

The Effects of Commercial  
and  
Industrial Mining on Public Health:  
Kimberley, South Africa  
A Case Study

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## Origins and Background History

With the highest rate of HIV/AIDS in the world (1 in 5 are HIV positive), South Africa's disease rates affect not only the social sphere of society (with increased stigma and fear associated with AIDS) but also the economic and political realms (Coovadia 2009: 818). The current HIV/AIDS epidemic presents social and political crises for the South African society (Braude 2009:2053). HIV/AIDS affects the longevity of families (with a majority of cases between heterosexual couples) and creates a detrimental void in the current South African labor market by affecting the most productive sector of the labor force, individuals ages 20-49. One crucial factor that contributes to the spread of HIV/AIDS throughout South Africa includes workers in the mining industry.

As a country rich in diamonds and minerals, South Africa's mining industry is of importance to the country's economic well being (Wilson 2001: 200). It is difficult to quantify the financial impact of AIDS on the mining industry. The impact results are increased morbidity and mortality of economically active individuals (Sadie 1993:6). In addition, the mining industry lifestyle contributes to the high contraction rate and spread of HIV/AIDS; this is due to men working for predominantly long periods away from their families. Furthermore, there is a lack of resources and awareness as of how HIV/AIDS spreads, which perpetuates this illness throughout South African communities. Migrant workers immigrate to South Africa from numerous countries in the Sub-Saharan region in Africa in order to find work. Several social problems arise from this migration process. For example, limited access to education creates a narrow avenue of jobs options. Often forced into the mining industry, men spend considerable amounts of time away from their families. While away in the mining regions of South Africa, men contract HIV/AIDS from various sexual encounters with women in the rural villages surrounding the mines (Campbell 2000:485). One key factor in the increased frequency of HIV infection is the practice of "accommodating migrant workers in single sex hostels, with long periods of separation from families" (International Labour Organization 2002). Upon their return home, they infect their wives and consequently, their children with HIV. The link between the increase in HIV/AIDS prevalence rates and the mining industry is the foundation of my summer research project. In the subsequent sections, I outline my research project and goals, provide research questions and methodologies I seek to address, and discuss my schedule to complete the summer research project.

## Description of Project and Research Questions

My interest in this project stems from studying abroad in South Africa in the summer of 2009. I cultivated an interest in public health after speaking with Mr. Mandela, the director of Treatment Action Campaign (TAC) in Khayelitsha, a predominantly black township outside Cape Town. Currently, at age thirty two, Mr. Mandela explained that he contracted HIV as a young teenager. He informed my class that he did not know what a condom was until he was eighteen. The lack of knowledge surrounding how HIV/AIDS is contracted, especially in a country wrought with the epidemic, fascinated me.

I am interested in examining the extent to which HIV/AIDS spreads throughout South Africa and explore one particular facet of this epidemic: HIV/AIDS contraction in

the mining industry and the effects of poor sex education within communities strongly affected by HIV/AIDS. In dealing with issues surrounding HIV/AIDS and sex education, I am also interested in the ways in which governmental management, trade unions as well as public health officials respond to the HIV/AIDS crisis. South Africa has had a long history of political leaders denying the reality of the HIV/AIDS crisis within the country. As a result of the high mortality rates and increasing numbers of people living with HIV/AIDS, the current President Jacob Zuma called on South Africans to fight against AIDS as they had against Apartheid: "We have no choice but to deploy every effort, mobilize every resource, and utilize every skill our nation possesses [to combat the AIDS crisis]" (Dugger 2009: *The New York Times*).

My research will focus on the Northern Cape Province of South Africa, particularly, the city of Kimberley. South Africa is divided into nine provinces, which are similar to how states are structured within the United States. Each province has its own provincial government with state legislature and executive branch. (Wilson 2001:156). Kimberley is the capital of the Northern Cape. Coloured and Black/African groups comprise a majority of the Northern Cape's population, with Afrikaans as the main language. The economic strengths of the Northern Cape Province are the abundant amount of minerals and diamonds as well as agriculture. The reason I chose the Northern Cape Province as my area of research in South Africa is due to the fact that the Northern Cape has the highest concentration of workers participating in the mining industry within South Africa.

My major questions concern the extent to which HIV/AIDS contraction has spread throughout the mining industry. How prevalent is the AIDS epidemic within this occupation? What is the ratio of individuals who enter the occupation HIV positive to those who contract HIV during their time working in the mines? What socioeconomic forces may drive individuals into this profession? How have years of racial and class segregation and discrimination influenced mine workers decision to enter this field? How have residual effects of colonialism and post-colonialism contributed to this epidemic? How much autonomy do these mine workers possess in the decision-making process?

