

Water, Sanitation, and Hygiene as a Gender Based Violence Risk: How Inadequate
Access to Clean and Reliable Water Increases Rates of Violence Against Women in East
Africa

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East Africa

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A Thesis

Submitted to the School of Graduate Studies

in Partial Fulfillment of the Requirements

for the Degree

Master of Social Work

McMaster University

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Master of Social Work

McMaster University

2015

Hamilton Ontario

Title: Water, Sanitation, and Hygiene as a Gender Based Violence Risk: How
Inadequate Access To Clean and Reliable Water Increases Rates Of
Violence Against Women in East Africa

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Number of Pages: vi, 71

ABSTRACT

Accessing clean water and adequate sanitation poses significant risks to the health and wellbeing of women and girls in East Africa. Without having access to local and dependable sources of water, the prevalence of water-borne diseases, health and safety hazards, and social barriers increase. Grounded in Feminist and Structural Functionalism theories, this research was designed to better understand Water, Sanitation, and Hygiene (WaSH) realities and the various types of associated burdens and risks. Using focus groups and key informant interviews, 36 health care professionals from various East African countries, such as Uganda, Tanzania, Ghana, and South Sudan, were solicited in an effort to capture the real, lived experiences of practitioners working most intimately with these issues. All data were gathered at Uganda Christian University in Mukono, Uganda, and reflect both the personal and professional accounts of health care professionals living and working throughout communities within these countries.

The findings of this study indicate that for as long as poor water and sanitation access and hygiene practices continue to plague the development of women in urban and rural communities, women and pregnant women will continue to suffer from dangerous diseases and brutal attacks of violence. Honing in on the latter concept, this study uncovered a significant link between inadequate water access and rates of domestic violence, sexual assault, and animal attacks.

Understanding the health professional perspective is crucial in gathering relevant data. Through this effort, the findings of this study have been informed by those most knowledgeable on the WaSH realities identified and therefore has the ability to influence both policy and programs in realistic and productive ways. With the goal of determining

and then diminishing identified risks, the data gathered from this research are meant to be used as evidence to help empower and advance women throughout East Africa.

ACKNOWLEDGEMENTS

A sincere thank you to my supervisors, Susan Watt and Corinne Schuster-Wallace, for their guidance and trust during this learning process; the Faculty of Social Work for their flexibility and encouragement; my parents for their endless care and support; and most importantly, the students and professors at Uganda Christian University who so graciously shared their invaluable stories and insight to this project.

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INTRODUCTION

Water, Sanitation, and Hygiene (WaSH) realities have a significant role to play when attempting to understand the health vulnerabilities of women and girls in East Africa. As women come into contact with water more often than any other group in these societies, they are inherently more vulnerable to the risks and burdens associated with poor WaSH realities. These risks, well researched and documented throughout various African and international development literatures, have been shown to affect a woman's life physically, socially, and economically and hold serious implications for the future advancement of women and girls in both urban and rural communities. However, while observations regarding these issues have been described in the literature, use of live narratives of health professionals as a means to better understand women's experiences has yet to be undertaken. Providing this perspective is one goal of this research and is critical to improving and sustaining positive newborn and maternal health outcomes, as, it is these professionals assume a more proactive role in maternal and newborn care.

This research aims to further explore the linkages between poor WaSH realities and women's development to understand how the burdens and risks associated with inadequate water resources diminishes both their health and safety. Specifically, a significant goal of this project is to understand the way in which rates of violent attacks increase as access to water decreases. Attempting to capture this violence in all its various forms, this study hosts conversation surrounding the way that a lack of clean, dependable water sources can increase a woman's chances of experiencing various forms of violence. Attempting to situate Gender Based Violence and other identified risks inside a WaSH framework, the purpose of this project is to further understand the

relationship of maternal and newborn health, wellness, and safety to water, sanitation, and hygiene in East Africa.

LITERATURE REVIEW

Because of the many different themes that exist in this research, the literature consulted in order to conceptualize the project is solicited from a variety of different fields. That being said, this review will remain relevant to the overall goal of the project; *explored literature will exemplify the multiple ways that women are negatively impacted by having to fetch water, practice open defecation, and be the primary person responsible for all water-related tasks, including hygiene, in the home.* As the overall goal of this project aims to understand how the harsh realities of these burdens impact the wellbeing of women, this review will demonstrate both the physical and social implications that result when WaSH realities intersect with a woman's daily responsibilities. I turn to the literature to best understand what is currently known on these concepts, to seek ways in which the literature can help build the foundations of this project, and also to demonstrate where research efforts might extend our understanding.

Gender Roles: Setting the Stage

When examining WaSH, women's burdens, and maternal health in East Africa, it is important that the discussion include an in-depth analysis of gender roles and how these roles contribute to an intense workload that keeps women consistently preoccupied. For this thesis, "The Women's Burden" will refer to both the significant domestic responsibilities that women in East Africa are subject to, and the need to undertake these tasks while simultaneously bearing and raising children, and caring for the sick or elderly. As the value of women's tasks in these countries is often seen as secondary to that of men's work (Buor, 2004), dissecting their lower social status can help outsiders understand how these women are viewed in society, what conditions they may be

experiencing as a result of this, and how these conditions may affect their future advancement.

Kasente (2003) does not hesitate when summarizing the clear differences between the lived realities of men and women in Uganda. She states, “in all regions of the country, men have a clear advantage over women in access to and control over resources while cultural practices also bestow men with more power than women in different aspects” (pg. 1). Crediting patriarchal social constructs as a barrier in challenging this power and control, the author criticizes these societies for disbaring women from the basic, fundamental right to access education and the workforce. These patriarchal structures do not exist in isolation and, as a result, well-engrained gender structures continue to reinforce a women’s secondary position. For example, Fentingman and Warrington (2011) write that East African women from their sample study revealed that they were consistently reminded that “their place was in the home” (pg. 8). This reminder was inclusive of other gender-related expectations such as early marriage and worthy bride prices, where the value of a woman was determined solely through her marriage potential. Perhaps most problematic is how strongly these notions are embedded into the culture; the authors write that language reinforcing these existing social structures was well implanted in these women’s lives at a very young age. Additionally, the authors note that all women in their sample population were expected to take part in “gender specific” tasks in their childhood, which were then meant to follow them through to their womanhood (p. 9). These tasks included sweeping, cooking, caring for siblings, fetching water, and assisting in the labor of the families economical means. On top of these domestic responsibilities, the authors note that perhaps their most important task was to

learn to be the “reproductive laborer”, where girls were to socialize as apprentices with their mother in order to “play similar roles in the future” (p. 10).

As a result of these gender constructs, women are forcefully preoccupied with meeting such expectations, and therefore lack the ability to step outside of these socially defined roles (Kasente, 2003). This concept further reinforces their unique relationship with water. As Almost all of the domestic responsibilities that women are expected to undertake require having or using water (Waititu, 2009), women come into contact with water sources more often than men or any other group in society Therefore, it is these expectations that make women more likely to be negatively impacted by the burdens and risks related to WaSH challenges. Waititu (2009) supports this, writing that women and men are affected by water pattern changes differently due to tradition and socially based roles and responsibilities. For example, as women are predominantly responsible for food production and water and firewood collection – responsibilities that are dependent upon reliable water sources - they are deemed more vulnerable to causes that may impact water quantity and accessibility. Furthermore, honing in on the actual water-fetching component, Sorenson et al. (2011) note that the results of their multiple cluster survey show that in 44 of the least developed countries (inclusive of East African countries), women are the most common water carriers. On top of this, the United Nations Development Program found that African women are spending roughly 200 million hours a day fetching water, travelling to distant water sources and back while carrying 40-pound jerry cans (Deen, 2012). That being said, although the physical health risks of this water fetching are becoming more known (such as back and pelvic injury, exhaustion, the spreading of diseases, and attacks), almost no decrease has been identified when

examining the rate at which women carry water. This negligence, the authors state, is as if “the water fetchers are almost secondary to the water itself” (Sorenson et al. pg. 9).

Role of Hygienic Behavior

A rather interesting concept commonly demonstrated in the literature is the way in which cultural behaviors contributed to the burdens and risks associated with poor access. When taking up the issue of diarrhea related deaths in East Africa, Pruss-Ustun et al. (2008) note that 1.5 million deaths are reported every year, with the majority of these deaths happening to children under five years old. While there is a significant link between these deaths and clean water access, hygienic behaviors also were noted as playing an important role in these deaths. For example, Tumwine et al. (2002) note that households that which buried children’s feces in soil nearby their dwelling had higher rates of diarrhea cases in the past year. Additionally, Kinuthia et al. (2012) note that the relationship between typhoid cases and poor water treatment practices also had a positive association; researchers observed that even when water was accessible, water-boiling practices were not being utilized in such a way that infectious diseases would be prevented. Additionally, this study observed that hand washing after using the bathroom was either not happening, happening without soap or happening only with contaminated water. As a result, infective agents were being transmitted through fecal matter transfer. Thus, rather than advocating for closer water sources or the creation of improved water sources, the authors instead recommend educational initiatives and health policy changes to better affect change. In fact, Tumwine et al. (2002) notes that shifting the emphasis from facility and service improvements to the effects of hygiene behavior led to the creation of personal hygiene programs that were found to be reducing transmission rates

within rural communities.

