April 2001): pp. 968 – 973.

spite of current research on vaccines and treatment, nongovernmental organizations' (NGO) grassroots work, and international funding totaling billions of U.S. dollars, infection rates are projected to continue growing above the estimated 36% of the total adult population that exist in some regions in Southern Africa.<sup>5</sup> To date, strong government involvement, in conjunction with the aforementioned strategies, has produced the most successful results in addressing HIV/AIDS.

Discussion on how to decrease the negative impact of the HIV/AIDS crisis attempts, without much success, to suggest different policies and delivery methods in responding to the epidemic. Many of these policies, however, have been geared toward mass results for many disparate nations and have consequently lacked a full understanding of the HIV/AIDS crisis in the unique and diverse communities affected. One positive result of discussion, however, has been the identification that the countries of Senegal and Uganda have had significant success in response to HIV/AIDS. These countries have served as both continental and global examples of hope in maintaining a low rate of prevalence and decreasing the rate of infection since the 1990s in particular. Senegal's success stems from its initial and immediate response to the crisis in 1986, and the republic boasts a 0.9% prevalence rate today, the lowest in sub-Saharan Africa.<sup>6</sup> On the opposite spectrum, the country of Uganda had a high HIV prevalence rate of 15% at the beginning of the 1990s and after a severe drop, holds a rate of 6.7% today.<sup>7</sup> With these two cases at the forefront in addressing their nations' crises, this author asserts that future solutions can be generated by examining both countries responses to HIV/AIDS and finding the similarities and differences.

In a United Nations-published article on HIV/AIDS, Fred Kirungi, a contributor on Uganda to the United Nations Development Program (UNDP), highlights that in Uganda, "leadership, education and openness are keys to progress".<sup>8</sup> He also emphasizes that work in "local councils... combating stigma ...

<sup>5</sup> UNAIDS. "AIDS Epidemic Update: December 2007." The Joint Program on HIV/AIDS and the World Health Organization. Nov. (2007).

<sup>6</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2007 - 2011 de Lutte contre le SIDA. République du Sénégal, (2007).

<sup>7</sup> USAID. "The ABCs of HIV Prevention." USAID Health: HIV/AIDS. (24 Aug. 2006).

<sup>8</sup> Fred Kirungi. "Uganda beating back AIDS." Africa Recovery, United Nations. 15.1,2 (June 2001): p. 26

society-wide coordination...and cultural sensitivities" has been monumental to Uganda's success in reversing its rate.<sup>9</sup> Similarly, the Joint United Nations Program on HIV/AIDS (UNAIDS) and the UNDP acknowledge that "the Senegalese government's decision to break the silence surrounding AIDS - and break it early - added a new element," along with the country's "strong social and religious values".<sup>10</sup> One can argue, then, that governments alone cannot formulate or implement HIV/AIDS policy, as the successful case studies of Uganda and Senegal show. The society and its cultures must be taken into account, and one aspect of such is through religion. While Uganda, a predominately Christian nation, and Senegal, comprised primarily of Muslims, have created different responses to addressing the crisis, both nations displayed success with emphasis from their religious backgrounds. Using the case studies of Uganda and Senegal, this paper will illustrate that in areas where religion is an important component of the culture, religion—through institutions, organizations, and affiliation—is crucial for providing moral legitimacy and population mobilization for HIV/AIDS awareness, prevention, treatment, and care.

### **Religion and AIDS policy: Exploring Connections**

In discussing the relationship between responses to AIDS, state leadership, and mobilizing community involvement via religion, a number of complex, interdisciplinary discussions and concerns arise. Catherine Boone and Jake Batsell, two scholars on comparative democracies with emphasis on the African continent, highlight the importance of the relationship between AIDS and politics and an interdisciplinary rather than single discipline approach. Stephen Ellis and Gerrie Ter Haar, scholars on religious developments in Africa and the Diaspora, emphasize the role that religion can and has played in politics today, particularly on the African continent. Finally, Felicitas Becker and P. Wenzel Geissler, who specialize in African studies, begin to make a connection between part of the complex relationship of religious organizations and AIDS. The following reviews serve to analyze existing arguments in order to strengthen the unique approach this paper will take in investigating the successes of religion in AIDS politics in Senegal and Uganda.

<sup>9</sup> Ibid.

<sup>10</sup> Quist-Arcton, Ofeibea. "Senegal: Praise for AIDS Success – But the Struggle Continues." allAfrica.com. (6 July 2001).

In “Politics and AIDS in Africa: Research Agendas in Political Science and International Relations,” authors Boone and Batsell legitimize discussion on HIV/AIDS with a political science or international relations foundation. The authors emphasize the necessity of political science and international relations to grapple with the issues, stating that the HIV/AIDS epidemic “has been conceived of as too private, too biological, too microlevel and sociological, too behavioral and too culture to attract” much attention and has consequently led to a gap in effective responses.<sup>11</sup> They note that the implications of AIDS extend beyond a social and economic crisis, and suggest that the fact that 85% of HIV/AIDS cases are found in developing countries prove that HIV/AIDS is a political crisis too.<sup>12</sup> The authors indicate that a lack of realization of the interconnectedness of “the state, institutional reform and development, democratization, civil society, globalization and global governance is not evident to many people”.<sup>13</sup> Consequently, an interdisciplinary approach to examining the crisis should be taken, as this paper will use.

Boone and Batsell’s argument is particularly stark in that it identifies areas of the political realm that not only make HIV/AIDS discussion relevant but that show how religion can then play a role. Success in dealing with HIV/AIDS is not necessarily dependent on the highest levels bureaucracy and economic development, as Kenya and Zimbabwe, who are considered to be well-endowed in these areas, face some of the highest rates of HIV/AIDS.<sup>14</sup> What Senegal and Uganda have been able to do, in spite of poor economic situations and civil wars, is create productive and effective partnerships between the governments and civil society in order to increase HIV/AIDS prevention efforts. This suggests that Senegal’s stable state and Uganda’s consolidated presidential position have found ways, including through religion, to legitimize their AIDS campaigns to the people, as this paper asserts.

Ellis and Haar’s “Religion and Politics in sub-Saharan Africa” notes that the personal activity of religion influences the daily lives of Africans regardless of urban or rural location. They explain

<sup>11</sup> Catherine Boone and Jake Batsell. “Politics and AIDS in Africa: Research Agendas in Political Science and International Relations.” *Africa Today*. 48. 2 (2001): pp. 3 – 33.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

that “religious belief operates at every level of society in Africa,” and thus religion is implicitly revealed as a tool used in connecting individuals in different locations and mobilizing them toward a common goal.<sup>15</sup> It is this fluidity of ideology that shows the linkage between religion in politics, particularly in sub-Saharan Africa. Ellis and Haar focus on religion as viewed through religious movements, particularly examining Christianity in sub-Saharan Africa. Ellis and Haar furthermore state that religion can be used as a replacement for order and accomplishing tasks when a functioning state is not present and can provide legitimacy amongst the people. This paper agrees with the perspective that religion does provide effective mobilization and legitimacy amongst the people yet seeks to expand upon on religion’s role by examining more than just religious movements and looking at both a predominately Christian and predominately Muslim society.

Becker and Geissler examine the relationship between religion and its implications for HIV/AIDS in “Searching for Pathways in a Landscape of Death: Religion and AIDS in East Africa.” Noting a shared history in the region, Becker and Geissler to note that “the role of religions in providing care and support for sufferers is well known... as is the intransigence of some of them, most visibly evangelical fundamentalism and the official line of the Catholic Church regarding the promotion and use of condoms to prevent HIV infection”.<sup>16</sup> The authors focus on the practice of religion, that is, “the way people rely on shared religious practice and personal faith in order to conceptualize, explain and thereby to act upon the epidemic”.<sup>17</sup> Religion can serve to promote behavioral changes, such as emphasizing abstinence and fidelity in sexual practice. Yet the authors denote that religion, through the Catholic Church, can actually promote risky behavior by not supporting condom use and distribution: “the only effective way of preventing infection without abandoning sexual intercourse”.<sup>18</sup>

Becker and Geissler look at “religious *prescriptions*” and find that faith-based responses alone are not sufficient in responding to the HIV/AIDS crisis. They conclude, however, that religion

<sup>15</sup> Stephen Ellis and Gerrie ter Haar. “Religion and politics in Sub-Saharan Africa.” *The Journal of Modern African Studies*. 36.2 (1998) pp. 175 – 201.

<sup>16</sup> Felicitas Becker and P. Wenzel Geissler. “Searching for Pathways in a Landscape of Death: Religion and AIDS in East Africa.” *Journal of Religion in Africa*. 37 (2007): pp. 1 – 15.

<sup>17</sup> *Ibid.*

<sup>18</sup> *Ibid.*

can act as a powerful tool in creating discourse and unique responses to the pandemic. Religion provides alternatives to care (religious healing) that, in conjunction with other practices, can produce the greatest physical, mental, and spiritual results for individuals. Focusing more on HIV/AIDS policy, this paper agrees that while religion alone is not sufficient in responding to HIV/AIDS, it plays a crucial role. This paper maintains a cultural relativist view, however, and avoids asserting that any one religion has better responded the pandemic. Instead, the author here seeks to show that religion, as an important element within culture, is also essential in responding to HIV/AIDS through policy.

Finally, public opinion of African themselves, as seen through the Afrobarometer public opinion polls, is indicative of how the African people see religion and AIDS in politics. The Afrobarometer is a compilation of surveys that “measures the social political and economic atmosphere in Africa”.<sup>19</sup> Afrobarometer data collected from 2007 shows that 74.9% of Senegalese and 84.2% of Ugandans are satisfied with their countries’ responses to AIDS, which is above the 69.7% average for the 18 countries involved in the polling. This suggests, as this paper will examine, that Senegal and Uganda have effectively responded to HIV/AIDS. The survey also asked if individuals supported AIDS spending by the government, and results were separated by religious group identification. The following table was created from Afrobarometer data, and only the majority religious groups in each country were indicated from highest to lowest representation in the country, due to their statistical significance in number:

Percentage that agree AIDS programs should be funded by government			
	<i>Very Strongly Agree</i>	<i>Strongly Agree</i>	<i>Total</i>
<b>Senegal</b>			
Tijaniyyah	33.2	21	54.2
Mouride	21.2	21.7	42.9
Catholic	28.6	34.3	62.9
<b>Uganda</b>			
Catholic	24.3	22.5	46.8
Protestant (main)	26.7	19.3	46.0
Protestant (evangelical)	29.5	15.8	45.3
Muslim (Sunni)	31.6	14	45.6

<sup>19</sup>“Afrobarometer.” 2007. The Institute for Democracy in South Africa, Centre for Democratic Development, and Michigan State University Dept. of Political Science.

As is shown, these majority religions are strongly in support of a response to AIDS and would willingly allow their countries to financially support such endeavors. Senegal’s average percentage in support for a government response is 53.3% while Uganda’s is 45.9%. These numbers, reaching nearly 50% and in the case of Catholics in Senegal exceeding 60%, suggest support for AIDS funding in both Senegal and Uganda at levels above those seen in other countries. The support for AIDS funding by religious affiliation in these two case studies suggests that the religious communities support government efforts against AIDS. This creates interest as to what element is responsible for their inclusion in AIDS support and what exactly the role of religion is in Uganda and Senegal’s AIDS policies, as this paper seeks to answer.

**Uganda and Senegal: Different State-Society Histories and Capacities:**  
*The Pattern of AIDS, Early Government Response, and State Capacity to Respond*

As James Putzel, Director of the Crisis States Research Centre in the Development Studies Institute at the London School of Economics and Political Science notes, “in order to understand the terrain for government action in relation to HIV/AIDS, it is essential to take note of the epidemiological and social factors that drive the epidemic in each country”.<sup>20</sup> The Acquired Immune Deficiency Syndrome (AIDS) is caused by the Human Immunodeficiency Virus (HIV).<sup>21</sup> Two predominant strands of the virus exist, HIV-1 being the most prevalent and destructive form worldwide while HIV-2 is less likely to progress to AIDS and does so over a longer period of time.<sup>22</sup> Once an individual acquires AIDS, his immune system becomes significantly weaker and he is susceptible to minute illnesses that prove fatal. Various modes of contracting HIV include sexual transmission, mother-to-child transmission, blood transfusion, and intravenous drug use.<sup>23</sup> The two former methods are

<sup>20</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>21</sup> Brian Hoyle. “AIDS/HIV.” Detroit: Thomson Gale, 2006.

<sup>22</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>23</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2007 - 2011 de Lutte contre le SIDA. République du Sénégal, 2007.

most prevalent in African countries,<sup>24</sup> and this creates concerns of the vulnerability of women, who comprise 75% of HIV-infected individuals in sub-Saharan Africa, and of children, who in a 1997 WB report accounted for 15 – 20% of infections.<sup>25</sup>

In Uganda, HIV/AIDS was spread through high risk groups and as a result of civil war, a degrading economy, and questionable political governing that was unable to respond to the high number of displaced and mobile persons.<sup>26</sup> George C. Bond and Joan Vincent suggest that cases were present as early as 1982 in the southwest region of Uganda, and with high levels of internally-displaced persons and growing migrant forms of work such as trucking, the virus began to spread further to the capital city of Kampala.<sup>27</sup> Commercial sex became more prevalent in order to maintain livelihood, and when combined with the mobile groups of truckers and soldiers, the rate of HIV/AIDS climbed steadily to an 18% peak in 1995 in both populated urban and rural areas.<sup>28</sup> Social characteristics, including the low levels of male circumcision in Uganda, may have also contributed to the vast spread of AIDS in Uganda, and this can be attributed to an 80% Christian majority.<sup>29</sup> The World Health Organization (WHO) and UNAIDS suggest that based on evidence from Kenya, Uganda, and South Africa, male circumcision, when partnered with other forms of HIV prevention such as condom use, testing, and counseling, “reduces the risk of heterosexually acquired HIV infection in men by approximately 60 per cent.”<sup>30</sup>

The state of Uganda was largely at fault for creating greater mobility of vulnerable populations.

<sup>24</sup> Ibid.

<sup>25</sup> Michael Fleshman. “Women: the Face of AIDS in Africa.” *Africa Renewal, United Nations*. 18.3 (2004): p. 6. 9 Dec. 2007.; James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>26</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>27</sup> George C. Bond and Joan Vincent. “Chapter 6: AIDS in Uganda: the First Decade.” *AIDS in Africa and the Caribbean*. ed. George C. Bond, John Kreniske, Ida Susser, and Joan Vincent. Boulder, Colorado: Westview Press, (1997). pp. 65 – 85.

<sup>28</sup> UAC. “Uganda AIDS Commission Annual Report 2000.” *Uganda AIDS Commission*. 2003. <[www.aidsuganda.org](http://www.aidsuganda.org)>

<sup>29</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>30</sup> “Male circumcision can help reduce HIV infections.” *Appropriate Technology*. 34.2 (June 2007): 31.

Military official Idi Amin Dada seized power of the state in a 1971 weeklong usurper coup, suspended constitutional rights during his eight year rule, and was responsible for a tumultuous civil war and a number of deaths related to ethnic conflicts within Uganda.<sup>31</sup> This political situation created a sense of restlessness and displacement for thousands of citizens and served to increase mobility of vulnerable populations, particularly soldiers. When Milton Obote assumed executive leadership for the second time in 1981, the AIDS crisis was just emerging. The Ministry of Health and other political officials, however, were in a “state of denial” about HIV/AIDS, instead referring to the deadly disease as “Slim” or the “wasting disease”.<sup>32</sup> It was not until two doctors, Dr. David Serwadda of the Uganda Cancer Institute and Dr. J. Wilson Carswell, a British surgeon practicing in Uganda, sent blood samples to UK without the government’s knowledge that in October 1984, positive results forced the Ugandan government to take new action.<sup>33</sup>

In contrast, HIV/AIDS in Senegal has reflected a different path of development than Eastern and Southern Africa. Since gaining independence in 1960 from France, the Republic of Senegal has been politically stable, thus preventing many of the issues Uganda faced. Senegal has avoided large displaced populations because it has not experienced any civil wars or coups. Furthermore, Senegal’s functioning state and strong Islamic identity have “allowed the maintenance of traditional and local institutions” in order to engage the population from the highest levels as well as the most local levels.<sup>34</sup> Putzel also makes the identification that Senegal held an “epidemiological advantage” due to the prevalence of the “less virulent” HIV-2 strand, which possibly slowed the development of the HIV-1 strand.<sup>35</sup>

Senegal also responded much more rapidly to the HIV/AIDS epidemic than Uganda did or was able to. One immediate government response was the legalization of prostitution, which helped efficiently monitor and quell the spread of sexually-transmitted

<sup>31</sup> Paul Nugent. *Africa Since Independence*. Basingstoke, Hampshire ; New York: Palgrave Macmillan, 2004.