As a quantitative sociologist, my research adviser, Dr. Griffith, is trained to studying the macro-level effects of various quantitative trends. I plan to research reported cases of HIV/AIDS within the mining worker occupation. From this quantitative data, I hope to reach some conclusions regarding the prevalence of HIV/AIDS in this profession and make recommendations concerning how to mitigate this epidemic. My area of interest concerns the various structural inequalities (economic, social and political forces) which restrict individual autonomy and may narrow the types of professions that individuals can choose (thus, forcing them into the mining industry). Through both quantitative and qualitative analysis, I hope to develop a deeper understanding of social processes which contribute to the spread of HIV/AIDS within the mining industry throughout South Africa. I hope this summer research project will become a solid foundation for my future senior research. It is my hope that I will be able to do a transnational comparative study of public health of South Africa and Thailand. If time during the summer allows, I hope to then utilize and compare my findings to a different developing world context, specifically in Southeast Asia.

I am currently studying abroad in Khon Kaen, Thailand. The program is located in a more rural part of Northeastern Thailand. The program focuses on development and

globalization with an emphasis on active learning through engagement with rural Thai communities outside Khon Kaen University. This program centers on the complexities surrounding development from an academic perspective and a grassroots community level. I will work with various community organizations, NGO's and government officials to address the educational and public health needs of the community. My interest in development stems from my experiences in South Africa. I wanted to continue pursuing my research interests in Thailand. While in Thailand, there are several different issues my courses will explore; in particular, the effects of dams and mining, urban slums, and how people are living with HIV/AIDS.

My preliminary research on HIV/AIDS in Thailand suggests that comprehensive public policies (through education about condom use, decreased prevalence of STDs) have been effective at reducing the amount of individuals contracting HIV/AIDS (Safman 2001:200). I would like to examine how effective these policies have been at reducing HIV/AIDS in the rural areas of Thailand—specifically, those parts where individuals engage in the mining industry. The focus of this project is in South Africa but since I will be abroad in Thailand for the four months preceding summer research, I would like to incorporate my Thailand experiences into my research; specifically, the public health related research I conduct. Public health is a concern for all people, especially those in the developing world. I am searching for a way to connect my past interests in South Africa with my new future experiences in Thailand. If time allows, I hope to incorporate some research conducted in Thailand with my interest in South Africa. If there is limited time during the summer, I will save my Thailand research for senior research in fall 2010.

#### Methodologies Used

I believe the most effective way to research these issues would be to approach the project from a multi-methodology analysis. This will enable me to develop a more encompassing perspective for the detailed final report analysis.

Quantitatively, I will analyze the South Africa Demographic Health Survey and explore the trends in prevalence of HIV/AIDS among males in the mining industry. The Department of Health issued this survey to provide valuable information for addressing important public health issues within the Republic of South Africa. In particular, I am interested in the prevalence and treatment of HIV/AIDS among adults and children. Additionally, I would like to research the different groups of people employed by the mining industry within the Northern Cape Province. This will enable me to develop a more thorough understanding of how racial segregation has shaped job opportunities for people of different racial and ethnic groups. I also plan on reviewing the highest levels of education (at least to tertiary education) among those aged 20 or older within the mining industry. Exploring the connection between education and knowledge of HIV/AIDS is another focus of my research and will contribute to my overall understanding of how effective sex education has been in South Africa.

Qualitatively, I will research through the extensive use of books and journal articles on the effects of HIV/AIDS on mine workers and their families throughout South Africa. I hope to utilize case studies of various workers to show the nuances and complexities surrounding the lifestyle of these mining workers and how this life style shapes the AIDS epidemic. In order to develop a strong intellectual perspective on these

issues, I will additionally compose a literature review, which will reveal what other scholars have researched and deduced regarding HIV/AIDS within the South African mining industry.

### Work Plan

I will develop a solid historical foundation to the research. I will research the historical context in which the spread of HIV/AIDS became so prevalent in South Africa. This foundation will include a brief history of colonialism and post-colonialism with an emphasis on the economic and political regimes, which perpetuated the spread of HIV/AIDS throughout the country as well as the Sub-Saharan African region.

The second phase of my project will include a detailed analysis of the mining industry in South Africa. I will elaborate on the conditions of daily mining life: What does this job entail? How are the men treated? What are their life style conditions while working in the mines? This analysis will provide evidence and possible explanations (such as single-sex hostels) as to why these men engage in such sexual behaviors which lead to the spread of HIV/AIDS.