This information was specifically important when conceptualizing the research questions and the overall hopes for this project. As this research effort was set in motion not only to understand WaSH related burdens, but to theorize appropriate community level responses, probes surrounding hygienic behaviors worked to highlight the way in which cultural practices contributed to these risks. Additionally, as this piece of literature moves the conversation out of a strictly infrastructure/medical context and repositions it within a human services/educational context, it reinforces the need to engage stakeholders and experts from a variety of different backgrounds.

Burdens: Physical Health Implications

The literature is not lacking when discussing the prevalence of water borne diseases and other WaSH related health problems in the developing world. According to Bartram and Carincross (2010) “2.4 million water-disease related deaths could be prevented annually” if everyone practiced appropriate hygiene and had consistent, reliable access to safe water (p. 1). More specifically, the Joint-Monitoring Program for Water Supply and Sanitation, the WHO’s and UNICEF’s regulatory body responsible for monitoring the progress of the Millennium Development Goals, identified that though significant efforts have been made to meet the MDG water and sanitation targets throughout developing world, geographical, sociocultural and economical inequalities continue to impede progress among vulnerable demographics within identified countries. Concerned mostly with increasing access to adequate water sources in an effort to deter illnesses and encourage proper hygiene behaviors, the research efforts of this body

continue to characterize these countries as at-risk due to their underdeveloped water and sanitation facilities (JMP, 2014).

Water-borne diseases are primarily passed on through ingestion of contaminated water sources or by transmission due to poor hygiene practices such as hand washing or bathing. Though these illnesses tend to impact children the most, Wallace, Elliot, and Bisung (2015) write that as women come in contact with water more often than other groups on a daily basis, they too are at a higher exposure to fever, malaria, anemia, dengue, yellow fever, hookworm infestations, and schistosomiasis. Echoing this same notion, Buor's (2004) research in rural Ghana discovered a positive relationship between access to water of high quality and women's health. The author writes that as almost all of the most common health issues in the developing world are water-based, water-related, or water-washed, the statistics confirm that those in communities with poor water access inherently face higher rates of health vulnerabilities. These diseases, identified as viral hepatitis, cholera, leptospirosis, typhoid fever, and intestinal worms, were a result of poor water quality. Further, water scarcity coupled with traditional gender norms was found to further aggravate women's poor health; as traditional Ghanaian women were more likely to satisfy the water needs of their husbands' before their own, and they were therefore unlikely to meet adequate hydration levels during dryer seasons.

Shining a different light on the water-fetching component, Sorenson et al. (2011) note the physical implications of having to undertake the burden of retrieving water as a daily task. Long-term back injuries, micronutrient deficiencies due to high caloric expenditure during food scarcity periods, and the lack of independency as a result of fully occupied days were identified as water-fetching burdens. Despite the amount of effort

that goes into this task, water access is not always guaranteed. Waititu (2009) writes that though women sometimes travel up to six hours to fetch water and are often forced to wait in line upon arriving, rapid climate change and the drying up of dependable sources is further compromising the ability to depend on local water points. These factors further exacerbate high levels of fatigue and exhaustion, as women will often continue to seek out water from other sources. On top of this, Bour (2011) writes that as the burden of fetching water rests largely on women, they are responsible for fueling both domestic and agricultural needs. A feat in itself, this responsibility only intensifies throughout their life span, as, when families grow, so does the need for water.

Burdens: Maternal Health Implications

Health and wellness during pregnancy is crucial in securing both mother and fetus safety. As women are at their most vulnerable while pregnant (i.e. lower immune system, higher water and nutritional needs, [Watt & Chamberlain, 2011]) intense workloads, coupled with inadequate water and nutrition, leaves them more likely to experience an illness, deliver an underdeveloped baby, or pass on diseases during delivery or breastfeeding (CAWST, 2012). Overexertion during water fetching was also an identified risk; as women can spend anywhere from 30 minutes to six hours attempting to fetch water, the energy needed to carry out this act can further contribute to malnutrition and iron deficiency, which, for pregnant women, poses multifaceted health risks (Waititu 2009; Center for Affordable Water and Sanitation Technology 2012). Further, highlighting the way in which water infrastructure contributes to these dangers, Watt and Chamberlain (2011) state that pregnant women are often not in a position to exclusively

rely on clean water for drinking as a lack of dependable water points prevent them from doing so. However, turning to unprotected water sources to meet these needs poses severe health dangers. The Centre for Affordable Water and Sanitation Technology (CAWST) writes that surface water sources (such as rivers, streams, lakes, ponds, and canals) present particularly unsafe pathogens for women who may be consuming water from these sources. As these water points are often shared with animals, high levels of cross contamination can increase their risk of catching an infectious disease.

Characterized by hepatitis, rotavirus, trachoma, and other water-borne illnesses, using these informal water sources can lead to neurological problems, intestinal illnesses, blindness, and life threatening diarrhea.

Providing insight into the health services perspective, Cheng et al. (2012) note that health centers providing maternal and delivery care in poor water regions can expose women to unsafe water, poor sanitation, and poor management of medical waste. As a result, 15% of all maternal deaths happen within a 6-week time period postpartum and have mainly been found to be due to unhygienic practices and poor infection control during labor and delivery. Watt and Chamberlain (2011) further confirm this, writing that many health facilities do not have access to potable water and, as a result, compliance with sterilization procedures is often questionable as the constraints of time, ability to access fuel, and heavy pathogen loads in the water compromise this standard.

Burdens: Social Implications

As the expectation of women's domestic responsibilities increases and the pressure to reproduce remains the same, women and young girls are often discouraged from education and other forms of personal and economic advancement. Kasente (2003)

writes that child labor is used to offset opportunity costs for families “who depend considerably on the labor of their children in order to supplement household income and help to take care of the sick” (p. 7). These tasks take the form of both domestic chores as well as economic activities such as farming, selling foodstuffs, and trading (Fentingman and Warrington, 2011). However, while the term “child labor” implies that it is gender neutral, researchers know that this is not true; girl children were found to be less likely to receive, or be encouraged to receive, any formal level of education. Exemplifying common attitudes, Kasente (2003) writes that the two major factors that parents take into consideration when deciding if their girl child will attend school are a combination of affordability and productivity, asking the question “can we do without her labor?” However, it is the opposite for boy children, where simply the ability to afford the cost of school and supplies is the only consideration parents were found to undertake when enrolling them (p. 4).

Fentingman and Warrington (2011) reiterate this, writing that their sample population was made aware at a young age that providing education to women was not a valued concept or “taken as seriously as boys’ education” (p. 8). As marriage was identified as the ultimate sign of success for women, marriage dowries and alternate living arrangements (for the wife to live with the husband) were seen as a better investment over that of education. As a result, the emphasis on marriage has created an archetype for young girls in this part of the region. Kasente (2003) writes that many girls view marriage as a way out of poverty and harsh working conditions, so much so that it is common for girls to drop out of school to participate in early marriage.

A lack of educated mothers has contributed to this pattern. With the average mother in East Africa only having up to a primary school level education, the authors note that the participants simply saw “no value in education” (p. 8). Interestingly however, fathers were found with both primary and secondary education, yet still did not support women’s education, sometimes even refusing to pay for their daughters’ school fees (Fentingman and Warrington, 2011, p. 8). This piece was very telling when attempting to understand inadequate hygiene; as poor education levels would therefore mean that awareness surrounding proper sanitation and hygiene practice is not reaching young girls, the linkage between WaSH risks and education would have significant implications, and would be useful to understand when attempting to depict the health profiles among sub-women populations.

This lack of education further challenges women’s autonomy in East Africa. Perhaps the most detrimental way is a woman’s perceived inability to undertake paid work. With men occupying most professional spheres (and women lacking the education and social permission to enter them), women (particularly in rural areas) are often left alone as husbands leave to find work in other rural locations or nearby urban cities. While the expectation is that the men will return home to the household after making money, many of them do not, leaving the women alone with their children and men setting up new families in more urban areas (Raikes, 1989). This concept was crucial in understanding women’s poverty as both their lack of education and spousal support further intensified their lack of income and the implications of such.

A woman engaging in market economy opportunities is not often seen. However, for those who are afforded such an opportunity, becoming more involved in agricultural

businesses did not necessarily offset their poor economic situation. Raikes (1989) writes that with more women working in cash crops (that is, assisting in work with larger, more commercialized market-based farm operations in rural areas), their paid workload has seen an increase. However, while these opportunities may allow them to penetrate the market economy, their social status essentially prohibits them from dealing with any form of money or compensation. As a result, the financial dealings are seen as the role of the man, and are not directly handled by women who may be employed in these opportunities. Thus, while women were found to be engaging more in employment opportunities, their social status essentially disbarred them from reaping the benefits of doing so, leaving them with little opportunity for individual freedom or independence.