<sup>32</sup> James Putzel. “The Politics of Action on AIDS: A Case Study of Uganda.” *Public Administration and Development*. 24 (3 Feb 2004): pp. 19 – 30.

<sup>33</sup> Ibid.

<sup>34</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>35</sup> Ibid.

infections in Senegal.<sup>36</sup> Michelle Lewis Renaud, author of a unique glimpse into the crossroads of prostitution in Senegal, examines the “moral ambiguities prostitutes face in a predominately Muslim country where the struggle to survive in a tough economy is balanced against the struggle to be a good Muslim”.<sup>37</sup> Renaud’s findings, as well as this author’s based on everyday conversation during a five month stay in Senegal, support that the legalization of prostitution shows an understanding on the part of the government that in a very poor economy, individuals must find ways to survive, preferably those within the boundaries of the law. Meanwhile, Islamic religious majority, while not condemning prostitution, strongly supported male circumcision and less promiscuity amongst youth.<sup>38</sup>

### Historical Address of the Epidemic and State-capacity’s Role

In Uganda, after the disservice to the crisis done by the second Obote regime, 1986 president Yoweri Museveni realized the necessity of addressing the crisis at a strong level. Museveni teamed up with New Health Minister Dr. Ruhakana Rugunda, and the two began focusing on educating the public on the virus. Under Museveni’s orders, Rugunda attended the 1986 World Health Assembly in Geneva and vocalized that the AIDS crisis had taken hold of Uganda.<sup>39</sup> At home, the state-owned newspaper promoted awareness and testing, while research immediately began. Bond and Vincent say that epidemiologic research in Uganda was geared:

...to discover transmissions patterns, risk factors, and the prevalence of HIV infection in Uganda. In collaboration with the World Health Org, an AIDS Control Program (ACP)

was set up in 1986. Between 1987 and 1988, most of its \$14 million budget was spent on health education, the protection of health workers, serologic testing, and blood bank renovation. In 1988 Uganda’s Ministry of Health called for more attention to patient care. In late 1990 a massive restructuring of AIDS research and governmental responsibility was undertaken with President Museveni himself at the helm.” Bond and Vincent, 1997.

Tuberculosis became the death sentence for a number of AIDS victims, and in response, Uganda’s 1990 AIDS policy involved a multisectoral approach involving all infectious diseases. According to the Ugandan government, “the policy calls for individual and collective participation of all members of society and aims to address all aspects of the epidemic”.<sup>40</sup> Such an ambitious task led to the creation of the Uganda AIDS Commission (UAC) in 1992, which is a government branch responsible for dealing directly with HIV/AIDS in Uganda. Through the UAC, immediate government policy included working to address high risk groups and continuing the public education campaign.<sup>41</sup> The Ugandan government also worked with a number of international organizations and as a policy analysis will later show, incorporated some aspects of the culture in politics with successful results.

Uganda’s monumental success in responding to the AIDS crisis was very much because of the leadership of Museveni. Museveni’s interest in the AIDS epidemic was prompted when Fidel Castro informed him that of the 60 Ugandan officers he sent to Cuba for military training, 30% were HIV-positive.<sup>42</sup> Regardless of his personal sentiments, the strength and consolidation of Museveni’s power as given by the Ugandan government allowed for such a response, despite popular views on the crisis. Putzel indicates that the four factors that contributed to Museveni’s success in addressing AIDS were (a) his attention and acknowledgment to expert medical advice (unlike Obote’s second regime who denied the disease despite evidence), (b) the country’s emergence

<sup>36</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2002 - 2006 de Lutte contre le SIDA. République du Sénégal, (2002).

<sup>37</sup> Kearsley A Stewart. “Review: Recent Publications on Sexual Health in Africa.” *African Studies Review*. 41.2 (Sept 1998): 138 – 141.; Michelle Lewis Renaud. *Women at the Crossroads: A Prostitute Community’s Response to AIDS in Urban Senegal*. Amsterdam: Gordon and Breach Publishers, (1997).

<sup>38</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2002 - 2006 de Lutte contre le SIDA. République du Sénégal, 2002.; James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>39</sup> James Putzel. “The Politics of Action on AIDS: A Case Study of Uganda.” *Public Administration and Development*. 24 (3 Feb 2004): pp. 19 – 30.

<sup>40</sup> UAC. “Uganda AIDS Commission Annual Report 2000.” *Uganda AIDS Commission*. (2003). <www.aidsuganda.org>

<sup>41</sup> George C. Bond and Joan Vincent. “Chapter 6: AIDS in Uganda: the First Decade.” *AIDS in Africa and the Caribbean*, ed. George C. Bond, John Kreniske, Ida Susser, and Joan Vincent. Boulder, Colorado: Westview Press, (1997). pp. 65 – 85.

<sup>42</sup> James Chin. *The AIDS Pandemic*. Oxford: Radcliff Publishing, 2007.

from civil war and economic strife that left “little to lose and everything to gain” by responding to the HIV/AIDS epidemic, (c) the unity amongst different political parties, and (d) the support of the foundation of Museveni’s HIV/AIDS campaign.<sup>43</sup> Such power in leadership was consolidated because of Uganda’s de-jure authoritarian rule.

Senegal’s path to addressing AIDS took on a much different, though also successful, route. This was largely in part to the fact that the early methods of address had proved significant in avoiding an increased growth rate and thus Senegal was able to focus less on the emergency AIDS response programs that Uganda used. Unlike Uganda’s poor blood transfusion centers, Senegal’s blood banks were considered safe and efficient before the AIDS crisis even emerged. Under French colonization, the first bank was established in 1943, and a bill in 1970 established regulations for safe blood transfusions.<sup>44</sup>

As with Uganda, the Senegalese government recognized the importance of addressing the crisis immediately. The government used a multisectoral approach, incorporating offices such as the Ministers of Health and Prevention, Education, the Force of Security (army), Artisan Industry, Family, and Youth.<sup>45</sup> Senegal made immediate connections between the public and private sectors, establishing relationships with international forces especially very quickly. Like Uganda, Senegal also established a branch of the government to respond to the HIV/AIDS and sexually-transmitted infections crises, called the *Conseil National de la Lutte contre le SIDA*, or the National Council for the Battle against AIDS.<sup>46</sup> Yet by establishing the CNLS in the same year Senegal saw its first case of AIDS, October of 1986, Senegal’s response was more efficient than Uganda’s, whose government agency for responding to HIV/AIDS (the UAC) was created a decade after the first national case of HIV/AIDS.

As Senegal’s success with AIDS was great in spite of a much smaller realization of the epidemic, one can see that state capacity must hold significance

<sup>43</sup> James Putzel. “The Politics of Action on AIDS: A Case Study of Uganda.” *Public Administration and Development*. 24 (3 Feb 2004): pp. 19 – 30.

<sup>44</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>45</sup> Conseil National de lutte Contre le SIDA (CNLS). *Plan Stratégique 2007 - 2011 de Lutte contre le SIDA*. République du Sénégal, (2007).

<sup>46</sup> Ibid.

here. Senegal today is considered “Africa’s most ‘advanced’ democracy” but at the time of government AIDS response, it was only just beginning to assume this role. For two decades after independence in 1960, Senegal fell under the rule of French-supported Leopold Senghor. His legacy includes one attempted but unsuccessful coup, by his former prime minister, and aside from unrest in the southern region in the 1980s, Senegal saw internal peace for most of its existence.<sup>47</sup> Senegal faced de facto one-party system for ten years, and in 1976 the system was opened to limited multi-party competition, and the strength of Senegal’s democracy began to emerge. When Abdou Diouf, Senghor’s successor, was elected president in 1981, many of Senegal’s political restrictions were removed.<sup>48</sup> In addition, Diouf’s regime was committed to democracy for the people, making contacts with international organizations due to Senegal’s stability as a nation and necessity of foreign aid. Nepotism in the executive branch of government was no longer the norm; Diouf began a lasting legacy of incorporating opposition party leaders into the government in the 1990s and this helped Diouf strengthened his position as a democratic leader. Putzel explains the effects of Diouf’s consolidated power:

While the Parti Socialist [party of Senghor and Diouf] was often criticised for over-centralisation and, while much of the discourse about achieving the kind of behavioural change that is necessary to slowing transmission of HIV/AIDS is geared towards mobilising ‘civil society’, it was the Parti Socialist’s centralist character that allowed it to reach down through the association to every corner of the country and that was responsible for the early awakening of the nation to the danger posed by the virus. Putzel, 2004.

Ultimately, a strengthened presidential position, and the commitment of President Diouf to respond to HIV/AIDS, allowed for a successful campaign.

In both cases, Senegal and Uganda achieved significant success in their responses to HIV/AIDS. Senegal’s response may have been quicker than Uganda’s reduction in rate by 50%, but one has to

<sup>47</sup> Dennis Charles Galvan. “Political Turnover and Social Change in Senegal.” *Journal of Democracy*. 12.3 (2001) pp. 51 – 62.

<sup>48</sup> Freedom House. 2007 Freedom House. <www.freedomhouse.org>

remember that the extent of the crisis was greater in Uganda by more than 12%. In either case, the government played a central role in responding to the crisis. The government, and more specifically the executive head, was at the forefront of the battle, and integrated different sectors, especially in the case of Senegal, in order to respond to the crisis. The success in both countries, however, is attributed to more than just the government. Their responses involved international interaction through organizations such as the United Nations (UN), the World Bank (WB), and the International Monetary Fund (IMF). Senegal and Uganda were particularly unique, however, in their strong civil society response. As the paper now turns to successful HIV/AIDS policies in both countries, the religious aspect of civil society will be explored.

### **“ABC” and 123: Successful HIV/AIDS policy in Senegal**

Uganda’s most famous policy to date is its use of the “ABC” method. James Chin, a renowned HIV/AIDS doctor and scholar in the U.S. and internationally, notes that “there is no question that HIV incidence and prevalence rates in Uganda have decreased markedly during the past decade after a government supported HIV/AIDS program that included the whole range of ABC interventions was aggressively implemented”.<sup>49</sup> USAID describes the policy as follows:

The balanced promotion of [three] behaviors is commonly known as the “ABC” approach — “A” for abstinence (or delayed sexual initiation among youth), “B” for being faithful (or reduction in number of sexual partners), and “C” for correct and consistent condom use, especially for casual sexual activity and other high-risk situations. USAID, 2007.

In Uganda, the implementation of such a method was not as simple as campaigning; the government used the framework created by this policy to address the needs of the Ugandan people in order to reduce national HIV prevalence by over 50% in just a few years and in pregnant women in Kampala, Uganda’s capital, by over 60%.<sup>50</sup> In the realm of abstinence, programming under this policy greatly decreased the

<sup>49</sup> James Chin. *The AIDS Pandemic*. Oxford: Radcliff Publishing, (2007).

<sup>50</sup> USAID. “The ABCs of HIV Prevention.” USAID Health: HIV/AIDS. 24 Aug. (2006).

amount of youth having sex and the age at which sexual behavior began. Fidelity and monogamy became a more common practice, as WHO data shows that the number of casual sexual relations in both urban and rural environments and by male and females decreased by over 50% in each category.<sup>51</sup> Furthermore, condom use increased from 1% to 14% in the six year period between 1986 and 1995, while unmarried men specifically began using condoms at a rate of 22%.<sup>52</sup> This decreased infections to casual partners as well as from an infected spouse to a non-infected spouse, possibly explaining the decreased prevalence rate among pregnant women in Kampala and in the rural communities from 10% to 5% over a 9 year period.<sup>53</sup>

The success of this policy, however, was rooted in three major characteristics. First, this policy was not a stand-alone policy. It was used in conjunction with “zero [sex] grazing” and “Knowledge, Attitudes and Practices” policies.<sup>54</sup> These policies continued to address behavioral changes, primarily in completely abstaining from sex, but recognized that if 100% of the population did not change their sexual practices overnight and continued to have multiple sex partners, safe sex methods needed to be practiced to decrease the spread of the HIV. Particularly, the latter policy served to incorporate “ABC” and “zero grazing” into the current education campaign. The second attribute of the success of the “ABC” model in particular was popular and legitimate support for the campaign. In the case of Uganda, this came largely from the Church. The Church was able to legitimize the AIDS crisis and mobilize the population to respond. In countries where HIV/AIDS was not effectively addressed, including South Africa, the Church community’s response was too little too late. Thirdly, the “ABC” method was successful in Uganda, as in other countries where HIV/AIDS rates have decrease such as Thailand, Brazil, and Senegal, because of the “political leadership and community involvement” driving the policy.<sup>55</sup>

<sup>51</sup> USAID. “The ABCs of HIV Prevention.” USAID Health: HIV/AIDS. 24 Aug. 2006.; Susan A Cohen. “Beyond slogans: lessons from Uganda’s experience with ABC and HIV/AIDS.” The Guttmacher Report on Public Policy. (1 Dec. 2003) pp. 1 – 6.

<sup>52</sup> Susan A Cohen. “Beyond slogans: lessons from Uganda’s experience with ABC and HIV/AIDS.” The Guttmacher Report on Public Policy. (1 Dec. 2003) pp. 1 – 6.

<sup>53</sup> USAID. “The ABCs of HIV Prevention.” USAID Health: HIV/AIDS. (24 Aug. 2006).

<sup>54</sup> Elias Kifon Bongmba. Facing a pandemic : the African church and the crisis of HIV/AIDS. Waco, Texas: Baylor University, (2007).

<sup>55</sup> USAID. “The ABCs of HIV Prevention.” USAID Health: HIV/AIDS.

One of Senegal's biggest policy successes in national response began with the legalization of prostitution in 1969. This was crucial for the country's ability to monitor sex workers, as a high-risk group, when AIDS began to surface.<sup>56</sup> The World Health organization helped Senegal establish a surveillance system to monitor the actions of sex workers in 1989, and consequently, Senegal has been able to follow a decrease in AIDS rates among this population.<sup>57</sup> The WHO suggests that the legalization of prostitution has been especially helpful in the prevention and treatment of HIV/AIDS and has been the reason that sex workers are not among the major causes of the spread of the disease in Senegal.

Furthermore, stipulations placed on the sex work industry have helped monitor and maintain low rates of HIV/AIDS among this population. The law states that: "Prostitution is legal if individuals meet certain criteria: they must be at least 21 years of age, register with the police, and carry a valid sanitary card... Pimping and soliciting customers are illegal".<sup>58</sup> Sex workers must be legally registered, and because of this, Senegal has been able to monitor the sexual transmission of the virus. UNAIDS monitored the level of STDs among the sex worker population in found a decrease from an average of 25.5% in 1991 to 11.5% in 1996.<sup>59</sup>

### Religion and its Influence on AIDS Policy

In Senegal and Uganda's policies towards HIV/AIDS, the role of religion has been crucial. It has provided "prescriptions" and faith-based explanations and responses to HIV/AIDS, which can incorporate groups of individuals who turn away from scientific understanding or failed to see the relevance of the crisis to their personal lives.<sup>60</sup> Religion traditionally

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(24 Aug. 2006).

<sup>56</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2002 - 2006 de Lutte contre le SIDA. République du Sénégal, (2002).

<sup>57</sup> James Putzel. "Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal." Report for Department for International Development. (May 2003): pp. 1 - 64.

<sup>58</sup> Bureau of Democracy, Human Rights, and Labor. "Senegal Country Report on Human Rights Practices—2006." US Department of State. (6 Mar 2006).

<sup>59</sup> Conseil National de lutte Contre le SIDA (CNLS). Plan Stratégique 2002 - 2006 de Lutte contre le SIDA. République du Sénégal, (2002).

<sup>60</sup> Charles Becker. *La recherche sénégalaise et la prise en charge du sida*. Dakar : Institut de recherche pour le développement, (2000).

supports behavioral changes, which have both positive and negative aspects, and uses standards set within the religion to accomplish this. It mobilizes a common response under an ideology of faith, such as the Ten Commandments of Christianity, and does so both internally and internationally. Religion, as policies have now incorporated, can add to elements of care, treatment, and especially education. It can serve to incorporate traditional forms of healing in conjunction with new forms of medical responses such as antiretroviral treatment. By engaging traditional communities, religion can encourage respected community leaders to spread the message that HIV/AIDS is a problem and that certain myths about HIV/AIDS, such as the belief that having sex with a virgin will cure an infected person of HIV/AIDS, must be dispelled to prevent and treat the disease effectively. This final analysis will provide foundation as to the claim that despite some shortcomings that must be reconciled, using other realms of civic society and state engagement, religion serves as one essential tool to addressing the virus.