The third component of my research will include the return home of the miners. I will explore questions such as: How much time do these men spend away from their families? What are the family dynamics upon their return to their homes? How many men contract HIV/AIDS while in the mines and spread it to their wives and children? What are the demographics of these mine workers? This part of the research will focus on sex education and the importance of educating young people on the very important use of condoms. It will also detail the ways in public health officials have addressed these important issues of education within the mining industry. Many mining workers are migrant workers (from other Sub-Saharan African countries) who come to South Africa with the hopes of a better life. Some decide to settle in South Africa upon their return from the mines. I would also like to compare the impact of migrant workers experiences to those native to South Africa (in terms of the sex education knowledge and experiences while working in the mines).

### Weekly Schedule

I return from abroad on Thursday, May 20, 2010. I plan on starting my summer research on Monday, May 31, 2010. The ten-week period will last from May 31 - August 6, 2010. Outlined below are the three phases of my project. I will divide my time and energy into ensuring that those three phases are completed on time. I will devote approximately 3.5 weeks into researching and writing for each phase. I plan on meeting with my adviser, Dr. Griffith, twice a week to discuss progress on my research.

Week 1, 2: Historical Remnants of Colonialism in South Africa

- Read Colonialism and Postcolonial articles regarding South Africa, note taking.
- Discuss how effects of colonialism shape current health policies within South Africa.
- Begin literature review on HIV/AIDS in mining industry with an emphasis on the historical foundation surrounding this epidemic.

Week 3, 4: Kimberley, South Africa: Mining Industry

- Detailed analysis of mining industry in Kimberley.
- Read selections of literature concerning migrant worker lifestyle: job description, wages, recreational activities, availability of communication with home.
- Continue literature review with a focus on migrant lifestyle and health within mining industry.

Week 5: Quantitative Analysis of HIV/AIDS

- Utilize South Africa Demographic Health Survey to examine HIV/AIDS trends of males/females, children, and specifically, mining workers.
- Investigate the South Africa census for a more comprehensive understanding of the quantitative trends of HIV/AIDS prevalence and treatment within South Africa.
- Hand in written work. Discuss comments regarding work as well as continued progress with adviser.

Week 6: Economic factors contributing to perpetuation of HIV/AIDS within South African mining industry

- Examine the economic impact that HIV/AIDS within South Africa and its effect on the active labor force.
- Continue literature review. Highlight articles regarding the impact of HIV/AIDS on the economic vitality of labor force.

Week 7: Social ramifications of HIV/AIDS

- Examine dynamics of mining families. Explore rates of HIV/AIDS contractions of wives and children upon miners return home.
- Evaluate impact of the sex industry on the growing prevalence of HIV/AIDS.
- Continue literature review.

Week 8, 9: Policies of Prevention: Education, Thailand Connections

- Examine sex education programs and policies within Kimberley, South Africa.
- Investigate the complexities surrounding biomedical and behavioral approaches to HIV prevention.
- Evaluate varying perspectives on how to combat HIV/AIDS within South Africa. Incorporate information into literature review.
- Connect Thailand public health policies regarding HIV/AIDS prevention with prevention programs in South Africa. Draw comparisons and recommend potential solutions.

Week 10: Conclusion

- Finish literature review.
- Finalize paper.
- Complete poster, practice oral presentation.

## Bibliography

- Agyeman, Julian, Robert D. Bullard, and Bob Evans. 2003. *Just Sustainabilities: Development in an Unequal World*. Cambridge: The MIT Press.
- Bollinger, Lori and John Stover. 1999. "The Economic Impact of AIDS in South Africa." In *The Policy Project*.
- Braude, Hillel David. 2009. "Colonialism, Biko, and AIDS: Reflections on the principle of beneficence in South African medical ethics." In *Social Science & Medicine* (68): 2053-2060.
- Bush, Ray. 2007. *Poverty & Neoliberalism: Persistence and Reproduction in the Global South* London: Pluto Press.
- Butchart, Alexander. 1994. "The Industrial Panopticon: Mining and the Medical Construction of Migrant African Labour in South Africa, 1900-1950." In *Social Science & Medicine* 42(2): 185-197.
- Campbell, Catherine. 1997. "Migrancy, Masculine Identities and AIDS: The Psychological Context of HIV Transmission on the South African Gold Mines." In *Social Science & Medicine* 45(2): 273-281.
- Campbell, Catherine and Brian Williams. 1999. "Beyond the biomedical and behavioural: towards an integrated approach to HIV prevention in the South African mining industry." In *Social Science & Medicine* (48): 1625-1639.
- Campbell, Catherine. 2000. "Selling sex in the time of AIDS: the psycho-social context of condom use by sex workers on a South African mine." In *Social Science & Medicine* (50): 479-494.