Addressing the Gaps: the Prevalence of Gender-Based Violence

Although the burdens and challenges stated above well represent the reality of women's lives in this part of the world, the literature did not cover every burden thoroughly. Of the 14 articles reviewed, only two acknowledged the violence that women may be subjected to in relation to WaSH realities. When trying to solicit appropriate literature that may shine light on such a link, a more systematic and streamlined approach was used when searching for relevant scholarly findings; through the use of violence related terms in searches and using country specific, women-centered databases, an effort was made to locate cross-disciplinary literature that may shine light on the way in which violence in relation to WaSH responsibilities may impede the wellbeing and safety of women in these communities. However, the extent to which this concept was identified was minimal. A starting point for the conceptualization of this project was provided by

Watt and Chamberlain (2011), who write that “the task of fetching water is most often allocated to the girl child and hence these girls are at increased risk of sexual abuse as they spend long hours walking for water” (p. 493). Though minimal, this mention provides an understanding of certain contextual conditions that may contribute to various yet potentially prevalent acts of violence and assault. Exemplifying a relatable account, a case study of the death of two young girls in India further confirms the occurrence of WaSH-related acts of violence that this project hopes to capture. Leaving their low-WaSH access, rural Indian community in search of a toilet, two cousins, aged 14 and 16, were brutally attacked and killed while searching for bathroom facilities. Found hanging from a tree a significant distance from their house (Banerjee, 2014), this act of violence illustrates the ways in which lack of basic water-related services leaves women at risk for assault while attempting to carry out basic human functions. Discernibly not a problem only found in India, informal evidence has begun to capture accounts of violent acts - such as these - as they pertain to WaSH concepts throughout regions alike. Thus, in an effort to provide a concrete, systematic piece of literature to better fill this gap, a substantial focus of this project is to formally situate violence - in its’ many identified manifestations - as a water, sanitation, and hygiene problem.

Conclusion: Influence of the Literature

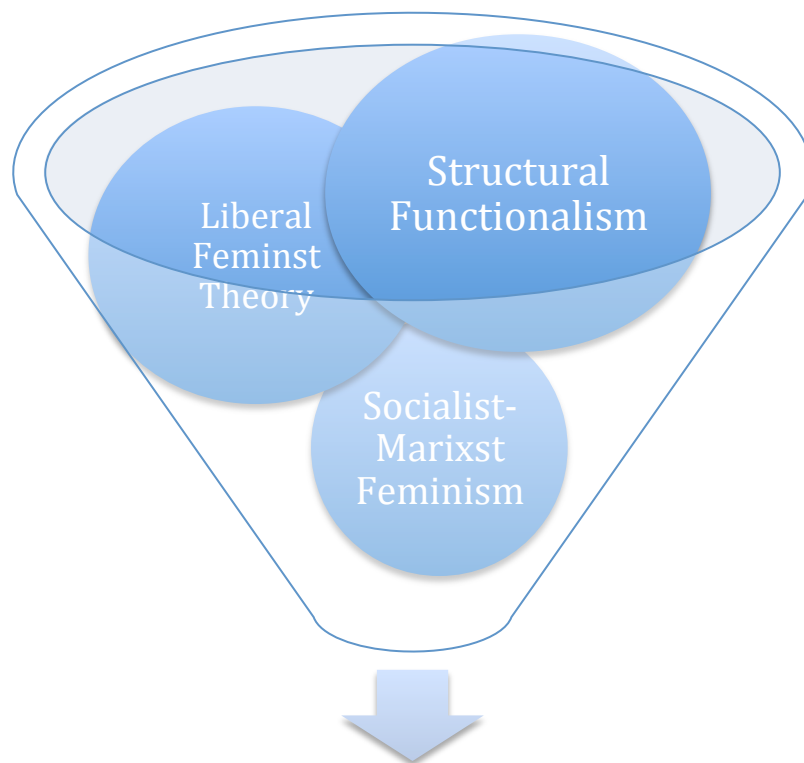
The risks and burdens present in low WaSH access communities disproportionately favor women and undermine their wellbeing. As access to water decreases and women’s social responsibilities remain the same, these burdens will only persist and increase. As a result, women will continue to face significant barriers when trying to access education and benefit from market-economy opportunities, and will

continue to face significant compounded generational health implications. The greatest motivation for this project is that these concepts greatly threaten the future potential of women and girls living within these African communities.

In exploring the depths of these burdens and the way in which they manifest, this research attempts to better understand the daily life of an East African woman, the challenges they face in relation to WaSH, and the identified spaces in their narratives that can be used to help better create interventions and influence policy. Keeping with women's advancement as the overall focus of the project, research tools and methods were used strategically to ensure that data derived from this project best demonstrate the various types of burdens present, their complexities, and their implications. While this literature has greatly impacted the direction of the interview guides, it has also demonstrated the various gaps that exist in research surrounding this topic and as an explicit result, the research efforts of this project will be used to begin to fill these gaps.

THEORETICAL FOUNDATIONS

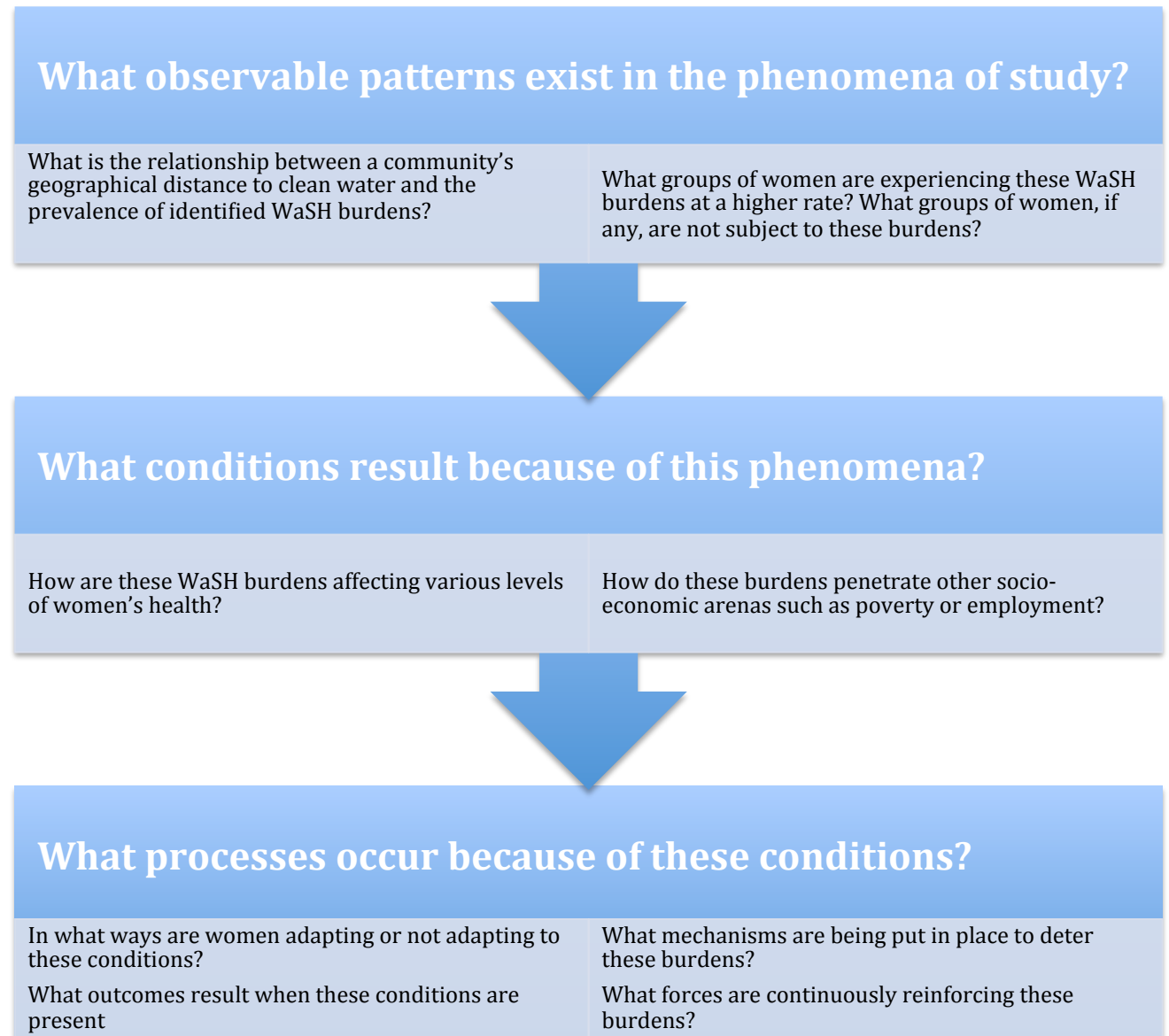
The themes of this research project exist in various intersecting spaces that created the need to utilize explorative and adaptive theoretical foundations. As the project grew, and the demographics and project conditions expanded, it became important to utilize theories that provided the best foundation for condensing and organizing both research processes and the data derived from these processes. That being said, Figure 1 depicts the synthesizing of the project and the way in which each theoretical foundation worked to shape the direction of the project. Additionally, the explanations below provide a synthesized perspective of how one theory contributed to the utilization of the next, and the overall purpose of each theory solicited.



Structural Functionalism Theory

Perhaps the most critical step when conceptualizing the project was the significant effort made in understanding the meaningful cultural processes surrounding WaSH practices in the communities in which participants both worked and lived. For the purpose of this study, Structural Functionalism Theory afforded the opportunity to understand what processes and relationships were present when examining water fetching, water treatment, and other water-related domestic responsibilities. As these practices differ in a variety of different contexts, this specific effort created a solid foundation for understanding the way that WaSH practices impacted different social players and meaningful societal processes.

Fisher (2000) describes Structural Functionalism as the understanding that social patterns and processes work to maintain the larger social integration while regulating and maintaining necessary social systems. Expanding on this, the author outlines three questions that are imperative to utilizing Structural Functionalism Theory. They are outlined below in Figure 2, inclusive of the way in which the researcher applied these questions when conceptualizing the study and the study's interview guides.