Religious institutions and religious leaders have specifically been a medium in which an effective response to HIV/AIDS has occurred. Putzel highlights that "In both Uganda and Senegal, like most parts of the world, fostering open discussion about sexual behaviour touches on matters deeply personal and closely linked to specific moralities, values and religious beliefs".<sup>61</sup> Under the strong leadership of Museveni and Diouf, both nations immediately realized the need to incorporate religious leaders. They used these powerful figures to dispel stigmatic notions of HIV/AIDS as "the homosexual's disease," especially since HIV was most prevalent among heterosexuals, and used these two tools to promote the condom campaign if sex was practiced.

In Uganda, Museveni reached out to religious leaders of the majority Christian religion. Museveni, a born-again Christian, was initially opposed to promoting condom use, and much of his support for "safe sex only" came from conservative Christians.<sup>62</sup> His reevaluation of this policy due to his recognition of the needs of the people received attention and respect from Catholic and Protestant religious

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<sup>61</sup> James Putzel. "Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal." Report for Department for International Development. (May 2003): pp. 1 - 64.

<sup>62</sup> Elias Kifon Bongmba. *Facing a pandemic : the African church and the crisis of HIV/AIDS*. Waco, Texas: Baylor University, (2007).

leaders.<sup>63</sup> Bongmba suggests that:

[He] is convinced that the African church has erred on the issue of condoms and wasted valuable time and energy. Public health officials and supporters of condoms agree that abstinence is the only “safe sex” option. However, using condoms along with other prevention methods is an effective method of preventing new infections. Effective distribution of condoms contributed to the Ugandan success story in fighting HIV/AIDS. Bongmba, 2007.

With the rate of HIV/AIDS in certain populations as high as 30% in the early 1990s, the effects of the crisis extended far beyond just the infected, and many clergy members also felt a personal commitment to the cause as their lives had been affected too.<sup>64</sup> Religious leaders, who were in support of Museveni’s campaign and policies, were able to act as legitimate forces in educating the community. “People took the word of clergy members to heart due to their positions of authority in communities,” and respected leaders used their capacities to reach the most local levels in ways that the national government was unable to do.<sup>65</sup> One way that clergy members showed support for national AIDS campaigns was by the example of Bishop Yona Okoth who allowed church spaces to be used for AIDS activists and volunteers.<sup>66</sup>

In Senegal, religious institutions and leaders have been geared more towards promoting “morally acceptable” behavior, educating about HIV/AIDS, and dispelling mythical ideologies on the disease. Senegal’s dominant Islamic brotherhoods—the Mouride, who control the majority of wealth in the nation as well as the government, and the Tijaniyyah, who are the most populous in Senegal—have expressed their commitment to AIDS through financial funds and resources, and this commitment has, as in the Ugandan case, legitimized the battle against the crisis and taking preventative methods to avoid acquiring HIV. In Christian societies, popular

<sup>63</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>64</sup> James Chin. *The AIDS Pandemic*. Oxford: Radcliff Publishing, (2007).

<sup>65</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>66</sup> *Ibid.*

international religious leaders such as Reverends Billy Graham and Jerry Falwell related AIDS to a punishment for sin, stating that it “is a lethal judgment of God on America for endorsing this vulgar, perverted and reprobate lifestyle”.<sup>67</sup> Majority Christian societies such as Cameroon, Uganda, and South Africa had to fight back using words such as the Reverend Njongonkulu Ndungane, who reminded believers that “AIDS is not God’s punishment of the wicked. It is a virus and not a sin, and the stigma that society has created around the epidemic is causing people to die instead of live positively”.<sup>68</sup>

In Senegal, with its 95% Muslim and 4% Christian populations, the government quickly found the importance of incorporating religious leaders into the vigorously response to the HIV/AIDS crisis. Before Senegal’s *Plan Stratégique* was created in 2001, the Senegalese government began incorporating religious leaders by surveying leaders throughout the nation to understand how much they knew about HIV/AIDS.<sup>69</sup> Unlike the strength of the Catholic Church, for example, mosques in Senegal did not politicize AIDS in the institution. Instead, the leaders, through other organizations such as *Jamra*, a Muslim NGO, acted as the voice of religious leaders. The government’s response to the lack of knowledge is revealed in the surveys by “work[ing] with the highest Islamic officials in the country and the major schools of Islamic thought”.<sup>70</sup> Condom use, as in the Ugandan case, proved to be the center of much controversy. However, in Senegal, a compromise was reached, stating that Islamic religious officials “would not oppose either government or private sector efforts to promote condom use”.<sup>71</sup> Instead, religious leaders focused on informing previously unreached populations, particularly in rural environments, about what HIV/AIDS was and where to get more information, testing, and assistance, such as counseling centers. *Jamra*, for example, created a pamphlet called *le Guide Islam et SIDA* in order to share such information with village communities.

<sup>67</sup> Elias Kifon Bongmba. *Facing a pandemic : the African church and the crisis of HIV/AIDS*. Waco, Texas: Baylor University, (2007).

<sup>68</sup> *Ibid.*

<sup>69</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>70</sup> James Putzel. “Institutionalizing an Emergency Response: HIV/AIDS and Governance in Uganda and Senegal.” Report for Department for International Development. (May 2003): pp. 1 – 64.

<sup>71</sup> *Ibid.*

Religious organizations, such as local and national NGOs as well as religious institution-established groups, have thus been a positive force in responding to the AIDS crisis as the above example in Senegal shows. While these organizations, particularly in Christian nations, have fallen under scrutiny due to their narrow positions today, their activism has still been a needed push in addressing the HIV/AIDS crisis in areas that the government was unable to reach. Bongmba notes that the activism of churches, such as in Uganda, Botswana, Kenya, and South Africa, has been coupled with faith-based organizations and NGOs in order to effectively and supportively respond to AIDS.<sup>72</sup> A number of small local faith-based NGOs exist in Uganda, including an initiative called “Reach Out: Mbuya Parish HIV/AIDS Initiative. Established in 2001, this project in Uganda’s capital is one of dozens of other programs created, supported, and facilitated by a religious organization at the local level. Our Lady of Africa Church, Mbuya of Kampala, Uganda began with few volunteers who held moral and religious convictions to address the shortcomings of the government in dealing with AIDS. By 2005, the organization “currently cares for over 1500 clients with a team of 230 volunteers, 77% of them clients themselves, delivering support through 11 different health and social programs”.<sup>73</sup> Religion through this church group has served to unite constituents of the community to respond to the dominant health, socioeconomic, and political crisis of AIDS and to address it at tangible, local levels. Many of these faith-based organizations have been able to connect with international NGOs that share similar religious beliefs, and this has resulted in more resources and funding in responding to HIV/AIDS.

Senegal’s major challenge today with AIDS is not transcending Islamic tradition with AIDS but incorporating traditional religious beliefs. Senegal’s traditional religions population is only 1%, but as Ellis and Haar note, traditional beliefs and influences of traditional religious leaders permeate through the dominant Christian and Islamic religious beliefs without contradiction.<sup>74</sup> Senegal’s response to this religious aspect of civil society was not to ignore or try to work around it; instead, the government

<sup>72</sup> Elias Kifon Bongmba. *Facing a pandemic: the African church and the crisis of HIV/AIDS*. Waco, Texas: Baylor University, (2007).

<sup>73</sup> Eric Kamunvi. “Reach Out—Mbuya Parish HIV/AIDS Initiative.” *Health Policy and Development*, 3.1 (2005): pp. 32 – 40.

<sup>74</sup> Stephen Ellis and Gerrie ter Haar. “Religion and politics in Sub-Saharan Africa.” *The Journal of Modern African Studies*, 36.2 (1998) pp. 175 – 201.

sought to incorporate their strength, power, and legitimacy amongst the people in the national battle against HIV/AIDS. The CNLS, after acknowledging the importance of traditional religions and leaders, incorporated them in the five year national strategic plan (2001 – 2006) for Senegal’s AIDS response and have had successful results. *Gestu*, one of the 1,047 NGOs in partnership with the CNLS, is a local nongovernmental organization of *tradipraticiens*<sup>75</sup> throughout Senegal’s urban and rural communities, where the highest concentration of traditional religious practices is found.<sup>76</sup>

The Dec 2006 – Feb 2007 trimester report for *Gestu* called The Project of Reinforcement of the Prevention of Integrated Sexual Transmission of the Testing of *Tradipraticiens*, Custom Leaders, and Consultants Populations<sup>77</sup> was over 500 pages of *Gestu*’s contracted plan for addressing AIDS in Senegal (as approved by the CNLS) and the statistical results of the three month project. *Gestu*’s specific area of concern, in relation to the *Plan Stratégique* as presented by the CNLS, was to “put in task a project of reinforcement in the upright prevention of the voluntary testing of *tradipraticiens*”.<sup>78</sup> For the given trimester, the organization then outlined seven activities it had planned in its efforts against AIDS in the specified area and succeeded in accomplishing all of these. One major activity was to host a conference on HIV/AIDS in Ziguinchor, the Basse-Casamance regional capital, and with all the funding received as necessary, *Gestu* organized a benefit bike ride in conjunction with World AIDS Day 2006 and host a roundtable discussion. The event involved a number of local parties, including the regional representative of *Gestu*, the governor of the region, members of regional committees dedicated to the battle against AIDS, and even student performing arts groups who are committed to diminishing the taboo of AIDS and preventing knowledge of the virus and modes of prevention.<sup>79</sup> This is just one way in which the Senegalese HIV/AIDS branch incorporated traditional religions specifically into the areas of prevention, treatment, and care of the virus in addition to their

<sup>75</sup> Traditional medical practitioners

<sup>76</sup> Conseil National de lutte Contre le SIDA (CNLS). *Plan Stratégique 2002 - 2006 de Lutte contre le SIDA*. République du Sénégal, (2002).

<sup>77</sup> Original title: Projet de renforcement de la prévention de la transmission sexuelle intégré au dépistage chez les tradipraticiens, leaders coutumiers, et les populations consultantes.

<sup>78</sup> GESTU. Personal interview. (25 Apr. 2007).

<sup>79</sup> Ibid.

uses as a means of education for people that a top-down approach would not reach. It is also in great contrast with the Ugandan model, where traditional religious involvement was slow to be included in government response and still is minimally used.<sup>80</sup>

## Conclusion

Unfortunately today in 2007, AIDS relief efforts are jeopardized in African nations. The billions of U.S. dollars pledged by the U.S. Government and the World Fund for AIDS, Malaria, and Tuberculosis have increased hopes of addressing the AIDS crisis globally, yet stipulations and conditions placed on the funding have caused some countries to backtrack. Ugandan president Museveni's rejection of condoms in 2004, for example, caused confusion and concern, especially given the "ABC" method's success in the 1990s.<sup>81</sup> His position reversal, while puzzling, coincided with rising U.S. concern for the promotion of condom use as a driving factor in encouraging sexual activity and promiscuity. U.S. policy such as this is not only politically driven but morally and religiously based too, suggesting the influence of religion. This condom policy is not the only policy that has its roots in religious belief, yet it serves as one example to highlight how even today religion continues to influence AIDS policy.

As this paper has outlined, both Senegal and Uganda have successfully addressed the AIDS crisis in their respective countries. Senegal's rate today is 0.9% while Uganda's rate is 6.7%, yet both examples are quoted when suggesting models for internally addressing an AIDS crisis in a developing country.<sup>82</sup> What this suggests is that success with AIDS is measured not just by the prevalence rate today but from where each nation started and how far each has come. Senegal's Islamic religious majority has provided cohesion, mobility, and education amongst the population from the first case in Senegal in 1986, and by tapping into civil society immediately, Senegal has maintained one of the lowest AIDS rates worldwide. Uganda's story, on the other hand, is considered a "miracle" because the government was

<sup>80</sup> James Putzel. "The Politics of Action on AIDS: A Case Study of Uganda." *Public Administration and Development*. 24 (3 Feb 2004): pp. 19 – 30.

<sup>81</sup> Elias Kifon Bongmba. *Facing a pandemic: the African church and the crisis of HIV/AIDS*. Waco, Texas: Baylor University, (2007).

<sup>82</sup> UNAIDS. "AIDS Epidemic Update: December 2007." The Joint Program on HIV/AIDS and the World Health Organization. (Nov. 2007).

able to reverse a high prevalence rate while plagued with other internal issues including war and the remnants of earlier poor governance.

As both countries' successes find their roots in strong government response, other factors including international relations and civil society incorporation must be remembered. One particularly cannot ignore the role religion played, and continues to play, in providing connections between these different realms, in mobilizing and educating the most rural parts of the population, in dispelling mythical and stigmatic views that perpetuate the negative effects of the disease. Religion, through institutions, NGOs, and especially leadership, has served to both legitimize multisectoral government responses to AIDS and provide treatment, care, and prevention methods where top-level government policies cannot directly reach. The cases of Uganda and Senegal are both unique and their comparisons display many differences; "Uganda has shown that the epidemic can be reversed, while Senegal has demonstrated that it can be stopped from taking a hold".<sup>83</sup> Yet what both countries show through their success is the importance of incorporating the fundamental ideologies of the people, such as through religion, in a multifaceted government response to the global crisis of AIDS.

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<sup>83</sup> Peter Mwaura. "Pioneers in Control of HIV/AIDS." *Africa Recovery*, United Nations. (20 Nov. 2007).

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# The Polio Vaccine: Conspiracy and Resistance in the Kano State of Nigeria

Justin Lockwood  
Human Biology  
Michigan State University

## Abstract

*Medical patients worldwide have significant doubts about the care they receive that are often centered on cross-cultural distrust and misinformation. To understand the difficulties in applying international healthcare in such circumstances, this paper focuses on how the people of Kano, Nigeria have boycotted the implementation of the polio vaccine. In the Kano state, efforts at polio immunization have been impeded by beliefs that the vaccine can cause HIV/AIDS, cancer, or infertility. These misconceptions of the vaccine have been exacerbated by statements from religious leaders and strengthened by isolated failures of the vaccine. Fears of the vaccine have not been unique to Nigeria, and have in fact occurred in the U.S. when the vaccine was first created. In order to achieve complete eradication of polio in Kano, it is necessary to fully educate patients about the safety and benefits of the vaccination in order to gain their trust, as has been implemented by the World Health Organization's Global Polio Initiative.*

## Introduction

In 1955, Jonas Salk, a nationally respected United States scientist, developed a vaccine for polio that was in high demand by parents in the United States within a month of the vaccine's emergence. Polio had been a significant threat to the U.S. population for decades, crippling and killing hundreds every year, so the vaccine was accepted with compassionate thanks and anticipation. Parents scheduled vaccinations for their children in an attempt to ensure their survival of the 'polio season'. However, within a year of its introduction a portion of these children were dead or crippled by the very disease that it was meant to prevent. Oddly, the

children developed the disease before polio season and had unorthodox symptoms. It quickly surfaced that the vaccine, intended to help, had caused partial to severe polio in nearly 40,000 children, leaving ten dead and more than 200 permanently paralyzed.<sup>1</sup> Incidents like this, where the public places immense amounts of trust in the scientific and medical communities only to be deceived and hurt by them, cause a general distrust of new scientific, especially medical, advancement.

Vaccine and medication consumers worldwide are quickly becoming wary of any medical advice they receive, and they are developing mistrust towards certain vaccines because of the false belief that situations like that described above are the norm. However, these incidents are not the norm, as the vast majority of medical advice and technologies fulfill their claims and help rather than harm their consumers. In modern times, the distrust of the medical community has led to a significant decrease in the acceptance of vaccines, especially in developing countries. Specifically, certain Muslim communities in West Africa, especially in the Kano state of Nigeria, have boycotted the polio vaccine. In 1988, the World Health Organization created a polio eradication program with the goal of worldwide eradication, and, currently, polio is present in only a handful of countries, the majority of which have Islamic roots and populations. This is because certain parts of the Muslim Kano community in Nigeria have negative beliefs about the safety of the vaccine that are based on the fear of religious and/or racial persecution and the possibility of genocide. Easing these negative beliefs and misgivings is the first step to obtaining a world free of polio outbreaks.

<sup>1</sup> P.A. Offit. "The Cutter Incident: How America's First Polio Vaccine Led to the Growing Vaccine Crisis." London: Yale University Press. (2005): 1-3.

The main contributor to the negative stigma attached to the eradication efforts is the belief that the West, specifically corporate white America, has sent an unsafe vaccine to Islamic communities in order to 'sterilize' the recipients, as described below.<sup>2</sup> (Obadare 2005). This is because the general public's perception of the medical community is often based on isolated failures of the vaccine and strengthened by a lack of information about the benefits and safety of most vaccines. A decrease in cultural awareness of medical information as well as growing urban populations can, when coupled with a distrust of the medical community caused by breakdowns in primary healthcare, lead to a significant increase in the prevalence of infectious diseases. In these ways, cultural beliefs and customs have greatly influenced the recent rise of polio prevalence in parts of West Africa, as illustrated by the situation in state of Kano in Nigeria.