- Chrisman, Laura. 2000. *Rereading the Imperial Romance: British Imperialism and South African Resistance in Haggard, Schreiner, and Plaatje*. Oxford: Clarendon Press.
- Coast, Ernestina. 2006. "Local understandings of, and responses to, HIV: Rural-urban migrants in Tanzania." In *Social Sciences & Medicine* (63): 1000-1010.
- Coovadia, Hoosen, Rachel Jewkes, Peter Barron, David Sanders, and Diane McIntyre. 2009. "The health and health system of South Africa: historical roots of current public health challenges." In *Health in South Africa*.
- Dugger, Celia W. 2009. "Breaking with the Past, South Africa Issues Broad AIDS Policy." In *The New York Times* Available: <http://www.nytimes.com/2009/12/02/world/africa/02safrica.html?scp=1&sq=HIV/AIDS%20South%20Africa&st=csev>. (December 1, 2009).
- Dumett, Raymond D. *El Dorado in West Africa: The Gold-Mining Frontier, African Labour, and Colonial Capitalism in the Gold Coast 1875-1900*. Athens: Ohio University Press.
- Gool, Selim. 1983. *Mining Capitalism and Black Labour in the Early Industrial Period in South Africa*. Sweden: African Goldminer Underground.
- Hilson, Gavin M. 2006. *Small-Scale Mining, Rural Subsistence and Poverty in West Africa*. Warwickshire: Practical Action Publishing.
- Hunter, Mark. 2009. "Beyond the male-migrant: South Africa's long history of health geography and the contemporary AIDS pandemic." In *Health & Place* 16(2010): 25-33.

- International Labour Organization. 2002. *The Evolution of Employment, Working Time, and Training in the Mining Industry*. Geneva: International Labour Office.
- Jeppe, Biccard C.W. 1948. *Gold Mining in South Africa*. London: Todd Publishing Group LTD.
- Lurie, Mark N. 2002. "The Impact of Migration on HIV-1 Transmission in South Africa: A Study of Migrant and Non-migrant Men and their Partners." From South African Medical Research Council.
- McCulloch, Jock. 2002. *Asbestos Blues: Labour, Capital, Physicians and the State in South Africa* Bloomington: University of Indiana Press.
- Milton, Jennifer. 2000. "The Sociological Spread of HIV/AIDS in South Africa." In *Journal of the Association of Nurses in AIDS Care* 11(4): 17-26.
- Mkandawire, Augustine. 2001. "Child Labour Involvement in Quarry Mining in Lusaka: Causes, Extent and Possible Solutions." Jesus Cares Ministries/ International Labour Organization Lusaka-Zambia.
- Philips, Lucie Colvin and Diery Seek. 2004. *Fixing African Economics: Policy Research for Development* London: Lynne Rienner Publishers
- Sadie, Y. 1993. *AIDS in Africa and its impact on the South African Mining Industry*. Africa Institute of South Africa No 56.
- Safman, Rachel Miriam. 2001. *Community Mobilization in response to AIDS in rural Northern Thailand*. Cornell University Press.
- South Africa Demographic Health Survey Full Report 2003. Department of Health, Medical Research Council, OreMacro. 2007. Pretoria: Department of Health.

Statistics South Africa. 2004. Mining Industry. Available: <http://www.statssa.gov.za/>.

(December 15, 2009).

Stephens, John J. 2003. *Fuelling the Empire: South Africa's Gold and the Road to War*.

West Sussex: John Wiley & Sons Ltd.

Taylor, Julie J. 2006. "Assisting or compromising intervention? The concept of 'culture'

in biomedical and social research on HIV/AIDS." In *Social Science & Medicine*

64(2007): 965-975.

Wilson, Richard A. 2001. *The Politics of Truth and Reconciliation in South Africa:*

*Legitimizing the Post-Apartheid State*. New York: Cambridge University Press.

Yeboah, Ian E.A. 2006. "HIV/AIDS and the construction of Sub-Saharan Africa:

Heuristic lessons from the social sciences for policy." In *Social Science &*

*Medicine* 64 (2007): 1128-1150.