Understanding the observed patterns was crucial in determining the most fundamental probes. Using that as a starting point, these questions were utilized in such a way that an authentic and all-encompassing conceptualization of WaSH practices and implications could be best understood. As a result, it was possible to identify the conditions that contributed to a women's vulnerability, the way in which this

vulnerability further exacerbated her diminished health and social status, and the future implications.

Additionally, this theory created a space for honing in on identified gender issues. As Structural Functionalism recognizes that gender stratification exists as a result of differing gender roles (The Sociology of Gender, 2010), this acknowledgement provided a platform to explore gender inequities further. As a result, the workings of this theory were integral in examining how the relationship between the most predominant WaSH practices contributed to specific gender inequities found both individually and societally. These gender inequities took form in both physical health and social participation, and through Structural Functionalism, the researcher was able to understand how concepts such as geographical location and socio-economic status further solidified or diminished these disproportions.

However, this theory is not without its limitations. As Structural Functionalism emphasizes social equilibrium based on widely accepted social roles (The Sociology of Gender, 2010), it left little room for questioning the overtly normalized and inequitable processes that exist in these communities. As a result, this theory lacked the critical perspective needed in regard to challenging already accepted social processes that may contribute to a women's vulnerability. As a significant goal of this project was to not just capture these accounts, but create a piece of literature that can work to challenge present inequities, this theory fell short in respect to critiquing discriminatory social norms. Thus, feminist theories were introduced to critically dissect gender inequities, their implications, and recommended spaces in which they can be challenged.

Feminist Theories

It is impossible to examine the struggles related to WaSH access and related practices without acknowledging gender. As women are the number one water fetchers in the world (Sorenson et al. 2011), this project would be severely lacking if no gender-based theories were utilized. Feminist theories in this study worked to better understand how the social constraints of gender inequality contributed to a woman's intense workload and resulting health implications. As the issue of fetching water and other domestic responsibilities were exemplified in the literature as only a woman's job in East Africa, it was imperative to use theories that call for the dissection of gender roles and statuses in order to best capture the lived reality of the sample population.

Liberal feminist theory worked well here due to its visible focus on gender discrimination and fight for individual equality. As liberal feminism negates the fact that women are biologically different than men (Lober, 1997), it provided the appropriate platform to explore how social constructions surrounding gender in East Africa contribute to the degradation of women. Furthermore, liberal feminist theory also suggests that, through providing women the same civil liberties and economic opportunities as men, women can assume their own development and growth throughout spheres both inside and outside of the domestic realm (Tong, 1989).

In order to understand the future implications of identified WaSH burdens, finding the spaces where women can be further engaged – and how to engage them – was an important understanding that liberal feminist theory greatly acknowledged. Further, understanding the clear socio-cultural roles and responsibilities between men and women was imperative to dichotomizing health profiles. Thus, liberal feminist theory allowed for

a thorough exploration into the opportunities, expectations, and processes that further characterize the social, economic, and health related disparities found between men and women.

That being said, liberal feminist theory presented limitations. As it works hard to situate women's liberation inside an individualistic and private sphere, it fails to acknowledge systematic shortcomings or institutional contexts that may have a role to play in perpetuating a women's secondary status (Tyler, 2015). Therefore, to fill this gap, concepts of Socialist-Marxist feminism were brought in to better understand how systemic socio-cultural underpinnings can, and have been, contributing to women's inferior realities.

Socialist-Marxist feminism attributes a women's vulnerability to the patriarchal social structures that are woven throughout the capitalist systems found in the working parts of society (Waithera, 2011; Ehrenreich, 1976). Criticizing the home as a place of oppression and exploitation, Social-Marxist feminism provides a relevant understanding of how a women's domestic work can reinforce her secondary status and contribute to her vulnerability.

In his writings on Marxist Feminism, Lober (1997) states that with a woman's role often being in the home, she is disbarred from economic opportunities that participating in the market economy would bring her. As a result, women are forced to be economically dependent upon their husbands; a concept that both inherently degrades them while simultaneously increasing their vulnerability. As women in East Africa typically lack individual autonomy and are therefore reliant upon their spouses financially, Social-Marxist feminism was able to pinpoint the places and spaces which

are responsible for women's oppression the most, and was therefore a theory that provided for relevant and descriptive analysis in understanding in what ways and what spaces women were oppressed and disengaged. Therefore, Socialist/Marxist feminist theory working in tandem with Liberal feminist theory allowed the researcher to best exemplify the individual implications that came as a result of inherently disadvantageous socio-cultural systems found in these East African societies.

METHODOLOGY

Undertaking research in a culture and country that is not your own fosters the need to be flexible, adaptable, and iterative. As a result, the methodology of the project reflected a budding process that provided space for developing new ideas, asking various questions, soliciting different demographics, and incorporating emerging themes. These themes informed the research process in a variety of different ways, and as a result, the methodology used needed to be open and adaptive. It was here that Phenomenology and Grounded Theory were solicited to both provide space to capture evolving processes, and then formulate systems and patterns that could best condense and understand these developments as they grew.

Phenomenology

Concepts from a phenomenology approach work well for the curious or uninformed researcher. As very little literature exists on the link between WaSH concepts and gender-based violence, this approach provided a platform to systematically gather (as well as credit as evidence) the lived experiences of those close to the topic. Moran (2000) writes that phenomenology has its exclusive concern in the gathering and analyzing of lived experiences in the pure generality of their essence. Seeking to avoid all misconstructions or external predispositions, he states that explanations cannot be made until the phenomenon has been truly understood from within.

Deeply compatible when beginning to explore new research territory, using phenomenology in this type of project allowed the voice of participants to shape the ongoing process of data collection; as certain participants would provide perspective on

various meaningful WaSH processes, the researcher was then able to solicit different demographics to understand these processes from a different, more distinct vantage point. Shining light on the process of describing, Groenewald (2004) writes that the aim of the researcher is to describe, as accurately as possible, the phenomena in question by remaining true to the facts presented. Perhaps the strongest methodological tool used in this study, the process of describing (done so in the first person narrative, by the focus group facilitator) provided layers of meaning to the data that called for exploration into different spheres of a participant's life that perhaps would not have been noted when using a less reflective method. Using this tool, the researcher was able to describe, with depth, the linkages between the way in which fetching water occupied a woman's day, left her alone and isolated, and further diminished her health status. Thus, it was using this tool that afforded the researcher the ability to truly grasp the initial and fundamental understanding of the study-related concepts, relationships, and processes.

Using a phenomenological lens means having to undertake research processes in a meaningful way, with purpose. Further, the responsibilities of these processes do not lie strictly with the researcher. Rather, it is important that research participants be viewed as co-researchers or "dialogue partners". This dynamic is meant to expose the researcher to the phenomena being studied while the researcher then works to be "receptive to what he or she is trying to understand" (Halldorsditter, 2008, p. 53). Enacting this partnership was helpful when attempting to foster rapport between the researcher and the participants. As the facilitator was not in Uganda for a long period of time, this method worked to provide open channels of communication and diminish levels of power differentials. Further, as the act of describing was able to acknowledge basic and fundamental concepts (such as,

“Who fetches water?” and “Who is in charge of water management in your community”), the use of dialogue partners allowed for a more intimate look into these already identified commonalities.

Further, a phenomenological approach worked well with the structural functionalism perspective; for the researcher, structural functionalism provided a platform to better understand that certain accepted social and cultural processes existed and, through phenomenology, she was asked to be exposed to them in their most natural conceptualization. This piece specifically guided the opening of the interview guide; questions surrounding those in charge of domestic responsibilities, the roles of water fetchers, the conditions they were subject to, and the implications that were to ensue if these processes did not take place were of the first, most basic areas of exploration. McPhail (1995) writes that the goal of this type of research is to “create an openness regarding the possibilities to uncover [it’s] own categories or organizing themes” (p. 163). This piece was the most crucial when working with such a sensitive topic, perhaps more so when the conceptualization of GBV in East Africa faces significance differences from that of the researcher’s country. Therefore, phenomenology allowed the researcher to conceptualize a definition of GBV as a WaSH burden that was specific, relevant, and distinctive to an East Africa context.

Grounded Theory

Grounded theory methods provided a more systematic approach to the research. Methods from this perspective were used to better organize concepts and categories identified throughout research processes and derived data. Grounded theory is described as a conceptual way of thinking that builds philosophy through the systematic

development of theory in social settings (Khan, 2014). As this approach examines data first and builds theory second, it was highly complementary to the development of the understanding of GBV as a WaSH burden.

Additionally, Grounded Theory hones in on social relationships and the behavior of groups that may not have been explicitly studied in the past (Crooks, 2001). With its preoccupation with understanding the “underlying processes of what is going on” to derive pre- or mid-process interventions, a significant focus of this theory is based on creating interventions that can best work to dissolve the concerns being looked at (Glaser, 1978, p. 45). These two ideals were also major goals of the project; researchers were attempting to better understand the spaces, places, and conditions in which violence had a higher chance of taking place while simultaneously working to identify mechanisms that could be acknowledged as deterring this violence. Thus, while phenomenology was constructive in simply understanding what types of burdens were being experienced, Grounded Theory afforded the opportunity of understanding the various levels of these burdens and ways to prevent them.