### **Poliomyelitis**

In order to explain the effects of a developing society's negative beliefs on the acceptance of polio vaccinations, it is first necessary to define and describe the vaccine and the disease it aims to prevent. Poliomyelitis, referred to simply as polio in general rhetoric, is the name of the disease that is caused by the poliovirus and its invasion of living tissue. Smallman-Raynor, et al., describes it as "a common, acute viral disease characterized clinically by a brief febrile illness with sore throat, headache and vomiting, and often with stiffness of the neck and back. In many cases a lower neuron paralysis develops in the early days of illness."<sup>3</sup> It can be caused by any of three polioviruses, but the most common (and threatening) is poliovirus type 1, which is the strand connected with severe paralysis and that has the capability to cause epidemics.<sup>4</sup> Less than 1% of children, who are the most common victims of polio, become paralyzed, but the effects of contracting polio as an adult are much more serious. For this reason, nearly 5% of children and 30% of adults infected with paralytic poliomyelitis die because of it,<sup>5</sup> a statistic that clearly

<sup>2</sup> E. Obadare. "A crisis of trust: history, politics, religion and the polio controversy in Northern Nigeria." *Patterns of Prejudice* 39. (2005): 265-84.

<sup>3</sup> Smallman-Raynor, M. R., et al. "Poliomyelitis: Emergence to Eradication." New York: Oxford University Press Inc. (2006): 6.

<sup>4</sup> Ibid., 4.

<sup>5</sup> Ibid., 7.

increases the significance of the disease and the need for its eradication. Global eradication, however, is an extremely difficult task, especially when the virus can be transmitted easily.

The spread of polio is quick and easy, especially in cases where there is close, direct contact between carriers and possible recipients as is often present in developing, urbanized countries such as Nigeria. Poliovirus is spread through human to human contact, most commonly through the mouth via the fecal-oral route, meaning it is excreted in the carrier's feces and then enters the recipient's body orally. Fecal contamination can mean contamination "of fingers, eating utensils, milk, or foodstuffs" that come in direct or indirect contact with feces.<sup>6</sup> Once a person has received and been infected with the poliovirus, there are three recognized forms of poliomyelitis that can occur: abortive, non-paralytic, and paralytic. The most fatal phase is paralytic poliomyelitis, which is hard to define symptomatically as "both the site and extent of paralysis can vary greatly and range from slight paralysis of part of one muscle to widespread paralysis of the skeletal muscles."<sup>7</sup> It can be fatal because the respiratory and/or circulatory organs can be affected by the paralysis, which can lead to impaired breathing, asphyxia, circulatory shock, and congestive heart failure.<sup>8</sup> Consequently, the nature of polio's morbidity creates an intense social stigma that can lead to ostracization of the affected persons.

Those patients who survive the paralytic phase of the disease are often physically incapacitated because of it. In a society that places substantial emphasis on the ability to work and, therefore, physical superiority, physical defects and debilitations are considered highly undesirable. This is a very large contributing factor to the polio scare that swept through the world in the former half of the 20<sup>th</sup> century. Luckily, the paralytic phase of the disease is the rarest of the three. There were only 22,000 documented cases in the U.S. in 1952,<sup>9</sup> a number that has dwindled to zero since the eradication of the disease. However, these statistics do not speak for the developing nations of the world. With the "the uncertainties of [polio] virus detection in so many

<sup>6</sup> Ibid., 38-39.

<sup>7</sup> Ibid., 33.

<sup>8</sup> Ibid., 34.

<sup>9</sup> Center for Disease Control (CDC). "Poliomyelitis." *Epidemiology and Prevention of Vaccine-Preventable Disease*. (2001): 10.

remote and inaccessible areas of the world”<sup>10</sup> as well as the easy spread of the disease itself, the possibility of a second epidemic outbreak of polio is always looming.

### A Crowd Disease

The first known epidemic outbreak of polio was in 1840,<sup>11</sup> and the first documented outbreak in the United States was in 1843. Prior to these dates polio was a relatively endemic disease, with little cross-continental spread and a less than significant prevalence in the world wide community. After 1840, however, the disease spread quickly and greatly increased its prevalence, creating a worldwide panic that ensued until the 1950s. But what happened in 1840 that spurred the polio outbreak? The close proximity of homes and people in major urban centers, as well as the rapidly replenishing population, created an ideal environment for the disease to flourish, develop, and spread. The structural and architectural layouts of cities are cultural factors, meaning the ease with which the disease can spread depends largely on the accepted human proximity of the specific culture. Jared Diamond would call polio a crowd disease, which he defines as a disease that “need[s] a human population that is sufficiently numerous, and sufficiently densely packed, that a numerous new crop of susceptible children is available for infection by the time the disease would otherwise be waning.”<sup>12</sup> As people flooded into the cities during the times of urbanization, the population density of the cities increased proportionally.

To accommodate the growing populations, apartments were constructed so that housed residents had merely feet between them, significantly increasing human to human contact. These conditions greatly increased the transmission of the disease because the virus was able to flourish and feed on numerous hosts, which is the root cause of epidemics. However, urban centers had been in existence for centuries prior to the transformation from endemic to epidemic polio outbreaks. What, then, was the reason for the transformation? Like urbanization, the answer, too, is connected to development: an increase in public

<sup>10</sup> M. Miller, S. Barret and D. Henderson. “Control and eradication.” *Disease Control Priorities in Developing Countries* 2. (2006): 1163-76.

<sup>11</sup> J. Diamond. *Guns, Germs and Steel: The Fates of Human Societies*. New York and London: W.W. Norton & Company. (2001): 205.

<sup>12</sup> *Ibid.*, 203.

hygiene.

As the industrial revolution spread to all parts of the world, the relative level of public (and private) hygiene greatly increased. This, in turn, decreased childhood exposure to fecal matter and lowered the coming generation’s immunity to the virus.<sup>13</sup> Children with decreased contact with said fecal matter will have decreased contact with poliovirus and will not build up as strong of a natural resistance to the virus. The fecal matter, therefore, acts as a primitive vaccine in that it infects the child with small amounts of the virus, allowing the child’s immune system to eventually build up a defense.<sup>14</sup> As public hygiene increased and less and less children were immunized by their contact with infected fecal matter, the number of susceptible hosts for polio proportionally increased to a point where the virus was able to travel amongst cities, states, and even countries. With an increase in incidence in local communities caused by increased urban population densities and improved public hygiene services, the disease transcended the boundary between endemic and epidemic, becoming a threat to the health of international populations.

The polio epidemic first emerged in Europe, specifically in Scandinavia, in 1840, after which it spread throughout the world. By 1935 it was documented in nearly 90 countries worldwide, with undoubtedly dozens more undocumented cases.<sup>15</sup> This rapid, worldwide transmission was made possible by the increase in global travel and international human to human contact. When an epidemic kills the majority of a small, isolated population, it will typically disappear.<sup>16</sup> However, because polio does not typically kill its host—less than 2% of all cases result in the paralytic phase of the disease when proper medical care is available—it can dwell in its living host, who acts a carrier of the virus in order to eventually transmit it to other members of the population. A disease that does not instantaneously—or relatively instantaneously—kill its host can live in the victim for years and can spread to and infect other members of the carrier’s society,<sup>17</sup> who can, potentially, develop the fatal version of the disease. For these reasons, the polio epidemic was able to spread worldwide in order

<sup>13</sup> M.R. Smallman-Raynor, et al. “Poliomyelitis: Emergence to Eradication.” New York: Oxford University Press Inc. (2006): 88.

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*, 199.

<sup>16</sup> J. Diamond. *Guns, Germs and Steel: The Fates of Human Societies*. New York and London: W.W. Norton & Company. (2001): 204.

<sup>17</sup> *Ibid.*

to stay in existence. With such a high international prevalence, polio quickly became a global killer. Even though the mortality rate of the disease is less than 1%, such a significant amount of people were infected that the number of mortalities reached the tens of thousands annually,<sup>18</sup> a statistic that grabbed the attention of the international community and pressured the dominating world governments to attempt to combat the epidemic.

### Polio Vaccine and Eradication

After more than twenty years of scientific exploration, Salk created the first publicly distributed and manufactured polio vaccine in 1955. He used the *in vitro* technology to create an inactivated poliovirus vaccine (IPV), which means that dead strains of the virus were injected into the patient in order for his or her immune system to build up a resistance to the virus. Unfortunately, after careful experimentation and analysis of the vaccine the U.S. Public Health Service withdrew it from the pharmaceutical market because of severe, previously unnoticed complications. Embarrassed and concerned, Salk and his employers quickly developed improved versions of the IPV, and by 1956 they were back on the market.<sup>19</sup> The sale of the IPV's in the United States continued until 1961, when a scientist named Albert Sabin created a live oral polio vaccine, or OPV. It was first created in the Soviet Union in the late 1950's, but was not approved and licensed in the United States until 1961. It worked by injecting live strains of poliovirus into the patient. Unlike the IPV, the OPV was able to promote intestinal resistance to the virus, which blocked its fecal transmission and, consequently, crushed the primary transmission mechanism of polio. Also, the OPVs were significantly cheaper and easier to prepare than the IPVs because the viruses could be used in their live forms.

When using a live virus, there is always a chance that the virus will become neurovirulent, meaning it will be able to cause the disease in the patient's body. It is estimated that the prevalence of polio disease caused directly by the implementation of the vaccine is one in ten million vaccinations.<sup>20</sup> This number is significantly smaller than the number of patients who would die without the vaccine, so its

<sup>18</sup> M.R. Smallman-Raynor, et al. "Poliomyelitis: Emergence to Eradication." New York: Oxford University Press Inc. (2006): 32.

<sup>19</sup> *Ibid.*, 46.

<sup>20</sup> *Ibid.*, 49.

efficacy becomes a cost/benefit analysis. Because substantially less people die when the vaccine is administered in large quantities than when it is not administered, it is generally accepted by the medical community that the vaccine is a necessity for any thriving country. Numerous independent studies have testified to the safety and efficacy of the live vaccine, including that of Chumakov, et al., who recorded that "it can be taken for granted now that the live vaccine...is a completely safe...preparation."<sup>21</sup> For these reasons, the OPVs were heavily favored over the IPVs and, consequently, the implementation of the oral vaccine became extremely popular among U.S. citizens.

The introduction of the OPVs in the United States was a welcome act, as described by Smallman-Raynor, et al.:

Between 1962 and 1965, no less than 100 million people—equivalent to roughly 56 per cent of the then population—were administered the live vaccine in the United States. The result was a significant fall in the number of poliomyelitis notifications, even from the much reduced levels that had resulted from the use of IPV.<sup>22</sup>

The OPVs have since been used as epidemic control globally: in 1957, the vaccine was administered to the entire population of a small section of the Belgian Congo that had been struck by polio. After the mass vaccinations, no new cases of paralytic poliomyelitis emerged, meaning there were zero new, fatal cases. This mass vaccination was then repeated in Singapore, Germany, and Miami within the next year, with similar positive results.<sup>23</sup> These cases quickly caught the attention of governments worldwide, as well as certain international health and charity organizations.

Their success, coupled with the success of previous smallpox eradication efforts, led to the consideration and analysis of polio as a disease that could, potentially, be completely eradicated. In 1988 the World Health Organization (WHO) started the Global Polio Eradication Initiative.<sup>24</sup> This

<sup>21</sup> M. P. Chumakov, et al. "Some results of the work on mass immunization of the population in the Soviet Union with live poliovirus vaccine from Albert B. Sabin's strains." In the Control of Poliomyelitis by Live Poliovirus Vaccine, ed. J. Wessfeiler. Budapest: Akadémiai Kiadó. (1961): 25.

<sup>22</sup> M.R. Smallman-Raynor, et al. "Poliomyelitis: Emergence to Eradication." New York: Oxford University Press Inc. (2006): 48.

<sup>23</sup> *Ibid.*, 53.

<sup>24</sup> M. Miller, S. Barret and D. Henderson. "Control and eradica-

Initiative was aimed at obtaining complete worldwide eradication of polio within twelve years of its 1988 establishment.<sup>25</sup> However, progress was slow at the outset and this ambitious goal was not accomplished. Three years after its creation, Albert Sabin successfully campaigned for more pronounced and organized eradication programs.<sup>26</sup> With the success of the OPVs in the first set of attempted (and successful) epidemic interference, and the growing interest in and support for polio eradication programs, the initiative began to make significant headway in its efforts. The WHO describes their progress as of 2005:

The Global Polio Eradication Initiative has been able to use a wide range of skilled and unskilled workers and volunteers, both inside and outside the formal health sector, to successfully deliver OPV and monitor progress in virtually every area of every country, regardless of health infrastructure, conflict, geography and culture.<sup>27</sup>

Presently, however, Nigerian communities, as well as other Muslim communities, still have significant misgivings about the vaccine, misgivings that are rooted in a long history of cultural interactions.

### Conspiracy and Resistance

Polio has been eradicated in the large majority of nations (meaning both official territories and, more broadly, groups of people) through the efforts of the Global Polio Eradication Initiative (GPEI). This is made evident by the fact that the number of reported worldwide paralytic polio cases has dropped from 35,251 in 1988 to 1,449 in 2005.<sup>28</sup> (Renne 2006). However, there were still a reported 1,449 cases, which means that WHO's goal of worldwide eradication by the year 2000 was not met and may continue to be elusive for quite some time. One area where eradication efforts have been difficult, if not impossible, is in Kano, Nigeria. The Kano state is

tion." *Disease Control Priorities in Developing Countries 2*. (2006): 1163-76.

<sup>25</sup> R. Aylward and J Linkins. Polio eradication: mobilizing and managing the human resources. *Bulletin of the World Health Organization* 83. (2005): 268-73.

<sup>26</sup> M. Miller, S. Barret and D. Henderson. "Control and eradication." *Disease Control Priorities in Developing Countries 2*. (2006): 1163-76.

<sup>27</sup> R. Aylward and J Linkins. Polio eradication: mobilizing and managing the human resources. *Bulletin of the World Health Organization* 83. (2005): 268-73.

<sup>28</sup> E. Renne. "Perspectives on polio and immunization in northern Nigeria." *Social Science and Medicine* 63. (2006): 1857-69.

located in North-Western Nigeria and is the location of Kano, the third largest city in Nigeria. The Kano people are primarily Hausa, an ancient cultural group of which the large majority practices Islam.<sup>29</sup> In 2000, Shari'a, the legal framework that attempts to regulate based on Islamic principles of jurisprudence, became the basis for the Kano state legal and governing system. Because Shari'a is not a fixed set of codified laws, the system is dependent on interpretation of Islamic texts by local Muslim leaders. The power vested in these leaders has, in recent years, been used to oppose the efforts of the GPEI by boycotting the polio vaccine.

In order for complete eradication to be possible, all countries and their populations must be supportive of and cooperative in the efforts. One endemic country can destroy the eradication efforts and provide a breeding ground for the disease, which can then spread to neighboring countries.<sup>30</sup> For this reason, Muslim Kano leaders in Nigeria have nearly halted the progress of WHO's Initiative: "In 2004, the global polio eradication initiative, after investing more than US\$3 billion and involving some 20 million volunteers over a period of 16 years, was placed at risk of failure by the actions of one local administration."<sup>31</sup> This oppositional force is led by the local religious leaders, specifically Dr. Datti Ahmed, who was the head of the Kano state Sharia Supreme Council that rules on matters of Islamic Law.<sup>32</sup>

Local leaders in the Kano region believe that the predominantly white West has a stereotypical schema about them that labels the African people as disease-infested and helpless.<sup>33</sup> With this stereotype, they believe, comes both disrespect and hostility that could possibly manifest itself as violence and inconspicuous genocide. The major concern of the Kano leaders is that the corporate, primarily white West is attempting to send a tainted vaccine that causes cancer, AIDS, or infertility so as to 'cleanse' the human race.<sup>34</sup> This concern is often strengthened and exaggerated by the speeches of major outspoken

<sup>29</sup> Adu-Kuraway. "Kano State Government Nigeria." *Brief History of Kano*. (1999-2003).

<sup>30</sup> M. Miller, S. Barret and D. Henderson. "Control and eradication." *Disease Control Priorities in Developing Countries 2*. (2006): 1163-76.

<sup>31</sup> *Ibid*.

<sup>32</sup> M. Fleshman. "Nigeria dispute endangers global polio drive." *Africa Recovery*. United Nations. (2004).

<sup>33</sup> E. Obadare. "A crisis of trust: history, politics, religion and the polio controversy in Northern Nigeria." *Patterns of Prejudice* 39. (2005): 265-84.