Further, as much as possible, theoretical sensitivity was used when conceptualizing interview guides as well as analyzing derived data. Theoretical sensitivity is a practice attributed to Grounded Theory approach, and it is described as “the attribute of having insight, the ability to give meaning to data... and the capability to separate the pertinent of that which isn’t” (Strauss, 1978, p. 42). Using this lens, researchers work to diminish preconceived notions of topics related concepts in an effort to understand how *participants* make sense of these concepts, from *their* social location. Thus, it was important that, although the researcher was versed on the relevant violence-

related westernized literature, that this knowledge not be used to create understandings about the violence or the violence-related conditions present in East Africa. This meant having to forego Canadian understandings of GBV, while also working to understand the dynamics of domestic relationships in East Africa and the ways in which violence plays out in these contexts.

Additionally, when discussing the use of theoretical sensitivity in data analysis, Calaman (2014) writes “existing literature and theory and prior knowledge and experience of the researcher can also be used to inform the development of categories, but the categories should not be forced to fit the literature, and should not be used to create categories” (p. 12). Thus, through use of Grounded Theory, data coding and analysis processes were organic, as categories and concepts created were not borrowed from any other piece of literature, or previous model of understanding.

METHODS

Recruitment and Participants

Students currently enrolled in Uganda Christian University’s, Save the Mothers Master of Public Health, (Leadership) program were sought out as participants. Being a student in this program was a requirement due to a guaranteed understanding of maternal health issues throughout East Africa. There were no job-level requirements as the study intentionally sought out a variety of different professions for a richer understanding of both burdens and the types of implications these burdens created (e.g., medical vs. social). This was reflected in recruitment posters and research announcements, where language used stated that researchers were simply “trying to understand linkages between

Water, Sanitation, and Hygiene (WaSH) that were affecting the health of pregnant women and their newborn babies” and that “volunteers experience would be helpful in understanding these linkages” (See appendix A). This lack of specificity was intentional, as the project management team understood through previous work with the program’s students that regardless of their professional capacity or job experience, students were going to have some level of knowledge on the topic being studied. Posters were placed throughout the Save The Mothers department and three cold call announcements were made in classes.

Focus Groups

Participants were asked to participate in one of five focus groups that were held on campus at Uganda Christian University. Focus groups were used to facilitate discussion surrounding WaSH practices, participant-identified WaSH burdens, water-related maternal health implications, and violence as a WaSH concept. Though the majority of participants spoke in respect to communities in which they work, personal examples were often brought into the discussion due to the ability to well-relate to the topics in question.

Focus groups were used in an effort to foster feelings of comfort while also trying to capitalize on the diverse range of professions in the room. With each focus group representing a diverse range of practitioners, distinct perspectives surrounding WaSH implications ensued, with individual’s understandings acting complimentary towards one another. Thus, giving space for practitioners to discuss the uniqueness of their

communities and their varied opinions on the topic provided a complexity to the research that a singular analysis could not offer.

Key Informant Interviews

Key informant participants were identified before the researcher left Canada. Interviews guides were later tailored in a strategic manner; after receiving much information surrounding the social risks and implications of water fetching, the researcher used the key informant interviews to hone in on the medical implications. Two participants were identified and sought out. Dr. Jean Chamberlain was identified due to her familiarity with the topic; she has been working in maternal health for the past 10 years in Uganda and is the founder of the Save the Mother's program. Dr. Olive Sentumbwe-Mugisa was also identified as a key contributor to maternal health initiatives in East Africa, having worked on Maternal Health issues for the World Health Organization in Uganda for a number of years.

Key informant interviews complimented the focus groups well, and they were integral to the methodological choice. The researcher understood that without gathering the expert practitioner opinions on the burdens being studied, this project would lack the potential to affect different professional arenas. As a result, these interviews were used in a way to formally validate focus group responses and provide credibility to the findings that this study will put forward.

Data Coding

Methods for analyzing data were primarily borrowed from a Grounded Theory approach. Separating maternal health-related concepts (that is, concepts related to the

burdens and risks that were specifically experienced by pregnant women) from that of other physical and social implications (burdens not exclusive to a pregnant women's experience or dependent upon a woman experiencing pregnancy), open coding was used to describe, categorize, and then identify the burdens mentioned. After such labels were created, data sources were analyzed further in an effort to quantify the number of times each burden/risk was mentioned. Categories were then organized in a numerically descending manner to exemplify which burdens were stated and described most often by the study's participants.

Confidentiality and Risk Management

Confidentiality was addressed at the outset of each focus group. Participants were made aware that the researcher and other team members would take every step possible to promote confidentiality and anonymity when in possession of research documents as well as when creating the final document. Participants were also reminded that dialogue that took place inside the focus group was meant for research purposes only, and that specifics that were mentioned in the groups were not to be discussed outside of the facilitation. All files and documents that had the potential to identify participants were kept with the primary researcher in a locked filing cabinet.

Additionally, due to the particularly sensitive nature of some of the interview questions, the facilitator reminded participants that the environment was a "safe space" where individuals could share stories or experiences free of judgment. The researcher also made note of particular social services and other key contacts available for individuals to access should the need arise. Lastly, as the facilitator was also a trained

social worker with experience in domestic violence work, she was able to use sensitized language and make observations about any potential trigger points for participants

FINDINGS & DISCUSSION

Introduction

The findings derived from this study reflect the lived experiences of 36 working professionals from various East African countries. These professionals, inclusive of nurses, social workers, midwives, physicians, religious leaders, and teachers, engaged in conversations with the focus group facilitator about the WaSH related burdens, risks, and challenges that women and pregnant women face in both rural and urban communities in East Africa. The following discussion includes a summary of these findings and demonstrates the ways in which poor WaSH access impacts the health of pregnant women while also increasing their odds of experiencing a violent attack. Additionally, a brief WaSH discussion is included within the findings to best demonstrate relevant WaSH realities and thoughts for future implications.

Being Female in East Africa

Understanding the ways that women face inherent levels of vulnerability simply by being female was an important interpretation noted throughout the study. As this understanding provided a particular starting point that allowed for further discussion into the various types of vulnerability experienced, examining the way that specific gender constructs undermined women's potential was key. Demonstrated mostly through participants discussion of women's gender roles, it became clear that the numerous responsibilities that women undertake created a world in which they lacked the ability to participate fully in society or demonstrate any level of autonomy as a means of advancement. Cooking, cleaning, food production, caring for children, water fetching,

and crop-related responsibilities were just a few of the expectations identified by participants that worked to continuously occupy women on a daily basis. Poor WaSH conditions only exacerbated this intense workload; a lack of access to water meant that women would not be able to complete all tasks, practice proper hygiene, or sustain adequate levels of hydration. Additionally, as women travelled further in an effort to find water, they were more likely to fall victim to an attack or sexual assault.

Additionally, a lack of male participation meant that women were isolated and alone while completing many of these tasks. Crediting this notion to gender expectations and social stigma, respondents were quick to acknowledge that, for men, the taking on of female responsibilities would create feelings of shame and could damage their reputation in community. Therefore, when asked if women were expected to always fetch water (as well as carry out their other domestic responsibilities), even when sick or injured, respondents from every focus group unanimously agreed that in such an event, women must find another woman in community to take on their responsibilities, or simply continue to work themselves. Though this level of camaraderie did foster feelings of community support, participants noted that women are not always wanting this assistance. Acknowledging the dependency of the female role in a household, participants admitted that the inability to carry out one's responsibilities could threaten both her position and safety. This fear, reinforced by the idea that her household expectations were not debatable and that her position was in fact disposable, was portrayed as a means for motivation for women to continue to work at the intense rates that they so often do.

Maternal Health Implications

As demonstrated above, women undertake a variety of different roles and responsibilities within both their communities and households. As they are not excused from these responsibilities while pregnant, already identified burdens are found to be further exacerbated, with various pregnancy-related burdens introduced. It was identified in this study that intense workloads coupled with inadequate water sources greatly impacted maternal health and wellness among women living in both urban and rural contexts. Exhaustion, miscarriages, worm infestation, anemia, and sepsis were the maternal-health related burdens most often identified by the sample population.

Exhaustion. First, the concept of women experiencing exhaustion as a result of being overworked was a significant identified stressor. Having to undertake all domestic responsibilities such as cooking, cleaning, tending to crops, and food production, pregnant women were often described as being “overtired”, “exhausted”, and “overstressed”. Describing the average workday for women in her community, Jane shared “when a lady is pregnant, these are the women who have so many things to do in a day...she will go the garden, take her animals to graze, then she will have to go look for firewood, dig up the food she has to prepare for the children, carry it home, then she can grab a jerry can or container, walk 2 or 3 miles to be able to get water...and by the time she will get home she will be very tired”. Undertaking this intense workload also has health implications. When discussing how assuming such responsibilities contributes to a pregnant women’s ability to meet her nutritional needs, Jane shared “she won’t even have enough water for herself so she might as well end up having maybe potatoes with a cup of water and that makes a meal for the day, but she is expecting and so nutrition at this

level goes down...because she spends so much time [doing chores] than concentrating on her health or the health of the baby”. As adequate nutrition during pregnancy is crucial in securing infant health and preparing for a safe delivery, this piece spoke to both mother and fetus health risks.

Adding to this complexity, another implication found in relation to exhaustion was the way in which these tasks fully occupied a women’s day, leaving little opportunity for women to actually participate socially within community or acquire adequate rest. Discussing the exaggerated levels of rest and sleep that pregnant women require during this time in their lives, John shared “think about this woman who has had 12 hours of maybe no rest, just juggling through chores, chores, chores, chores, from the garden back home, kids are crying, you have no food, the goats want to go graze, and that stresses [pregnant women] out a lot, both physically and mentally”. Further, providing the urban perspective, women from focus group two acknowledged the unpredictability of locally piped water sources. Sarah shared “in the urban areas there are these problems that, [though] we have the water, with the suppliers sometimes you can’t get water through[out] the week, maybe twice a week, or three times a week, and this water you cannot get during the day, its only for four hours or five hours and those hours are night time, maybe four or six in the morning [but] when the water is finished the water is finished, and then you have to wait for maybe two or three [more] days and the water will come your way, so most of these women do not have time to get rest”. The unreliability of this schedule meant that women needed to be consistently waiting or searching for water, with little time left over for pregnant women to practice self-care or get rest for their growing babies.

Miscarriages. This heavy workload was a precursor to the maternal health implication most often mentioned: miscarriages. With women overexerting themselves during pregnancy, participants stated that women in their local communities experience miscarriages as a result of such intense physical labor. For example, when asked to identify specific maternal health implications of water fetching, Jennifer shared, “pregnant women who are fetching are so heavy and they are working so much! She is not even supposed to walk these long distances, so we find that women are having miscarriages because they have to walk for so long”. Following Jennifer’s sentiments, George stated “there is a risk of miscarriage...walking from far away, walking long distances and they are not using automobiles, they are putting on their heads or sometimes on their backs, while also carrying the pregnancy at the same time, so this may facilitate a miscarriage”. Sharing a story of premature labor from his community, he continued, “one experience was with a friend of mine and they were pregnant. Two days before, she went to get water. Then she was taken to the hospital and ended up having surgery, and that was correlated to the distance”.

Furthermore, the actual lifting of jerry cans was credited as causation for the bringing on of miscarriages. With the most common jerry can holding up to 20L of water, the lifting and then carrying of such weighted items was not deemed without consequence. Explaining the process, Steve stated “it is work to carry the heavy loads of the pregnancy, and she is supposed to rest, but she is a woman, and so she picks something up, the cervix opens, and that can lead to [miscarriage] or premature labor”. Further, when asked about the most common maternal health implications in her local community, Jessica stated “We see things like miscarrying, injuries, as too much weight,

so [she] cant carry heavy things, also premature membrane rupture, you know, it affects pregnancy, and it's because of all that water on her body".

This implication comes with a certain level of debate. As no randomized controlled trial can be ethically done in an effort to truly confirm this linkage, the literature is scant when attempting to verify the way that water-fetching implications may lead to the onset of miscarriages. This is also true when searching literature for other physical-impact related causes for miscarriages; studies attempting to uncover causations for miscarriages and premature labors cannot be done so in a systematic or coordinated way, and therefore, it is scientifically difficult to confirm such causality. That being said, this health implication was mentioned the most out of all implications in the study's findings, and as the participants of this study are both professionals and experts on the happenings within their communities, living these experiences on a daily basis, miscarriages as they relate to water fetching was a very relevant health implications found here and is deemed so with credibility from the expert sample population.

Worm Infestation and Anemia. The use of poor water sources was noted as contributing to high rates of worm infestations and anemia. Both extremely risky medical conditions while pregnant, these illnesses were the third most mentioned WaSH related burden for pregnant women. Attributing this finding to a lack of access to reliable, clean drinking water and subsequently poor hygiene practices (such as bathing in unclean water), respondents noted that women who had limited water resources were found to be resorting to other informal sources of water for domestic use. For example, Michael shared "women simply cannot utilize enough water, for baby, for hygiene, and other purposes and this is a challenge to their health. Many of them are forced to go to the

streams to collect that water. So they have common instances of intestinal worm infections...coupled with the fact that they don't have enough water for drinking.... it poses a big challenge". As water from these sources are often contaminated by both wild and domesticated animals as well as poor sanitation facilities, using this water further aggravates the prevalence of illnesses such as these during pregnancy. Causing severe sickness while with-child, these diseases increase a woman's chance of dying and delivering low birth weight babies who also share the risk of dying (Viteri, 1994). As hookworm infestations have been understood as a major causation for anemia, the World Health Organization has indicated that improved service delivery for the treatment of hookworm infestation after the first trimester would greatly improve maternal health in the developing world (Booker, 2008).

Sepsis. Dissecting poor WaSH conditions was particularly important when understanding the way that sepsis can impact a woman's pregnancy. Respondents reported that the use of unsafe or contaminated sources of water – for both hygiene purposes and consumption purposes - increased a women's chance of contracting sepsis. Sepsis is the third leading cause of newborn death, and given proper resources and infrastructure, can be preventable (Say et al. 2014). However, due to both higher water consumption requirements and hygienic needs during pregnancy, underdeveloped water sources continue to create at-risk pregnancies in these countries.

Respondents disclosed that the use of water vendors had a distinctive role to play in understanding rates of sepsis. Intersecting with our earlier finding of women experiencing exhaustion during pregnancy, pregnant women were noted as more inclined to utilize water vendors to meet their domestic and consumptive needs. Informal water

vendors, that is, individuals who may sell water from a kiosk, place of business, or home, may collect water from a shallow well, borehole, commercial water connection, or household water connection as means of a private water selling enterprise (Kjellen and McGrahan 2006). Though convenient, both participants and literature alike recognize the risk that exists when purchasing water from such sellers. For example, Ashley shared “you can buy water from people who go and collect water and sell water, but that water, you don’t know if its safe or its dirty, which is risky...Because you don’t know where they get that water...maybe it has sepsis, you don’t know, because they are just vendors selling water, and you need water, so you have to buy it, you have to get the water... and it is nearly impossible to truly know from what source this water was derived”.

Understanding that this water was risky was obvious knowledge that participants had, however this alone was not enough to deter dependence upon water vendors; it was consistently clear that, as the domestic responsibilities for pregnant women increase, and distances to water sources become further for both rural and urban communities, the convenience of water vendors will continue to remain appealing to women and families who are able to afford such an option.

Violence

Understanding violence as a WaSH burden was a significant priority for this project. As little was understood of this topic, interview guides and key informant questioning reflected open-ended inquiries that allowed participants to discuss any types of violence they may have known. When attempting to capture the places where this violence was taking place, locations related to WaSH related responsibilities were

probed. As a result, water point queues, water-fetching paths, open-defecation routes, and in the home were found to be the places in which women were most likely to experience violence. As specific types of violence were found to be related to specific WaSH related tasks, the findings below will demonstrate not only the type of violence identified, but where and under what conditions women were found to be most susceptible.

Rape and Sexual Assault. The occurrence of rape and assault while fetching water was the most common type of violence that participants identified. Examining the relationship between common WaSH practices and the prevalence of rape and sexual assault incidents, discussions surrounding this dynamic explicated the ways in which women fetching water and practicing open defecation were more susceptible to experiencing this violence. As a result, the findings were clear; travelling long distances coupled with the dependability of local women's water fetching routines afforded male assailants the opportunity to attack women who were alone, isolated, and vulnerable. Attributing this dynamic to the opportunistic moment of water fetching, Susan shared "it is a good time to take advantage of women who are going to water sources to carry water home, especially peak hours, early in the morning or the wee hours of the morning and late in the evening...on their way, these guys are waiting for them, and since it is generally accepted practice of the community, they will be raped." Shining some light on this social vulnerability perspective, Jason shared, "I think [they see] rape as an opportunity. Someone sees an opportunity and tries to seize it at that point. So if, at this example, it is a woman (sic) in her 40's at this specific time who has come to fetch water, and the men looks at it like there is no one around, definitely they are going for that person".

More specifically, respondents identified that these attacks were happening to younger girls at a much higher rate. Attributing this observation to their lack of physical strength as well as their perceived sexual innocence, young girls found travelling these paths were more likely to become a victim of this type of attack. Verbalizing this, Jason continued “it’s the young girls who are so much more poor because they don’t have the strength to fight it off. I know people who want to specifically rape those girls, because they want to find out, like if this is for example a virgin, most people want to start a virgin before you can moved to an already used [woman] ...So they are not married, and are maybe talking to the young girls and jut because of their vulnerability, they are not really strong enough, and she’s not dirty, she [doesn’t] have a lot of skill and that actually may allow you to access her private part... the young ones are just naïve.” Thus, not only did this path provide a level of predictability for male predators, but this, coupled with the familiarity of living in a local community, meant that men were able to specifically target girls in which they believed were less risky and easily accesible.

Further, it became clear that the characteristic most integral to understanding the patterns of sexual assault in these communities was that of long distance; participants were definite in demonstrating that the further, more isolated a path to a water source was, the more at risk women were of experiencing rape or sexual assault. Describing this path as an “opportune time”, respondents stated that men would often wait for women on these trails, sometimes even studying the times of their water fetching practices. Thus, in these examples, it was predictability that worked against these women; as they are not able to discontinue fetching water, the need to rely on this routine task offered perpetrators constant and dependable access to women and girls.

Further, these attacks were not isolated either; women respondents shared stories where rather than it being a singular perpetrator acting out a sexual assault, groups of soldiers or other camps of men worked together to do so. Sharing a personal experience from her own family, Sharon said “my cousin and his wife went to fetch water during the war, and we had many soldiers around the village and when the wife went to the water, she was raped by about 3 or 4 men, these were army men, and after 7 months she fell sick, and she died of HIV”.