<sup>34</sup> *Ibid*.

political and religious leaders. Dr. Datti Ahmed, spoke out to the Kano people about the polio vaccine, saying, “We believe that modern-day Hitlers have deliberately adulterated the oral polio vaccines with anti-fertility drugs and contaminated them with certain viruses which are known to cause HIV/AIDS.”<sup>35</sup> In using the descriptor ‘Hitlers,’ Dr. Ahmed boldly labels the corporate West as supporters of eugenics, the practice of cleansing the human race from those deemed undesirable. This comment voices a common distrust of the Western medical community that has been fueled by acts of Western dishonesty. In 1996, the pharmaceutical company Pfizer tested a new meningitis drug on the Nigerian people of Kano with apparent disregard for common ethical practices and, in the process, killed 11 out of 200 people and irreversibly disfigured dozens of others.<sup>36</sup> This incident greatly fueled the argument against the pharmaceutical companies and Western vaccines, which includes the polio vaccine. However, there are other more general factors that may influence the society’s choice to resist and deny the vaccine.

In his book *Guns, Germs, and Steel*, Jared Diamond describes a list of 14 cultural factors that contribute to the acceptance or denial of technological advancement. Specifically, he discusses the effects of religion and scientific outlook on the progress and openness to the said advancement. He writes:

The scientific outlook is a unique feature of post-Renaissance European society that has contributed heavily to its modern technological preeminence... Tolerance of diverse views and of heretics fosters innovation, whereas a strongly traditional outlook... stifles it... Religions vary greatly in their relation to technological innovation: ...some branches of Islam, Hinduism, and Brahmanism may be especially incompatible with it.<sup>37</sup>

This incompatibility most likely existed because religious leaders specifically view some Western technologies, in this case the polio vaccine, as threatening or dangerous to their people and their customs. Though the Qur’an does not oppose technological advancement, many religious leaders

<sup>35</sup> E. Obadare. “A crisis of trust: history, politics, religion and the polio controversy in Northern Nigeria.” *Patterns of Prejudice* 39. (2005): 265-84.

<sup>36</sup> Ibid.

<sup>37</sup> J. Diamond. *Guns, Germs and Steel: The Fates of Human Societies*. New York and London: W.W. Norton & Company. (2001): 250.

have interpreted the teachings in a way that justifies the boycott of Western development. Muslim leaders in Kano are extremely tentative to welcome Western medicine and, in the face of counterevidence to its efficacy and safety, have ignored its benefits in an attempt to fulfill their conspiracy-driven beliefs. For instance, Kano leaders have ignored research by the Nigerian government on the safety of the polio vaccine, but instead focused on alleged research that found traces of estrogen and progesterone, which, they argue, is proof that the impetus behind the vaccine distribution is sterilization.<sup>38</sup> The responsibility for the existence of these beliefs rests partly on the shoulders of Westerners who continuously fail to inform and educate the Nigerians about the benefits and safety of the vaccine.

This issue does not dwell entirely in Nigeria, however, as is made evident by the example of the U.S. in the introduction. Called the “Cutter Incident,” the first polio vaccine paralyzed tens of thousands of U.S. children, which created significant distrust in the hearts of the U.S. parents and the rest of the country. For nearly a decade following the incident many parents were extremely cautious when determining whether or not to vaccinate their children. Often, this caution was so extreme that it could be labeled resistance to the vaccine by an outside observer. Doubts regarding medical practices are common throughout all cultures, though it is magnified in some more than others, and is often caused largely by a lack of communication and education about the efficacy and safety of practices

### **Current Status and Implications for the Future**

The disparities between the quality of care that different cultures and religions receive are largely created by cultural differences and a severe lack of communication and education.<sup>39</sup> Rather than provide education about health related issues, vaccine providers simply supply their product and expect gratification. However, the situation is not that simple. As Jonathon Majiyagbe, the president of Rotary International, put it, “‘Fear and misinformation about the polio vaccine have become as deadly as any disease.’”<sup>40</sup> In the May 17<sup>th</sup> meeting of the

<sup>38</sup> C. Kapp “Nigerian states again boycott polio-vaccination drive.” *The Lancet* 363. (2004): 709.

<sup>39</sup> Underwood, A., and J. Adler. When cultures clash. *Newsweek* 25. (2005): 68-70.

<sup>40</sup> C. Kapp “Nigerian states again boycott polio-vaccination

World Health Assembly, WHO Director-General Dr. Margaret Chen announced a plan for the future of the Global Polio Eradication Initiative.<sup>41</sup> In this plan, she highlighted the creation of Immunization Plus Days, or IPDs, which attempt to educate previously resistant people about the safety of the vaccine. These days have been shown to increase the vaccine's support and acceptance in previously unvaccinated regions by passing out pamphlets and holding question-and-answer sessions between experts and potential patients.

At the May 17<sup>th</sup> meeting, Chen also discussed successful efforts to gain the support of the national Nigerian leaders. The President of Nigeria, Olusegun Obasanjo, has recently been in full cooperation with the eradication efforts, which has created new, domestic financial support. This financial support could be, with a significant amount of improvement and intensification, a way to ease the concerns of the Muslim leaders in Kano. As an aside, if sufficient domestic financial support was available, the vaccine could potentially be developed and distributed domestically. In doing so, Kano leaders may accept the vaccine as a product of their own nation's economy. However, this possibility has yet to be discussed by WHO.

The bulk of Dr. Chen's plan focused on monetary issues, such as a lack of vaccines and decreasing research on OPVs. Meanwhile, individual Kano leaders remain steadfast in their opposition to WHO's efforts.<sup>42</sup> In order for the eradication efforts to be completely successful, it is most crucial for potential patients to be fully informed about the benefits of the vaccine. Those people who wish to stop the spread of the disease, and avoid recontamination of areas that WHO had previously eradicated, must educate resistant groups in an attempt to quell the doubts that they have. In doing this, communities will begin to accept and embrace the vaccine as well as assistance from Western doctors in other areas of healthcare. If this is not done, however, polio will reappear in regions of the world that had previously been declared polio-free, as is already happening in many of Nigeria's neighboring countries.

## Conclusion

In 1955, the polio vaccine was created by an U.S. scientist with the goal of curing people in order to save their lives and their mobility--at least that is the argument of most Western medical corporations and much of the Western world. However, in Kano, these goals have been challenged by Muslim leaders who claim that the West has contaminated the vaccine with various fatal diseases in order to cleanse the human race of Africans and Muslims. These views have led to the resistance of polio vaccinations, which has caused the disease to spread throughout neighboring regions that had previously been declared polio-free. In order to stop this spread, Western countries and organizations developing the vaccine and implementing its dispersal must alter their methods by first realizing that people vulnerable to the disease do not necessarily want their assistance. The first and most crucial steps towards polio eradication are to ease the doubts of the people in the region by displaying the safety and efficacy of the vaccine and gaining their trust. Only then will there be a chance for the worldwide eradication of polio, which was the original goal of the WHO when they created the Global Polio Eradication Initiative. If trust is not gained, however, the potential exists for the disease to continue its spread into previously unaffected areas, reversing the progress that has been made thus far.

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# On Filling Gaps and Breaking Silences: Justice, Agriculture, and Sovereignty on the African Continent

Heidi Kershner  
Anthropology & History  
Michigan State University

## Abstract

*Biopiracy is an exploitative process by which biological resources (e.g. seeds) are taken without consent of or compensation to the original cultivators. Supported by corporate-friendly trade laws, biopiracy threatens food security, the basis for the human right to food, and so may be thought of as a human rights violation. But because this is a crime of multiple human relationships it is inappropriate for a tribunal setting. Trials may inflict more injustice for crimes like biopiracy in that through ignoring their multi-dimensionality, trials end up dehumanizing those involved. What is needed is a restoration of humanity, a concept found in and supported by an ethics of care. This ethics might be applied for biopiracy through the adoption of food sovereignty as an alternative model of justice. This can be implemented in very concrete ways at the local, national, and international levels. Africa has been continuously afflicted by biopiracy and is without a coherent food sovereignty movement—injustices that could be rectified through an adoption of an ethics of care as articulated through food sovereignty.*

## Introduction

In recent years, calls for an African green revolution have been heard from several Western donor and development agencies. Just as in Asia, this revolution has been marked by increased agricultural inputs such as pesticides, fertilizers, and heavy machinery.<sup>1</sup> But instead of relying on hybrid, high-yield producing seeds, the dream for the African “revolution” relies on the modification of these seeds’ very genes. Such genetically modified (GM) seeds

would not only radically increase yields but could also develop larger crops that are more resistant to droughts and pests.<sup>2</sup>

While some praise this new development for its potential to feed millions, others have condemned it for endangering millions of livelihoods and even cultures. These opponents, inspired by the work of Andrew Mushita and Carol Thompson, have labeled this new call for GM seeds and their protection under World Trade Organization (WTO) patent law “biopiracy.” Opponents of biopiracy argue that the production and protection of GM seeds attack the food sovereignty and undermine the food security of African farmers.<sup>3</sup> The United Nations Special Rapporteur on the Right to Food has also reported that such activity poses a grave threat to this basic human right.<sup>4</sup>

In this paper, I explore the idea of biopiracy as an exploitative process and argue that it should be considered a human rights violation and as such its perpetrators should be brought to justice. But what should this justice look like, and are current international institutions adequate or even appropriate for such a crime? Due to the complex nature of biopiracy, I assert that current institutions of international justice are in fact inadequate. A gap, or what I call a “silence,” exists in the international justice system that grants immunity to the perpetrators of biopiracy. By applying an ethics of care, I suggest a point of departure to end this silence, including the idea that food sovereignty—an alternative model of agriculture—could constitute an alternative form of

<sup>2</sup> C. Thompson, “Africa: Green Revolution or Rainbow Evolution?” Retrieved October 14, 2007, from www.fpif.org.

<sup>3</sup> A. Mushita & C. Thompson, *Biopiracy of Biodiversity: Global Exchange as Enclosure*. (Trenton: Africa World Press, Inc, 2007), 21, 24.

<sup>4</sup> J. Ziegler, “Economic, Social and Cultural Rights: The Right to Food.” Economic and Social Council document E/CN.4/2004/10, (2004), 8, 14.

<sup>1</sup> F. Lappe, J. Collins, & P. Rosset, *World Hunger: Twelve Myths*. (New York: Grove Press, 1998), 59.

*justice* as well. Lastly, I briefly situate this discussion within an African context where much media and development attention, especially in terms of food and agriculture, has been recently focused and where the threat of biopiracy seems imminent.

Mushita and Thompson (2007) describe biopiracy as the “removal of [an] organism, whether by literally taking...or by destroying it.” This is done with a “refusal to compensate or even acknowledge the original cultivators/custodians of the bioresource.”<sup>5</sup> The process of biopiracy is facilitated by international trade and patent laws of the WTO, specifically those concerning intellectual property rights. Under this body of law, collectively called Trade-Related Intellectual Property Rights, a corporation can obtain a patent for GM seed even if only one gene has been modified. Corporations can then claim ownership of that seed and sell it internationally under corporate-friendly trade conditions. These include the International Monetary Fund’s (IMF) structural adjustment programs during the 1980s and ‘90s that forced the liberalization of markets in the global South.<sup>6</sup> For most countries, liberalization meant the abolishment of trade barriers and restrictions and the general championship of free trade dogma within the WTO itself. This led many countries of the global South to specialize in one or two primary export crops, leaving them vulnerable to the fluctuations of the international market. The IMF implemented these changes under the principle of *laissez faire*, but without the necessary governmental protection many Southern farmers have been unable to compete with heavily subsidized Northern goods. This situation has led to the flooding of Southern markets with Northern goods, which drives down prices—sometimes below even the level of subsistence.<sup>7</sup>

Such biased trade relations form what some have called a corporate-centered “food regime.” In

<sup>5</sup> A. Mushita & C. Thompson, *Biopiracy of Biodiversity: Global Exchange as Enclosure*. (Trenton: Africa World Press, Inc, 2007), 21.

<sup>6</sup> Author’s note: the word “Southern” here refers to the countries of Africa, Latin America, and Asia. Likewise the term “Global North” will refer to those countries normally thought of as “industrialized” such as the United States, European countries, as well as Australia and Japan (who normally are not thought of as being geographically “Northern”). While this dichotomy is not wholly without its coded meanings (i.e. the traditional hierarchy between North and South), it is here preferred to such terms as “industrialized” v. “development” which imply that the former is an ideal to which the latter should progress towards.

<sup>7</sup> A. Glipo, “Achieving Food and Livelihood Security in Developing Countries: The Need for a Stronger Governance of Imports.” (2006): 7.

such a regime, international agriculture and food trade relations are dominated by Northern agribusiness through their control of the WTO. This monopoly has resulted in the worldwide exportation of Westernized diets and commercial agriculture, as well as simple exploitative deprivation.<sup>8</sup> Not only do such trade relations increase inequalities between the Global North and South, but so do GM seeds, commercial agriculture, and the heavy inputs they require. Such types of agriculture are highly expensive and often cause environmental damage that leads to severe health and monetary costs. A modified gene of a certain crop may also show up through cross-pollination amongst wild foods and local resources, leaving these resources open to the jurisdiction claims of patent laws as well.<sup>9</sup>

### The Crime of Biopiracy

Supported by the inequalities of a corporate-centered food regime, biopiracy is an exploitative process where bioresources like seeds are not only taken from Southern farmers by Northern corporations, but their very systems of agriculture are taken as well. But before delving further into the criminal nature of biopiracy, a brief discussion of the basis of human rights and international law is needed. Human rights are legally binding norms of international law meant to recognize and uphold the “inherent dignity...of all members of the human family.”<sup>10</sup> These norms were first codified into international law on December 10, 1948 with the signing of the United Nation’s Universal Declaration of Human Rights. This document was born in response to atrocities of the Holocaust and World War II that were considered in clear violation of pre-existing customary law or norms.<sup>11</sup> Referred to as *jus cogens* norms, these norms are thought to already govern international interactions by custom if not by actual law. Although *jus cogens* norms have been since written into international law through treaties

<sup>8</sup> McMichael, P., “Global development and the corporate food regime.” *New Directions in the Sociology of Global Development*. Symposium conducted at the XI World Congress of Rural Sociology, Trondheim (2004): 5, 12.

<sup>9</sup> A. Mushita & C. Thompson, *Biopiracy of Biodiversity: Global Exchange as Enclosure*. (Trenton: Africa World Press, Inc, 2007), 41.

<sup>10</sup> United Nations, *Universal Declaration of Human Rights*, (The Hague: 1948).

<sup>11</sup> J. Dunoff, S. Ratner, & D. Wippman, D., *International Law Norms, Actors, Process: A Problem-Oriented Approach*. (New York: Aspen Publishers, 2006), 437-38.

and conventions, their customary nature mean that even before 1948 they were “clearly known and understood by all as universally binding.”<sup>12</sup> The 1948 Declaration directed responsibility for upholding *jus cogens* norms solely on states who, due to their non-consensual nature, were obligated to do so regardless of treaties. The existence of universally-binding norms, as well as the idea that humans possess certain “inalienable rights,” thereby justifies the existence of international law so as to enforce their observation by nation-states.<sup>13</sup>

The human right to food is listed in Article 25(1) of the Universal Declaration, forming a part of the “inherent [human] dignity” the United Nations aimed to promote worldwide in 1948.<sup>14</sup> Food security, the “guarantee that everyone has permanent access to good quality food in sufficient quantities,” is a central tenet of this human right and it is this that biopiracy endangers.<sup>15</sup> But if biopiracy is a crime, as this paper claims, then it is a highly complex one composed of unequal trade relations that involve not only individuals but also corporations, states, and international institutions—fundamentally, biopiracy is a “crime” of exploitation. Exploitation may be thought of here as a “transaction... in which A takes unfair advantage of B,” where “unfair advantage” means that A can be said to profit at the expense of B.<sup>16</sup> Usually this means that A’s undue profit causes some form of harm to B, but it may also be the case that no harm occurs or that B is even complicit and willing to enter into an unfair transaction with A.<sup>17</sup> Establishing the criminality of such transactions is incredibly complex and often context-specific (see the work of Roemer, Wertheimer, and Arneson). Despite this complexity, the case of biopiracy is an unequal, unfair transaction that results in profit for the few (mainly Northern corporations, states, and large-scale farmers) and the disenfranchisement of the many (mainly Southern small-scale farmers, businesses, and states). This relationship is criminal in that not only

is the latter disenfranchised, but also dehumanized by such transactions. This dehumanization is derived from two sources: first, the direct attack on fundamental human rights as discussed above, such as the right to food and by association the right to life; and second, the world market and the international trade laws that support and facilitate biopiracy dehumanize in that they place a profit value on, and so monetize, the human beings involved themselves.<sup>18</sup>

Given that biopiracy is widespread and poses a direct threat to human rights, it seems probable that it might be considered a crime against humanity. Larry May (2005) deals with these most heinous of crimes and proposes a minimalist approach in seeking justice for them. He affirms, however, that such judicial intervention could only be justified if the crime in question satisfies three requirements: the crime must meet the Security Principle; the International Harm Principle; and the state in question, who would normally have jurisdiction, must be unable or unwilling to prosecute.<sup>19</sup> The Security Principle holds that an international body may violate a state’s sovereignty if that state “deprives its subjects of physical security or subsistence” or is unable to provide these conditions.<sup>20</sup> The International Harm Principle states that such an international body may then prosecute only those crimes that are widespread and group-based in nature.<sup>21</sup> In the above case of biopiracy, the Security Principle seems to be potentially satisfied, in that states have allowed (both actively and passively) corporations, through the WTO’s patent laws, to threaten the food sovereignty and so the security of other human beings. But insecurity does not necessarily translate to harm and so by failing to meet May’s second principle, biopiracy does not qualify as a crime against humanity. Although arguably widespread, biopiracy does not seem to be directed at any particular group, except the rather permeable and heterogeneous one of the poor and marginalized.

Biopiracy may not be a crime against humanity, but this does not negate that it is a process of exploitation that endangers human rights for millions of people. In his 2004 report to the UN General Assembly, the Special Rapporteur on the

<sup>18</sup> P.H. Coetzee & A.P.J. Roux, eds., *The African Philosophy Reader*. (Cape Town: Oxford University Press of Southern Africa, 2002), 639.

<sup>19</sup> L. May, *Crimes Against Humanity: A Normative Account*. (Cambridge: Cambridge University Press, 2005), 79.

<sup>20</sup> *Ibid.*, 68.

<sup>21</sup> *Ibid.*, 83-4.

<sup>12</sup> L. May, *Crimes Against Humanity: A Normative Account*. (Cambridge: Cambridge University Press, 2005), 24.

<sup>13</sup> United Nations, *Universal Declaration of Human Rights*, (The Hague: 1948).

<sup>14</sup> *Ibid.*; J. Dunoff, S. Ratner, & D. Wippman, D., *International Law Norms, Actors, Process: A Problem-Oriented Approach*. (New York: Aspen Publishers, 2006), 446.

<sup>15</sup> F. Menezes, “Food Sovereignty: A vital requirement for food security in the context of globalization.” *Development* 44, no. 4 (2001): 29.

<sup>16</sup> A. Wertheimer, *Exploitation*. (Princeton: Princeton University Press, 1996), 207.

<sup>17</sup> *Ibid.*, 12.

Right to Food specifically highlights both unequal trade relations and corporate ownership of GM seed as threats to this basic human right.<sup>22</sup> While it seems not to the magnitude of a crime against humanity, biopiracy can be thought of as a threat to human rights and when enacted, a human rights violation. Who is then responsible for this crime? Mushita and Thompson argue this responsibility lies with transnational corporations. Mega-business conglomerates, they write, push for patent rights to be extended to all life in order to turn a larger profit through exploiting Africans (or the Global South) and their resources.<sup>23</sup> But according to the Special Rapporteur, the situation is more complex: in his report, he notes that corporations only act in accordance with rules set, and under conditions allowed, by nation-states. The state is the primary international actor as well as the foremost protector and guarantor of human rights in general (as the 1948 Universal Declaration of Human Rights affirms). It is ultimately the state's responsibility, then, to monitor the activities of corporations and to hold them accountable.<sup>24</sup> This question of responsibility of corporations and states is pressing and important, but deserves further exploration by scholars and practitioners. It should be noted however that both corporations and states constitute two probable perpetrators and their relative responsibility would vary depending on the context of the crime.

### Biopiracy and Justice

If biopiracy is a crime or human rights violation, how should its perpetrators be brought to justice? The tribunal model of justice has been firmly established in international law in the forms of the International Court of Justice (ICJ) and the International Criminal Court (ICC). The former is the official court of the United Nations while the later is an independent court established by the Rome Statute of 1998.<sup>25</sup> Both of these institutions claim jurisdiction over crimes against humanity, genocide,

<sup>22</sup> J. Ziegler, "Economic, Social and Cultural Rights: The Right to Food." Economic and Social Council document E/CN.4/2004/10, (2004), 8, 14.

<sup>23</sup> A. Mushita & C. Thompson, *Biopiracy of Biodiversity: Global Exchange as Enclosure*. (Trenton: Africa World Press, Inc, 2007).

<sup>24</sup> J. Ziegler, "Economic, Social and Cultural Rights: The Right to Food." Economic and Social Council document E/CN.4/2004/10, (2004), 13.

<sup>25</sup> International Criminal Court. <http://www.icc-cpi.int/home.html>; United Nations, International Court of Justice. <http://www.icj-cij.org>.

and war crimes, with the ICJ dealing specifically with legal disputes between states.<sup>26</sup> These stipulations automatically exclude biopiracy which, based on the above qualifications, does not fall into any of these categories and whose perpetrators may be states or, more importantly, corporations.

Because no international forum exists to prosecute human rights violations like biopiracy, national courts provide another possible venue of justice. Certain problems, however, are inherent within the tribunal model itself that make it unsuitable for a crime like biopiracy. For example, tribunals seem best equipped to handle individuals in that they ultimately deal with personified victims, defendants, and perpetrators. But there are some crimes where such a justice system seems unhelpful or even inappropriate. For May, such a crime would involve widespread complicity by the general population, resulting in nearly irreparable damage to the social fabric itself.<sup>27</sup> Such a case in which there are no clearly identifiable perpetrators, according to May, is unlikely to find adequate justice in the more individualized setting of a tribunal.

But beyond the logistical problem of prosecuting an entire society, May offers a second, deeper objection to tribunal justice. When discussing the inability of trials to handle social fracture and the need for reconciliation, he echoes the idea of narrative justice promoted by Elizabeth Jelin (2003). In her work, Jelin describes the production of social narratives of violent conflicts and the ways in which they both inform and ultimately shape social and individual memories. The construction of such narratives, she writes, is a selective process driven by politics that molds public dialogue in specific ways.<sup>28</sup> These narratives not only direct the ways in which people talk about conflicts, but they shape the ways in which people think about conflicts as well. Trials then can be seen as producing social narratives by declaring "victims" and "perpetrators," and assigning guilt and innocence to particular individuals and actions—what David Chandler refers to as a "moral 'fair story.'"<sup>29</sup> The danger in this is that in the construction of these

<sup>26</sup> United Nations, International Court of Justice. <http://www.icj-cij.org>.

<sup>27</sup> L. May, *Crimes Against Humanity: A Normative Account*. (Cambridge: Cambridge University Press, 2005), 248.

<sup>28</sup> E. Jelin, *State Repression and the Labors of Memory*. (Minneapolis: University of Minnesota Press, 2003), 27.

<sup>29</sup> D. Chandler, "The Road to Military Humanitarianism: How the Human Rights NGOs Shaped a New Humanitarian Agenda." *Human Rights Quarterly* 23, (2001): 690.

narratives, by reducing complex criminal relations to one or two individual actors, the larger picture is silenced and a distorted view of the crime in question is produced and internalized.

But what does this mean for justice and biopiracy? An answer may lie, unexpectedly, in an ethics of care. Three approaches to this ethics—Mahayana Buddhism, feminist care ethics, and the work of Ananta Giri—provide an interesting starting point for reshaping the way in which international justice is currently conceptualized. The Buddhist tradition is seen as “bio-centric” in that it regards human life as inherently part of nature, interconnected with other beings through their shared vulnerability, need for, and capacity to care for others. This approach seeks a balance between the individual and the social and, importantly, “considers justice as subordinate to compassionate understanding.”<sup>30</sup> Ananta Giri follows a similar vein when he suggests that the field of development itself is one of human relationships. Giri emphasizes the importance of self-transformation, essential to questions of social justice, stating that “[s]elf-fulfillment in fact requires deep and non-repressive commitments to others.”<sup>31</sup> In the feminist care ethics tradition, the self is also conceived as socially bound and situated and care is understood as actively responding to trouble and hurt. Such an ethics of active caring, when practiced, is seen as morally enhancing for both the self and others.<sup>32</sup>

The emphasis on social relationships and the interconnectedness of all human beings from each of the above approaches brings several important insights to this discussion of tribunals, social narratives, and the crime of biopiracy. In their shared notions of “embedded humanism,” these three traditions provide a critique of tribunal justice. Humans are born into relationships with other humans and, in fact, could not function normally without contact with other humans. Not only do we require social interaction with others, but our very neurological development as children depends on human relationships. Thus we, as human beings, can be thought of as *socially constructed* individuals.

This disregard of the social construction of individuals within tribunals can be described as

<sup>30</sup> D. Gasper & T. Truong, “Deepening Development Ethics through the Lenses of Caring, Gender, and Human Security.” Institute of Social Studies, the Hague [electronic version], (2005).

<sup>31</sup> Ibid.

<sup>32</sup> G. Kessler, ed., *Voices of Wisdom: A Multicultural Philosophy Reader*. (Belmont: Thomson & Wadsworth, 2004), 111-12.

narrative injustice. Such injustice might then be particularly detrimental and even dangerous when the crime in question is characterized by a plurality of human relations. Biopiracy can be thought of as such a crime that simultaneously involves trade relations and agreements, business arrangements, political relations, as well as historical processes. Although, certain perpetrators may actually be identified for constructing and implementing such relations, these have been states and corporations (whom May discusses the difficulty of prosecuting)<sup>33</sup> that at the most basic level are held together themselves by human relationships. This is not to suggest trials and tribunals are never appropriate or that “good” and “evil” do not exist; the recognition of *jus cogens* norms by the Universal Declaration of Human Rights itself seems to refute this. The argument is simply that if we are possessed of certain inalienable rights by being human and that we are human through relationships, such relations cannot always be reduced to zero-sum categories. Because of this, more typically Western institutions of justice—just like Westernized diets—are not *always* appropriate, and seem not to be inappropriate in the case of biopiracy.

### Justice and Agriculture: The Role of Food Sovereignty

In the last section it was shown that tribunal justice is ill-equipped to deal with a crime like biopiracy, one characterized by a plurality of exploitative human relationships, for the simple fact that it silences these relationships. In finding options like tribunals thus inadequate, it would seem that there exists a silence within international justice, a gap unable to address the multi-dimensionality of biopiracy. But, as this paper claims, biopiracy *is* a crime—it is a human rights violation—and to let its perpetrators go unpunished seems to be yet another injustice. Fortunately, the ideas raised above within an ethics of care seem to provide a means of breaking this silence in a fundamental way. In order to understand the importance of such an ethics, a return to the critique of tribunal justice is needed.

As viewed through an ethics of care, part of why tribunals are unable to adequately address the complexity of crimes like biopiracy is that a trial’s very purpose centers around the distribution of

<sup>33</sup> L. May, *Crimes Against Humanity: A Normative Account*. (Cambridge: Cambridge University Press, 2005), 143-48.

reparations. A crime is committed and, in finding one of the parties guilty, the tribunal assigns some form of reparations—either compensation to the victims or punishment for the guilty. Such reparations are meant to restore what was lost or taken from the victims to, in essence, erase the effects of the crime and so the crime itself. But according to an ethics of care discussed above, what occurs during a crime like biopiracy is a breach in human relations whereby one party is declared *inhuman* through exploitation. Can such a breach be restored through compensation or punishment? On the scale of human rights violations, the answer is certainly not: punishment for such crimes usually include confinement in prison, death, or both—all of which deprive the individual of some basic human right and so negates their humanity. Compensation places some monetary value on the wrong inflicted and so, in this case, monetizes human relations—treating human beings as objects to be bought, sold, and repaid. In looking through the lens of an ethics of care, biopiracy and other crimes of human relations seem to call not for reparations but, more fundamentally, for a restoration of the humanity of all parties involved.<sup>34</sup>

How might this be done? Some advocate the use of truth and reconciliation commissions as one alternative model of international justice. An international movement of peasants and small-scale farmers has asked for an alternative model of agriculture that they have termed “food sovereignty.” La Via Campesina is a solidarity movement of Southern and Northern non-governmental organizations (NGOs) begun officially in 1993 in Mons, Belgium.<sup>35</sup> The movement is meant to give a voice to the traditionally ignored world majority of peasants and farm workers in trade relations and agreements, as well as in agricultural research.<sup>36</sup> In demanding food sovereignty, La Via Campesina has called for the right of nations or “peoples” to develop their own agriculture and food systems that are both appropriate for local environments as well as reflect local culture.<sup>37</sup> La Via Campesina, among

many others (including the UN Special Rapporteur on the Right to Food), has advocated food sovereignty as absolutely necessary for the establishment and protection of food security.<sup>38</sup> And it should be remembered that food security forms the very basis of the human right to food itself.<sup>39</sup>

La Via Campesina has called for a fairly radical shift in accepted international food relations practice, from a corporate-centered food regime to an inherently people-centered one. Food sovereignty essentially means appropriate agriculture—appropriate for the specific environment, climate, community, and culture. While modern trade relations favor commercialized agriculture with its continuous push for higher yields at the expense of biodiversity, an agriculture based on food sovereignty prioritizes the people behind the trade and profit—the farmers themselves. This focus on the humanity of agriculture, of farmers and how they fit in to international trade agreements, is ethics of care put to practice. Because of this not only can food sovereignty be thought of as an alternative model of agriculture, but of justice as well—one that can take into account the multiple relationships of exploitation within biopiracy and in so doing is able to humanize them once more.

The ideas behind food sovereignty presented here can be implemented in very concrete ways at the local, state, and international level. On the African continent, agricultural research and experimentation with more appropriate hybrid seeds and agricultural methods happens at both the university and farmer levels. Seeds are also saved and shared within communities, and many African farmers create and hold seed banks and seed fairs as a means of improving seed choices.<sup>40</sup> Besides such moves toward locally-appropriate agriculture, what food sovereignty in essence calls for is the ability of states to practice stronger import governance. In terms of policy, such governance can take many forms from increased

<sup>34</sup> P.H. Coetzee & A.P.J. Roux, eds., *The African Philosophy Reader*. (Cape Town: Oxford University Press of Southern Africa, 2002), 644.

<sup>35</sup> A. Desmarais, “The Via Campesina: Consolidating an International Peasant and Farm Movement.” *The Journal of Peasant Studies* 29, no. 2 (2002): 95.

<sup>36</sup> *Ibid.*, 96.

<sup>37</sup> F. Menezes, “Food Sovereignty: A vital requirement for food security in the context of globalization.” *Development* 44, no. 4 (2001): 29.

<sup>38</sup> A. Desmarais, “The Via Campesina: Consolidating an International Peasant and Farm Movement.” *The Journal of Peasant Studies* 29, no. 2 (2002): 104; F. Menezes, “Food Sovereignty: A vital requirement for food security in the context of globalization.” *Development* 44, no. 4 (2001): 29.; P. Mulvany, “The dumping-ground: Africa and GM food aid.” (2004): 3; J. Ziegler, “Economic, Social and Cultural Rights: The Right to Food.” Economic and Social Council document E/CN.4/2004/10, (2004), 19.

<sup>39</sup> J. Ziegler, “Economic, Social and Cultural Rights: The Right to Food.” Economic and Social Council document E/CN.4/2004/10, (2004), 4.

<sup>40</sup> A. Mushita & C. Thompson, *Biopiracy of Biodiversity: Global Exchange as Enclosure*. (Trenton: Africa World Press, Inc, 2007), 10-12, 237-38.

tariffs to minimum guaranteed prices for farmers' products (one of the central tenets of the fair trade movement).<sup>41</sup> Subsidies are also imperative in order to increase the competitiveness of agricultural products in both the international and domestic markets. These include input and credit subsidies, which should be then supported by investments in agricultural infrastructure (such as irrigation) where appropriate.<sup>42</sup> Lastly, on the international stage an adoption of the food sovereignty framework—supported by an ethics of care—should mean a stronger regulation of international trade. This would entail a stronger presence and intervention of the United Nations in WTO and other trade agreements to ensure their accordance with the precepts of food sovereignty. An example of such intervention would be a reworking, along food sovereignty lines, of food safety and quality regulations (e.g. for organic or fair trade foods).<sup>43</sup> Such regulations often exclude Southern food products where poorer infrastructure, fewer technological innovations, and less capital prevents many farmers from meeting their strict qualifications.<sup>44</sup> Non-governmental organizations (NGOs) and social movements like La Via Campesina should also play a larger role in informing and influencing such agricultural trade policies towards a more farmer-centered, food sovereignty framework.