Interestingly, the study’s findings also showed that the path between a women’s community and the closest water source has become a targeted location for young boys engaging in sexual ceremonies. When discussing the characteristics of perpetrator demographics, respondents noted that in countries where circumcision ceremonies are taking place, young boys were often directed to carry out sexual practices against young girls who were found to be walking to fetch water. Additionally, when discussing premarital practices, respondents noted that in certain cultures, successfully assaulting a woman could result in a forced marriage with the victim. Sharing her knowledge on this dynamic, Samantha explained “its like a process of marrying. So basically you don’t just accept a man like that, but he has to sort of wrestle with you, and so if he manages to put you down, and kind of rape you, then you marry him. So it’s like a culture. So those kinds of things take place here. As you go to fetch water, as you go to fetch firewood. That kind of thing. So basically, those are the areas where girls are vulnerable.” Therefore, it was clear in the findings that not only were women alone and isolated on these paths, but that this concept was in-fact public knowledge and, as a result, it was a predictable location for male groups to continuously exploit.

Though open defecation shared many parallels with water fetching (women are still forced to leave community alone, sometimes at night, and often in predictable locations), attempting to understand the way in which women experience rape and assault when engaging in this act had its limitations. First, respondents noted that this particular concept was hard to truly identify. As this was not a well talked about subject amongst groups (and in fact was met with nervousness and embarrassment during focus group conversations), respondents were quick to point out that capturing a concrete and complex understanding of this concept is difficult to do as it is a topic in which individuals do not feel comfortable discussing.

Additionally, individuals practicing open defecation are quite diligent in taking on extra efforts to reinforce their secrecy. Leaving alone, sometimes at night, and not on well-marked or other common paths, monitoring and studying women engaging in this act would be a complicated effort. When asked if sexual assault was happening when women leave community to practice open defecation, Jeremy explained, “that one you cannot tell. Because we don’t have a justification that somebody was going to defecate and then was raped. But somebody going to collect firewood that may happen, but for the defecation, you cannot, because it is private. For firewood, you can hear somebody cutting firewood. Fetching water, you can see somebody, but for that one, you hide yourself. You do your business and then you are done.”

That being said, an understanding of this violence happening still remained; participants were able to identify that such a combination of factors was “still an opportunity” that did in fact place women at risk for violence. The limitation however, was in understanding the rate in which it was happening and by whom.

Domestic Violence. Attempting to uncover the way in WaSH concepts intersect with domestic violence, questions posed to respondents explored the various ways in which lacking consistent and stable access to water elevated a women's risk of being a victim of spousal abuse. Unraveling this dynamic, respondents noted that women were more likely to experience domestic violence when they were unable to provide water (or complete water related tasks) in the home. Crediting this lack of water to dried up water sources, long water queues, or simply the inability to fetch that day, participants demonstrated how women failing to provide water (both in their homes or to their crops) socially implied that they were unable to fulfill their household expectations.

Exemplifying this, Sarah shared “here is a husband that probably went to a forest far off to cut wood as a source of their livelihood, he expects that in the evening when he comes home he will have a ready meal to eat. But he comes back to a wife that has not been able to prepare a meal in the day because they had no water, he is angry, agitated, and probably they will have a bad argument, which will translate into a beating, because the wife was never able to do what? To present the food when he needed it. So [he can say] ‘I paid bride price for you it cost me this much you are here to cook for me and you are not giving me the food I need’”. Taking these concepts into consideration, it was the inability for a woman to fulfill her expectations that greatly increased her risk of experiencing violence; men who believed that their spouses were incapable of providing the household with water felt justified in acting out physically against them. This violence, exacerbated by dry seasons and poor water infrastructure, was described as slapping, kicking, and hitting to both women and pregnant women, and had been known to lead to death.

In addition, participants noted that a lack of water created a significant level of stress on a household. Though strictly a women's responsibility, the inability to retrieve water meant that men, women, and children were without food, proper hygiene care, and drinking water. Describing the linkage that these type of stressors have on a household, Denise shared "when you get to also lack of [water], she will want to feed her children, probably she will want to go somewhere where she can pay 100 shillings to get a jerry can of water. But she does not have the money, she does not have the resources...this is where you get husbands who do all sorts of things to their wives".

The stress related to the inability to meet basic needs also had economic implications; households that lacked water also alluded to the inability to work as poor hygiene or proper nutrition kept both men and women at home. Thus, as household levels of stress were already high due to water-related challenges, the economic toll of these challenges further perpetuated this level of stress, which, in return, was a significant factor in increasing rates of domestic violence.

Animal Attacks. A women's vulnerability was found to be further exacerbated by the chance of animal attacks occurring while fetching water. Experienced mostly by those living in extremely rural areas or national parks, attacks by predatory animals were found to be another significant type of violence women in these situations face. These attacks, caused by hyenas, lions, baboons, crocodiles, and snakes were documented as happening while en route to both fetching water as well as when practicing open defecation. When discussing which groups may have the most experience in dealing with such attacks, Sarah responded "people that live near the lakes, those lakes in the national parks...there

are animals in those parks, and they are always attacked...sometimes when they go to fetch, the hippos, or the leopards, they are there, it is there”.

Further, as women in rural areas often turn to lake water for their domestic water needs, their time spent in swampy wetland areas also placed them at a higher risk for experiencing an attack. Sharing a story from her local community, Heather said, “There is no tap water. So they go to the river to fetch water, and in this river there is crocodiles...Last year one woman was caught, and there were a few women, but because [this one] was not well, and she was drinking slowly, they were waiting for her, so the woman was eaten by crocodiles. But it is the same thing for this woman, and the same burden for a child...but there was nothing you can do because you are women! You have to get the water!”

Trading of Sex for Water. Trading sexual favors in an effort to either gain access to water or to advance ones position in a water queue was also an emerging theme that respondents identified. Crediting this dynamic to an inherently “competitive” nature existing out of a need for “survival”, participants were not hesitant to share that women are often only able to pay with either money or sexual services in order to lessen the barriers that exist when accessing water. Noting the different power dichotomies, the trading of sex for water is usually done by women experiencing poverty who are accessing water for a variety of reasons (examples included hydration and food production). Conversely, the individuals responsible for water distribution were identified as men “in good economic position” that were often overseeing a “project of water wells” or were simply “selling water”.

Additionally, young girls were identified as being at a higher risk of experiencing this level of exploitation as they lack their own financial resources. Mark shared, “you find someone is living with a young lady of about 10 or 12 years and she is still in school, but then he tells her to go and fetch water for the family...so what is happening when they go to fetch water, they find someone there who is collecting money and since the young girls does not have money and she needs water, the girl is bribing the gentlemen with sex to be in a position to get water”.

This power differential is not the only time that water vendors were noted as exploiting women and girls. When discussing the various ways that these water vendors distribute water, participants stated that while women and girls may bribe men with sex to gain access to water, these vendors would force other local women to retrieve the water for which these girls had just traded. Thus, not only are women having to sexually exploit themselves at the hands of water vendors, but hints of forced labor were mentioned. It is recommended that this piece be explored further.

Between Women Violence. Violence occurring between women was another important finding. Reported as happening only at water sources, these instances were isolated and often resulted when the threat of water scarcity was imminent. Crediting an instinctively competitive environment, respondents noted that physical altercations were more likely to take place if a women’s position in a water queue was threatened or if a water source was believed to be drying up. Providing some perspective on the level of competition present, John explained “they are already scrambling for water. ‘This is my turn!’ [they say]... we don’t see that this person maybe was the first one arriving here, but because she is weak and because of my status, I want to jeopardize her right, I want to

be first, I am in a hurry, I have to get somewhere, I want to use this river to make sure I fetch water. Pressure will start there. So they fight, they will really fight.” Upon examining the burdens of women in these communities, this conclusion is not inappropriate; as demonstrated here, a women’s daily life (inclusive of her safety and wellbeing) is integral to the onus of having and using water. Therefore, it can be postulated that between women violence exists as a result of larger social systems that consistently forces women to be overworked and gravely dependent upon inadequate and unreliable water sources. Consequently, the implications of this suggest that with increased access to water sources, violence of this nature may subside.

Child Violence. Violence against children was another finding noted by participants. Exacerbated by a women’s workload, participants described how women often depend on children in the home to fetch or provide water. However, when unable to do so, this can often be met with physical punishment. Exemplifying such, Victoria shared that when children were unable to fetch, or come home empty handed from fetching, that “this is where you get mothers who are beating up their children”. A finding that was mentioned very minimally, child violence exemplifies the level of extreme stress that these families often feel and the various ways that this stress may manifest itself when the feeling of water deprivation or deficiency is imminent.

WaSH Discussion

Understanding the way in which water, sanitation, and hygiene (WaSH) intersects with the lives of women living in east Africa was fundamental in conceptualizing this project. Through dissecting these linkages, the findings of this study worked to

acknowledge the WaSH-related deficiencies that were negatively affecting these communities. These deficiencies, to be discussed below, are meant to demonstrate the ways in which the improving of water-related infrastructure and programming can further empower individuals, particularly women, living in poor WaSH communities and therefore work to eliminate the risks identified in this study.