Still, a number of problems with the above recommendations are in need of mention. First, while stronger governance of import policy would greatly benefit small-scale farmers in the South, such measures like minimum guaranteed prices could adversely affect the country's poorer consumers unable to pay even government controlled prices. If available, government food subsidies could help to improve access to food for these poorer consumers.<sup>45</sup> Such subsidies would also help increase the competitiveness of farmer's products within domestic markets.<sup>46</sup> Another problem with food

<sup>41</sup> L. Reynolds, "Organic and Fair Trade Movements in Global Food Networks." In *Ethical Sourcing in the Global Food System*, edited by Stephanie Barrientos & Catherine Dolan. (London: Earthscan, 2006), 58; A. Glijo, "Achieving Food and Livelihood Security in Developing Countries: The Need for a Stronger Governance of Imports." (2006): 48.

<sup>42</sup> A. Glijo, "Achieving Food and Livelihood Security in Developing Countries: The Need for a Stronger Governance of Imports." (2006): 54.

<sup>43</sup> *Ibid.*, 53.

<sup>44</sup> *Ibid.*

<sup>45</sup> *Ibid.*, 48; Loewenson, R. "Relief and Recovery in Zimbabwe: Food Security in the Current Humanitarian Crisis." TARSC, (2004): 6.

<sup>46</sup> A. Glijo, "Achieving Food and Livelihood Security in Develop-

ing Countries: The Need for a Stronger Governance of Imports." (2006): 54.

sovereignty itself is its sole focus on farmers, or in La Via Campesina terminology, on "peasants."<sup>47</sup> This is problematic in that "farmers" is not a homogenous entity—farmers may be rich or poor, young or old, male or female. Yet, while the effects of biopiracy do vary between farmers, they also help to exacerbate the same inequalities (e.g. of class) that increase food insecurity for many farmers and consumers. Lastly, suggesting a need for greater intervention and regulation of the WTO and trade agreements begs several questions, including who should be regulating and how regulation should be done. A more pressing concern pertains to if there is enough political will in the international community to even adopt the framework of food sovereignty at all.

These first considerations are of great importance and should be decided through a transparent process involving the United Nations and its member states as well as NGOs and other social movements. As for the third and more fundamental question, the political will of the international community is nearly impossible to predict. Yet although often slow and contradictory, the international community has in the past rallied in condemnation of human rights violations and crimes against humanity. It has exerted its considerable influence in order to end such crimes and bring their perpetrators to justice (e.g. the economic sanctions against Apartheid South Africa or the establishment of the International Criminal Tribunal for Rwanda).<sup>48</sup> Such instances, though certainly not without their own problems and contradictions, provide glimpses of the capacity of international bodies and institutions to affect great change. And in the wake of the damages wrought by biopiracy, there seems to be an opportunity for international institutions to do just that.

### **Food Sovereignty in Africa: Some Conclusions**

In Africa, food is fundamental to issues of justice. According to the UN Food and Agriculture Organization (FAO) in 2002-2004, eleven African countries had over 35% of their total population

ing Countries: The Need for a Stronger Governance of Imports." (2006): 54.

<sup>47</sup> La Via Campesina. *La Via Campesina: International Peasant Movement*. [http://viacampesina.org/main\\_en/index.php](http://viacampesina.org/main_en/index.php).

<sup>48</sup> R. Stock, *Africa South of the Sahara: A Geographical Interpretation*. (New York: Guilford Press, 2004), 428; M. Drumbl, *Atrocity, Punishment, and International Law*. (Cambridge: Cambridge University Press, 2007), 7-9.

undernourished; fifteen more countries had from 15 to 34% undernourished. More than half of the countries in Sub-Saharan Africa, then, had from one quarter to over half their population undernourished in 2002-2004 alone.<sup>49</sup> Several regions across the continent have also recently experienced recurring famines and crop failures, especially during the years 1983-1984, 1991-1992, and 2002-2003.<sup>50</sup> Access to food for the poorest of the poor is another widespread problem, as in Zimbabwe where the poorest third of all households were unable to afford the ever-increasing prices for needed grain in 2001.<sup>51</sup> But while it is tempting to dismiss Africa's food insecurity as somehow inherent to the continent itself or resulting from natural environmental conditions like drought, such ideas are for the most part facetious and even insulting. What such popular myths essentially ignore is not only Africa's tremendous capacity for agricultural sustainability but also the intrinsic political causes that drive famines and food crises on both the African continent as well as across the world.<sup>52</sup>

Ethiopia is often cited as the quintessential example of the famine-stricken African country. Indeed, in 1973, a famine devastated the northeastern province of Wollo, where over the course of two years 50,000-200,000 deaths occurred in a population of 27 million.<sup>53</sup> Yet incredibly, there are records of food being exported *out* of Wollo to Addis Ababa and Asmara throughout the famine, as well as indications of only a minimal rise in food prices at the same time.<sup>54</sup> So if not decreased food availability or accessibility, what then caused or contributed to this famine and its resulting deaths and suffering? Sen (1981) concluded that it was a lack of entitlements on the part of Wollo residents that led to the famine—more clearly stated, the people living in Wollo did not have the market command or power to bring food into their starving province.<sup>55</sup>

The economic drivers of the Wollo famine, supported by local and international politics, can be

<sup>49</sup> United Nations. Food and Agriculture Organization. <http://www.fao.org/>.

<sup>50</sup> R. Stock, *Africa South of the Sahara: A Geographical Interpretation*. (New York: Guilford Press, 2004), 229.

<sup>51</sup> Loewenson, R. "Relief and Recovery in Zimbabwe: Food Security in the Current Humanitarian Crisis." *TARSC*, (2004): 6.

<sup>52</sup> R. Stock, *Africa South of the Sahara: A Geographical Interpretation*. (New York: Guilford Press, 2004), 224.

<sup>53</sup> A. Sen, "Ingredients of Famine Analysis: Availability and Entitlements." *The Quarterly Journal of Economics* 96, no. 3 (1981): 447.

<sup>54</sup> *Ibid.*, 448.

<sup>55</sup> *Ibid.*, 50.

seen in places across the African continent today. In many instances these political and economic drivers are recognizable as the trade laws and market conditions that form the corporate-centered food regime, which facilitates biopiracy. Such conditions have been exacerbated specifically within an African context by its history of colonial and post-independence market liberalization. First instituted by colonial powers as a means to cheaply buy raw African goods for manufacturing, this policy of liberalization has led to cash crop- and export-oriented economies across the continent. As discussed above, such economies are highly vulnerable to the fluctuations of the international market and the corporate-friendly free trade policy of the WTO.<sup>56</sup>

Clearly, Africa has a need for food sovereignty, despite the numerous efforts of Africans themselves to pursue appropriate agriculture mentioned above. Yet the continent has been largely left out of social movements dedicated to food sovereignty like *La Via Campesina*, which has five member organizations on the continent compared to its twenty-nine in Asia and fifty-four in the Americas.<sup>57</sup> As a result, Africa seems faced with several injustices simultaneously: the crime of biopiracy itself, the lack of adequate international institutions to prosecute such human rights violations, and the conspicuous absence of a coherent movement for food sovereignty. The injustice of each of these stems from different forms of African dehumanization. Whether this dehumanization results from a direct attack on human rights as in the case of biopiracy or through the silencing of this crime by the latter two, Africans have been treated as something less than human by international institutions and trade laws as well as by UN member states and Northern corporations. In a time of increasing human rights talk and international commitments to end poverty and hunger, such a situation is untenable.<sup>58</sup> Thus a gap exists within international justice that is now wide but not yet insurmountable. While biopiracy currently occurs with immunity, an opportunity exists at present for an ethics of care to be articulated through the development and trade framework of food sovereignty.

<sup>56</sup> R. Stock, *Africa South of the Sahara: A Geographical Interpretation*. (New York: Guilford Press, 2004), 224.

<sup>57</sup> *La Via Campesina*. *La Via Campesina: International Peasant Movement*. [http://viacampesina.org/main\\_en/index.php](http://viacampesina.org/main_en/index.php). For a notable exception see *Food First: The Institute for Food and Development Policy* at [www.foodfirst.org](http://www.foodfirst.org).

<sup>58</sup> United Nations. *UN Millennium Development Goals*. <http://www.un.org/millenniumgoals/>.

Such an opportunity provides a unique avenue of justice to be enacted at the local, national, and international levels, both within Africa as well as throughout the Global South, which has been hitherto unexplored.

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# Evaluating the Effectiveness of Public Health Education in the Eradication of Dracunculiasis in Uganda and Ghana

Laura Wolaver  
International Relations  
Michigan State University

## Abstract

*Dracunculiasis is a parasitic disease, spread through infected water, targeted by the World Health Organization for global eradication. On the basis of an understanding of the pathology and mode of transmission of Dracunculiasis, as well as the history of the global eradication campaign, this paper highlights the necessary elements of an effective national Dracunculiasis eradication program. This is done through a comparative case study of Uganda's successful eradication effort and Ghana's struggling campaign. Providing water filters to at-risk populations, educating those populations about the disease and disease transmission cycle, and creating a network of trained and empowered community health volunteers has had the most effective and efficient effect on Dracunculiasis eradication efforts. Dracunculiasis eradication was accomplished in Uganda through implementation of these techniques. Ghana's program focused on creating new sources of water and has experienced some serious setbacks that have enabled Dracunculiasis to remain endemic in the country. In order for Ghana's eradication campaign to move forward, more attention may need to be focused on basic health education. Uganda and Ghana's eradication campaigns are representative of the greater worldwide effort targeting global Dracunculiasis eradication by 2009. As potentially the second disease to be eradicated globally, Dracunculiasis may show the way for future success in global public health initiatives.*

## Introduction

**D**racunculiasis, more commonly known as Guinea worm disease, is a parasitic disease that is thought to be identified as the "fiery

serpent" described in the Old Testament.<sup>1</sup> Classified by the World Health Organization (WHO) as a neglected tropical disease, Dracunculiasis can cause months of immobility and intense pain as the worm exits the body through an open blister. Spread through infected water, Dracunculiasis primarily affects rural poor without access to clean-water. In 1986, over 3.5 million cases of Dracunculiasis were reported in twenty countries across Africa, Asia, and the Middle East.<sup>2</sup>

Despite the widespread prevalence of Dracunculiasis, the WHO identified it as a candidate for eradication. Since the global campaign was officially launched in 1986, the number of cases has been reduced by over 99%. In 2007, only 9,826 indigenous cases were reported in five African countries.<sup>3</sup> Dracunculiasis is now poised to become the second disease to ever be eradicated worldwide. This success is directly connected to the efforts of campaigns across the globe to draw world attention and resources for the treatment and prevention of the disease. International organizations, non-governmental organizations (NGOs), individuals, and governments collaborated to initiate programs in all twenty originally endemic countries. Of these programs, a campaign led by the Centers for Disease Control and Prevention (CDC), the Carter Center, UNICEF, and numerous international and

<sup>1</sup> Board of Science and Technology for International Development, et al., comps. *Opportunities for Control of Dracunculiasis*. Proc. of Workshop "Opportunities for Control of Dracunculiasis," June 16-19, 1982, Washington, D.C. (Washington, D.C., National Academy Press, 1983), v.

<sup>2</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

<sup>3</sup> "Guinea Worm Wrap-Up #179," (WHO Collaborating Center: Research, Training and Eradication of Dracunculiasis, 2008), <http://www.cdc.gov/ncidod/dpd/parasites/dracunculiasis/wrapup/179.pdf>.

local NGOs in partnership with the government of Uganda has been especially successful in eradicating Dracunculiasis. At the same time, Ghana's national campaign, assisted by many of the same organizations, is still struggling to achieve eradication. This paper aims to highlight the necessary elements of an effective eradication campaign, as illustrated by the successful eradication program in Uganda and the struggling eradication program in Ghana. Providing water filters to at-risk populations, educating those populations about the disease and disease transmission cycle, and creating a network of trained and empowered community health volunteers have the most effective and efficient effect on Dracunculiasis eradication efforts.

### Background of the Disease

Dracunculiasis has a fully known infection cycle that relies on humans for its continuation. Guinea worms live in water and attach themselves to Cyclops water fleas, which act as intermediate hosts. Upon drinking infected water, humans ingest the water fleas. Gastric juices kill the water fleas, but the Guinea worm larvae remain. The worms mature and mate within the digestive system after approximately three months. Shortly after mating, male Guinea worms die. Female Guinea worms, however, are able to live in the body and mature.<sup>4</sup> When fully grown, female worms can be 600-800 mm long and 2 mm thick. Typically only one female will survive in the body at any one time. She migrates through muscular planes before emerging through a blister on the skin, after approximately a year. In about 90% of cases, the worm exits from the skin of the victim's lower extremities, and is often accompanied by nausea, fever, and vomiting.<sup>5</sup> Before the appearance of the blister, there are no visible signs or symptoms of the parasitic infection, but joints can be locked or difficult to move as the worm travels through the muscular planes.<sup>6</sup> This can become a permanent condition if the

<sup>4</sup> Board of Science and Technology for International Development, et al., comps. *Opportunities for Control of Dracunculiasis*. Proc. of Workshop "Opportunities for Control of Dracunculiasis," June 16-19, 1982, Washington, D.C. (Washington, D.C., National Academy Press, 1983), 5.

<sup>5</sup> "Dracunculiasis Eradication," (World Health Organization, 2008), <http://www.who.int/dracunculiasis/en/>.

<sup>6</sup> Board of Science and Technology for International Development, et al., comps. *Opportunities for Control of Dracunculiasis*. Proc. of Workshop "Opportunities for Control of Dracunculiasis," June 16-19, 1982, Washington, D.C. (Washington, D.C., National Academy Press, 1983), 5.

worm dies premature to exiting the body and calcifies within the joint. While Dracunculiasis is rarely fatal, it can have profound effects on victims' lives because they may be sick and debilitated for several months. The WHO has reported that in a longitudinal study in Nigeria, 58% of infected individuals were disabled for a month, unable to leave their beds and homes, as the worm exits from their bodies.<sup>7</sup>

There is no vaccine, medicine, or cure for Dracunculiasis. Recovery is difficult because the expulsion of the worm is a slow and painful process. The worm must be slowly wrapped around a small stick each day as to not go too quickly as to break the worm which could result in more serious secondary infection.<sup>8</sup>

Because Dracunculiasis is waterborne, eradication is possible--but this fact also makes the disease easily transmittable. If water sources can be kept free of larvae, then the disease can be controlled. This, however, is difficult to accomplish. When the worm begins to exit the body, the infected person experiences an intense burning sensation. It is very common for individuals to try to alleviate this sensation by dipping infected parts of the body into water sources that are also used for drinking. When a mature female worm is exposed to water, she releases roughly one million microscopic larvae. The larvae are in the developmental stage when they can attach to water flies for a period of five days.<sup>9</sup> Clearly then, it only takes one infected person to expose an entire village's water supply to Guinea worms and continue the disease cycle.

Village water sources with high vulnerability for infection are manmade ponds and step-wells.<sup>10</sup> While these water sources provide greatly needed water to rural populations, they are often shallow and stagnant, which provide excellent conditions for both water fleas and Guinea worm larvae. There is a greater probability of ingesting Guinea worm during the dry seasons when the water level is low because water fleas that harbor the larvae live on the bottom of the water sources.<sup>11</sup> The mode of transmission of

<sup>7</sup> "Dracunculiasis Eradication," (World Health Organization, 2008), <http://www.who.int/dracunculiasis/en/>.

<sup>8</sup> Ibid.

<sup>9</sup> Board of Science and Technology for International Development, et al., comps. *Opportunities for Control of Dracunculiasis*. Proc. of Workshop "Opportunities for Control of Dracunculiasis," June 16-19, 1982, Washington, D.C. (Washington, D.C., National Academy Press, 1983), 4.

<sup>10</sup> "Dracunculiasis Eradication," (World Health Organization, 2008), <http://www.who.int/dracunculiasis/en/>.

<sup>11</sup> Board of Science and Technology for International Develop-

Dracunculiasis demonstrates that disease eradication must be managed through village water supplies. Eradication, then, needs to focus on educating infected individuals to avoid village water sources and providing water filters to all individuals in endemic villages.

### The Global Eradication Effort

The Dracunculiasis eradication effort began as a by-product of the WHO's 1981-1990 International Drinking Water Supply and Sanitation Decade.<sup>12</sup> Dracunculiasis was included in this initiative after the CDC identified in 1980 that it could be eradicated by concentrating safe drinking water projects in areas where the disease was endemic.<sup>13</sup> The World Health Assembly officially declared the start of the international Dracunculiasis eradication campaign in a resolution in 1986. During that year, 3.5 million cases were reported across twenty countries, and another 120 million people were reported to be at risk for the disease.<sup>14</sup> Besides the WHO and the CDC, the campaign was reinforced by former U.S. President Jimmy Carter and the work of the Carter Center.<sup>15</sup> Optimism for eradicating Dracunculiasis was high, and the timetable for completion of the campaign was set for 1995.<sup>16</sup>

Now well past the initial eradication period, Dracunculiasis still remains indigenously endemic in five African countries, and in 2004, the World Health Assembly pushed the eradication date back to 2009.<sup>17</sup> Although cases of Dracunculiasis have been reduced by 99%, the remaining cases have proven to

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ment, et al., comps. *Opportunities for Control of Dracunculiasis*. Proc. of Workshop "Opportunities for Control of Dracunculiasis," June 16-19, 1982, Washington, D.C. (Washington, D.C., National Academy Press, 1983), 4.

<sup>12</sup> Donald R. Hopkins and William H. Foege, "Dracunculiasis," *Science* 212, no. 4494 (1981), 495.

<sup>13</sup> Michele Barry, "The Tail End of Guinea Worm: Global Eradication Without a Drug or a Vaccine," *The New England Journal of Medicine* 356 (2007), 2561.

<sup>14</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

<sup>15</sup> "Final Struggle to Eradicate Dracunculiasis," (MSNBC, 2007), <http://www.msnbc.msu.com/id/17650015/>.

<sup>16</sup> John B. Rwakimari, Donald R. Hopkins, and Ernesto Ruez-Tiben, "Uganda's Successful Guinea Worm Eradication Program," *American Journal of Tropical Medicine and Hygiene* 75, no. 1 (2006), 3. <http://www.ajtmh.org/cgi/reprint/75/1/3.pdf>.

<sup>17</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

be difficult to control. In 2007, Sudan, Ghana, Mali, Niger, and Nigeria still reported indigenous cases of the disease. Violence in Sudan has made it especially difficult to maintain an effective campaign and of the 9,826 reported indigenous cases, 6,068 of them are reported from Sudan. Population mobility in all five of the remaining countries has threatened the spread of Dracunculiasis back to regions where its transmission was already interrupted. Togo, Burkina Faso, Ethiopia, and Uganda all reported between one and four imported cases in 2007.<sup>18</sup> Regional insecurity and population mobility within endemic areas threaten the global Dracunculiasis eradication campaign. With these obstacles in mind, the 2009 deadline will remain a major challenge for nations still working toward eradication.

### Success in Uganda

If the international eradication deadline is to be met, then countries must look at what methods of control have been successful in the past. Uganda's eradication program has set a shining example of what can be accomplished if national governments implement and adhere to a public health education-based plan. In 1991, the Carter Center and UNICEF helped set up the Uganda Guinea Worm Eradication Program (UGWEP), which was officially sponsored by the Ugandan Ministry of Health.<sup>19</sup>

The first step of the campaign was to conduct an intense village-by-village surveillance program to monitor cases of the disease in Uganda. This was done between 1991 and 1992. The search found 126,369 cases, with most cases contained in a few contiguous northern districts. Through this thorough investigation, it became clear in 1993 that Uganda had the highest number of Dracunculiasis cases in the world.<sup>20</sup>

Following the surveillance program, Ugandan leaders and international supporters began to formulate its national eradication strategy. The Ugandan national effort consisted of water filters,

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<sup>18</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

<sup>19</sup> John B. Rwakimari, Donald R. Hopkins, and Ernesto Ruez-Tiben, "Uganda's Successful Guinea Worm Eradication Program," *American Journal of Tropical Medicine and Hygiene* 75, no. 1 (2006), 3. <http://www.ajtmh.org/cgi/reprint/75/1/3.pdf>.

<sup>20</sup> "Guinea Worm Eradication Status in Uganda," (Ministry of Health Online: the Republic of Uganda), [http://www.health.go.ug/disease\\_Guineaworm.htm](http://www.health.go.ug/disease_Guineaworm.htm).

training and health education, case containment, vector control, targeting water supplies, cash rewards, and containment centers.<sup>21</sup> Many of these programs were very basic; none required major changes in law or funding to be implemented. This simplistic campaign design allowed the measures to be applied quickly.

Because the disease is transmitted through water sources, water filters, community training, and health education were the first measures to be implemented. Water filters enabled villagers to drink safely from Guinea worm endemic sources. The filters also allowed traditional water sources to be used, rather than requiring expensive construction of new water sources. Filters cost less than one U.S. dollar each and were largely donated by U.S. based DuPont Corporation and Precision Fabrics Group. All filters were distributed free of charge.

Three years after distribution began, all endemic villages had received filters for use.<sup>22</sup> In 1999, pond caretakers were introduced in some endemic villages to help ensure the daily use of the filters at water sources.<sup>23</sup> Health volunteers set up in each village helped educate villagers on why the filters' use was necessary. These local volunteers also helped spread public health education about Dracunculiasis and prepared regular surveillance reports. By 1993, 96% of endemic villages reported having a trained local volunteer. In addition to the local volunteers, every endemic village was also given a resident and assist health educator to ensure that the village program ran smoothly.<sup>24</sup> These local volunteers and Ugandan resident educators were trusted by local villagers. Villagers were more apt to change their behavior based on the health education information because it came from a source that they trusted. The Carter Center and the CDC took the lead in providing public health training to the Ugandan leaders and volunteers.<sup>25</sup>

Within Uganda, monthly meetings of leaders and volunteers kept eradication workers involved and up to date on surveillance information and effective

<sup>21</sup> John B. Rwakimari, Donald R. Hopkins, and Ernesto Ruez-Tiben, "Uganda's Successful Guinea Worm Eradication Program," *American Journal of Tropical Medicine and Hygiene* 75, no. 1 (2006), 4. <http://www.ajtmh.org/cgi/reprint/75/1/3.pdf>.

<sup>22</sup> *Ibid.*

<sup>23</sup> *Ibid.*, pp. 5.

<sup>24</sup> *Ibid.*, pp. 4.

<sup>25</sup> John B. Rwakimari, Donald R. Hopkins, and Ernesto Ruez-Tiben, "Uganda's Successful Guinea Worm Eradication Program," *American Journal of Tropical Medicine and Hygiene* 75, no. 1 (2006), 5. <http://www.ajtmh.org/cgi/reprint/75/1/3.pdf>.

eradication strategies. These meetings also provided opportunities for data collection. The Ugandan program was further developed through an annual national conference that represented the summation of the year's efforts and provided a forum to discuss eradication progress on a national level.<sup>26</sup> A high level of national political will among Ugandan leaders kept the UGWEP going strong.<sup>27</sup>

Later initiatives, such as the creation of new water sources, treatment of current water sources with insecticides, and case containment, proved helpful in targeting cases in villages that remains endemic after the earlier initiatives. UNICEF provided operational support throughout the campaign and created new sources of safe water through the drilling of borewells.<sup>28</sup> Case containment became more effective as education and awareness rose in endemic villages. By 1995, 95% of endemic villages practiced case containment. Cash rewards for case identification began in 1997 to increase containment and surveillance as people had an incentive to report new cases.<sup>29</sup> These more intensive and innovative techniques employed in conjunction with the basic health education measures proved helpful to the campaign. With each new implementation, the number of cases in Uganda dropped substantially.

Fourteen years after the UGWEP was started, Uganda was free of Dracunculiasis. This was accomplished largely through its public education efforts on the disease.<sup>30</sup> Health education programs administered on a village-by-village basis succeeded in convincing villagers to change their behavior and in motivating villages to work toward the common goal of eradication. Public health education convinced villagers to use water filters, utilized local community volunteers, and helped in surveillance and case identification that enabled the case containment centers to be effective. Education also allowed the campaign to be spread rapidly from the national level to the endemic villages. Furthermore, the simplicity of the education program worked primarily within the water infrastructure that Uganda already had. This allowed the national Ugandan eradication campaign to be completed for only \$5.6 million dollars, much of

<sup>26</sup> *Ibid.*, pp. 4.

<sup>27</sup> *Ibid.*, pp. 7.

<sup>28</sup> *Ibid.*, pp. 4.

<sup>29</sup> *Ibid.*, pp. 5.

<sup>30</sup> John B. Rwakimari, Donald R. Hopkins, and Ernesto Ruez-Tiben, "Uganda's Successful Guinea Worm Eradication Program," *American Journal of Tropical Medicine and Hygiene* 75, no. 1 (2006), 5. <http://www.ajtmh.org/cgi/reprint/75/1/3.pdf>.

which was funded by international donors.<sup>31</sup>

### Progress to be Made in Ghana

Despite the example of Uganda's successful eradication of Dracunculiasis, Ghana has continued to struggle with formulating and maintaining an effective national campaign against the disease. In 2004, Ghana accounted for 45% of cases reported in the remaining endemic countries.<sup>32</sup> Even more disappointing, Ghana still reported 4,136 cases in 2006, which was a 4% increase from the previous year.<sup>33</sup> Ghana has had success with lowering its national case total, but inconsistent management of the program and gaps in the campaign have turned into major setbacks for the final phases of the eradication program. Although started in 1990 as one of the first eradication programs in the world, the campaign in Ghana continues to struggle today.<sup>34</sup>

While the eradication program in Uganda was based on basic public health education and training, the program in Ghana has focused on creating new sources of safe water. Even though the creation of safe water sources may eliminate the need for water filters and some public health education, it requires high levels of funding and operational support. Problems in areas where new water sources were constructed have been devastating for the progress of the national eradication program. For example, the Savelugu district in the Northern Region of Ghana has experienced serious setbacks, and the majority of cases in Ghana have been found near this location.<sup>35</sup> In the Savelugu district, extensive water systems were built to provide safe water, but they have proven to be unreliable. In 2006, the municipal water supply the Northern Region was interrupted and prevented safe drinking water from reaching many northern cities and villages in the district. Restaurants and vendors obtained water from contaminated reservoirs

<sup>31</sup> Ibid, pp. 6.

<sup>32</sup> Donald R. Hopkins et al, "Dracunculiasis Eradication: The Final Inch," *American Journal of Tropical Medicine and Hygiene* 73, no. 4 (2005), 669. <http://www.ajtmh.org/cgi/reprint/73/4/669.pdf>.

<sup>33</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

<sup>34</sup> Sandy Cairncross, Ralph Muller, and Nevio Zagaria. "Dracunculiasis (Guinea Worm Disease) and the Eradication Initiative." *Clinical Microbiology Reviews* 15, no. 2 (Apr. 2002), 232. <http://cmr.asm.org/cgi/reprint/15/2/223.pdf>.

<sup>35</sup> "Final Struggle to Eradicate Dracunculiasis," (MSNBC, 2007), <http://www.msnbc.msu.com/id/17650015/>.

during this period, and Dracunculiasis continued to spread. These water issues tripled reported cases of Dracunculiasis, and the regions affected accounted for 45% of all reported cases in Ghana during 2006.<sup>36</sup>

The issues with the water sources that the Savelugu district experienced could foreshadow larger setbacks in the future. Already, Ghana has experienced problems with funding that make the long-term creation, operation, and maintenance of new water sources difficult to sustain. Since 2003, the Ghanaian government has pledged more than \$3 million to be spent on improved water supplies in endemic areas.<sup>37</sup> This amount is more than half of what Uganda's entire fourteen-year national eradication program cost. These water systems are costly investments that have yet to be effective tools in the Dracunculiasis eradication campaign.

To move forward, Ghana must place more emphasis on educational aspects of the eradication program. In recent years, the government has been increasingly working towards increasing public education. Ghanaian leaders recognized the eradication effort's need for more attention and resources, and funding was increased after the government declared Dracunculiasis a national emergency in the Northern Region. Some of this funding has been allocated for free medical care, to encourage more people to seek medical assistance when they are infected.<sup>38</sup> In effect, increased funding for free medical care has also increased case surveillance to prevent the further spread of Dracunculiasis. The government of Ghana has also embarked on an extensive national media campaign to educate its citizens on prevention tactics against Dracunculiasis. The Red Cross has also trained 6,500 women volunteers to bring Dracunculiasis eradication education to local communities.<sup>39</sup> Using the success of the Ugandan eradication campaign as a guide, the extension of these public health programs and their concentration in Dracunculiasis endemic villages

<sup>36</sup> Ibid.

<sup>37</sup> Donald R. Hopkins et al, "Dracunculiasis Eradication: The Final Inch," *American Journal of Tropical Medicine and Hygiene* 73, no. 4 (2005), 670. <http://www.ajtmh.org/cgi/reprint/73/4/669.pdf>.

<sup>38</sup> "Progress Toward Global Eradication of Dracunculiasis, January 2005-May 2007," (United States Centers for Disease Control and Prevention, 2007), <http://cdc.gov/mmwr/preview/mmwrhtml/mm5632a1.htm>.

<sup>39</sup> Donald R. Hopkins et al, "Dracunculiasis Eradication: The Final Inch," *American Journal of Tropical Medicine and Hygiene* 73, no. 4 (2005), 669. <http://www.ajtmh.org/cgi/reprint/73/4/669.pdf>.

should progress the eradication program in Ghana for the future. To maintain its progress, the government of Ghana should concentrate the majority of its program funding in similar local education, training campaigns and water filter distribution initiatives. As long as Ghanaians in endemic regions do not have full and long-term access to sources of safe water, these public health education measures are cost-effective and crucial.

### Looking to the Future

The eradication campaigns in both Uganda and Ghana are representative of the campaigns in other countries affected by Dracunculiasis. As illustrated in these two case studies, public health education-based programs that use water filters and local volunteer engagement may be the most effective means for eradication. Such campaigns may be simple, but through adequate funding and national attention, repeated success has occurred in Uganda and Ghana. It is with the expansion of these public health education based programs and local training initiatives that Dracunculiasis' eradication can become a worldwide reality.

While Dracunculiasis eradication actively takes place in small villages, it is truly a global initiative as well. Without international concern, financial assistance, and logistical help, the global campaign cannot be accomplished. The global community, then, must collectively work towards the final eradication of Dracunculiasis through increased funding and support for village volunteer training programs, educational campaigns, and water filter distribution. As the first parasitic disease to be eradicated, Dracunculiasis may show the way for future success in global public health initiatives.

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There are, however, well-documented cases in which women's earnings of cash income do not change their status in the domestic sphere (Gallin 1982).

The entry in the list of references would then read:

Gallin, Rita S.

1982 "The Impact of Development on Women's Work and Status: A Case Study from Taiwan." Working Papers on Women and International Development #9. East Lansing, MI: q Women and International Development Program, Michigan State University.

## 2. If a specific page or sequence of pages is cited, the form is: (Gallin 1982:10) or Gallin (1982:10-12) or (Gallin 1982:10, 29).

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Example: As Gallin (1982) reports . . .

Or Gallin reports that in Hsin Hsing, "daughters-in-law were encouraged to engage in remunerative activities during the time traditionally reserved for activities on behalf of the larger family" (1982:11).

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Ex: Smith, Myra  
1962a  
1962b

**Books**

## 1. By a single author:

Boserup, Ester

1970 Woman's Role in Economic Development. New York: St. Martin's Press.

## 2. By two or more authors:

Nash, June and Helen Safa

1976 Sex and Class in Latin America. New York: Praeger.

## 3. An association or agency may be listed by author.

## 4. Edited volume:

Blaxall, Martha and Barbara Reagan (eds.)

1976 Women and the Workplace: The Implications of Occupational Segregation. Chicago: University of Chicago Press.

**Journal Articles**

- Gallin, Rita S.  
1984 "Women, Family, and the Political Economy of Taiwan." *Journal of Peasant Studies* 12(2):76-92.

**Article in a Collection or Edited Volume**

- Papanek, Hanna  
1977 "Development Planning for Women." In *Women and National Development: The Complexities of Change*, edited by the Wellesley Editorial Committee, 14-21. Chicago: University of Chicago Press.
- Gillison, Gillian  
1980 "Images of Nature in Gimi Thought." In *Nature, Culture, and Gender*, edited by Carol MacCormack and Marilyn Strathern, 143-173. Cambridge: Cambridge University Press.

**Unpublished Material**

If possible, the reference should allow the reader to locate the material.

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2. Paper presented at a conference

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1984 "Swidden Agriculture Production in Borneo." Manuscript. Copy available from the author, Department of Anthropology, Michigan State University, East Lansing, MI.

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"Alliance Strengthened or Diminished? Relationships between Labor & African Nationalist/Liberation Movements in Southern Africa." [http://neal.ctstateu.edu/history/world\\_history/archives/limb-.html](http://neal.ctstateu.edu/history/world_history/archives/limb-.html). May 1992.

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