Understanding “Safe” Water. Acknowledging various informal methods of safety analysis, participants noted that individuals from these communities often use taste testing or visual testing as a means for determining water safety. Lacking the financial resources needed to acquire adequate testing instruments, respondents noted that measures of these sorts were used in lieu of more scientific and accurate ways of determining water safety. It is of often culturally based misconceptions that underlie these behaviors. Noting the unfounded ways in which individuals from these groups measure their water safety, respondents discussed how concepts such as “tastes clean”, “is not yellow”, and/or “does not smell” were considered adequate markers in determining whether water was appropriate to use or consume. However, contrary to these beliefs, these methods are insufficient in determining such safety. As per the World Health Organization and UNICEF definition of safe drinking water as “water with microbial, chemical and physical characteristics that meets WHO guidelines or national standards on drinking water quality”, (Gronwall et al. 2010) a level of sophistication exists in respect to the type of testing needed to accurately conclude if sources are producing safe and clean water. Having these testing instruments in an effort to achieve an adequate level of water safety would greatly deter the consumption of water contamination, and subsequently it’s respective health implications, among those who

would be in the position to consistently access and utilize such resources. As these health implications – expressed in this study through findings related to sepsis, worm infestation, and anemia – greatly affect a women’s ability to experience a healthy pregnancy or deliver a baby of optimal birth weight, ensuring water safety measures is crucial in ensuring the health and safety of both pregnant women and infants.

In addition, this lack of testing was further compounded by a lack of protected water sources. Discussing the implications of this, focus group participants noted that individuals living in rural areas often resort to likely polluted or contaminated water points (such as lakes, rivers, and water vendors) when water from protected sources is not a reality. This behavior was found to be greatly impacting both hygiene and nutrition levels; as the use of this water for bathing increases a women’s chance of catching a serious infection or disease, a lack of protected water sources threatens the health of women and pregnant women in these communities. Additionally, as women often understood that drinking water from these sources may cause such illnesses, they were found to not be consuming adequate daily levels of water.

Advocating for more protected water sources was a consistent theme demonstrated through the findings. Participants understood that such a resource would lessen the social, economic, and health-related consequences that women and families face in poor WaSH communities. That being said, participants also stressed that perhaps what is more important than the creation of such water sources was the actual management of them. Discussing the abuse of power that can take place when in these management roles, participants noted that men responsible for the overseeing of water sources had the opportunity to sexually exploit women who needed to gain access to

water.

Additionally, without consistent water quality testing and proper upkeep and care of water points, water protection efforts were deemed futile and actually dangerous; community users automatically assumed that because these water points are “protected”, they are inherently safe and, therefore, know of need to take on their own safety efforts into consideration. Demonstrating this misconception, Ryan shared “[it’s] the fact that people have a protected water sources and they look at this as getting that water and that it can be drawn for years and years. So testing [to them] doesn’t become an issue, they assume that this water is protected ... but literally there is no quality water testing in some areas with protected water sources and at the end of the day they will just say ‘it’s fine; it’s a protected water source’ but it is not tested”.

This finding added a different level of complexity to the study; though the researcher understood that the desire for more protected water sources was considered a mechanism that could alleviate health and safety issues, the discussion surrounding water management was new, and it began to raise questions about responsibility, feasibility, and practicality. Though this piece was unable to be fully explored in this study, it is an important dynamic that is crucial to understanding long-term sustainable development and community building, most specifically in relation to areas where management of such sources was undertaken by men in higher socio-economic positions. Thus, the finding important to note in this section was that it was *both* the installation and reliable management water sources that was deemed necessary in order to lessen the women’s burden and increase their levels of health, hygiene, and sexual safety.

Distances and Terrain. A lack of improved water infrastructure has made the effort of fetching water tedious and dangerous. The most talked about concept within the focus groups, the route between a women's community and the closest water source is prolonged, and leaves women alone and isolated for a significant amount of time. However, as these paths are not maintained by any one entity, they also pose serious physical challenges to both women and children. When discussing this reality in participants' communities, respondents demonstrated how rocky and uphill paths are all too often washed out by unpredictable rain or other weather patterns like flooding, often creating treacherous terrain to be traversed. When asked if participants identified rocky pathways as a danger to women fetching water, George shared, "Yes! So much danger! Because you have to go up the hills and down there and you can just stumble on a stone and then you fall, sometimes it is a slippery! You go down the river and now you have to walk with that bucket up so that you get to where you are going, along that way you fall, and break your bones". Adding to this, conversations with the study's key informants provided insight into the maternal health perspective, recognizing that women are inherently more prone to accidents during this period in their lives. As a severe strike to the abdomen during a fall could compromise fetus and mother safety, the paths which these women depend on to fetch water further compromise their maternal health.

Climate Change. Climate change has begun to play a critical role in the livelihoods of East African people. Crediting most of these implications to the drying up of water sources (both protected and not), participants identified that the process of finding and securing water has worsened over time, with women having to travel further to find water or often returning from a previously reliable water point with no water at

all. Waititu (2009) echoes this notion, writing that one of the most widespread and potentially devastating impacts of climate change in East Africa will be changes in the frequency, intensity, and predictability of precipitation, and an increase in warmer temperatures in years to come.

This finding will impact women more severely as women's responsibilities are far more dependent upon having reliable access to clean water, such a scarcity will complicate their lives at a level much more severe than that of their male counterparts. Likewise, inadequate levels of water security undermine a woman's elevated hygiene and sanitation needs, while simultaneously increasing their level of food-insecurity and poverty through jeopardizing both their crops and domestic food production.

Understanding the current and future impacts of climate change will be essential in determining efforts needed to begin to offset the effects of climate change. As these populations already feel the immeasurable consequences of water stress, it is important that policy-makers and stakeholders alike use community-appropriate initiatives to find ways to alleviate such scarcity. As this issue does not only lie strictly in an environmental arena, it will require collaboration with health and social science researchers to better understand the relationships and complexities between climate change, water, and women's health. Bridging this interdisciplinary gap will be crucial in determining and securing the future liberation, safety, and progress of women and young girls in these countries.

CONCLUSIONS

The efforts of this research project worked to capture the perspectives of various community professionals familiar with WaSH-related risks specific to the women's experience. As these perspectives were able to provide insight about both social health and physical health implications, they were crucial in understanding the current domestic realities of women throughout these countries. Using these narratives, researcher efforts were able to gather relevant and accurate stories of women who are dealing with these risks on a daily basis. As a result, this thesis reflects the harsh, everyday certainties to which women without water are subjected and will continue to be subject to, as long as barriers in accessing water continue to exist. Therefore, this study finds that until access to clean water can be guaranteed, rates of maternal health complications, sexual assault, animal attacks, and family violence will continue to pose significant health and safety challenges to women and girls within these countries.

Additionally, the findings of this study raise significant considerations for the future direction of WaSH programming, policy, and research. Perhaps the most important is the need to include women advocates at decision-making tables; including and building upon women's knowledge will create more relevant policy that can better alleviate women's burdens while simultaneously discouraging the health, social, and economical risks associated with WaSH burdens. These women decision makers should also be from a variety of different backgrounds; as this study showed that different socio-economic factors contributed to different findings, it would therefore be important that these various demographics be exemplified at decision making tables. Related policy also needs to take a safety stance; as research efforts such as this show a greater need to enact

preventative safety measures, it is important that policy reaches outside of only health-related positioning's and be inclusive of measures that can foster women's safety and protection. As a final note, water policy needs to be inclusive of gender inequities, and gender policy in return needs to be inclusive of water, sanitation, and hygiene realities, as, creating a space for such experiences will further help policy efforts to reach women within the various spheres that they occupy.

Moreover, research efforts must extend further into subgroup demographics; though the findings of this study worked to create general understandings of some of the most common burdens identified, a deeper depiction is needed to truly capture the severity of the risks and burdens experienced by more marginalized and excluded groups. Additionally, as these challenges will be manipulated by various seasonal differences, research efforts should take climate variations, and the resulting implications, into consideration. It is only after these efforts should various community-level programming be implemented to best alleviate women's responsibilities and provide improved, more dependable access to clean and safe water.

Though this study provided a level of depth to the WaSH conversation not often seen, important questions still remain unanswered. For example, though we now have a qualitative understanding of the types of WaSH-related violence that women in East Africa are experiencing, a quantitative expression of this would further support these findings as well as demonstrate the severity and intensity of such violence and its resulting implications. Additionally, the discrepancies between urban and rural violence could be explored further as there were some important differences in respect to the level of violence and types of violence happening. As gathering a separate depiction of both

urban and rural life can better inform stakeholders and practitioners on the various ways in which women are being victimized, this effort would provide insight to population specific interventions that could effectively work to reduce the rate of these risks.

Further, though the use of health professionals was integral to this study, it would be important that future steps are inclusive of research efforts featuring women in community themselves. As using community professional perspectives meant that participants could only share experiences of women who sought out their care, this study was therefore unable to include the experiences of women who, for a variety of reasons, may not have sought out community services. Crucial to capturing all risks identified and their implications, this piece would be incredibly complimentary to the findings of this study or for future studies.

LIMITATIONS

As the specific focus of this project, that is GBV as a WaSH concept, had yet to be well researched, the novelty and originality of doing such a study posed some general limitations. For example, though this study was able to capitalize on the voices of participants from various East African countries, the country that each participant represented was not solicited in a controlled or operational way. Thus, while these findings do represent current realities faced throughout East Africa, a level of specificity is lacking, and a closer look at GBV as a WaSH risk in each country of East Africa would better shape appropriate community-level responses.

Additionally, a greater depth of data could have been gathered if methods guaranteeing higher levels of privacy and anonymity were used. Though the participants often had personal experiences to share, sharing these stories in front of large focus groups could have deterred various individuals from sharing. As some participants preferred private interviews to attending one of the five focus groups, one-on-one interviewing with local researchers or the use of anonymous surveys may have been more appropriate in collecting additional and perhaps richer data.

The timing of data collection also may have affected the study's findings. As the researcher arrived at Uganda Christian University during the last week of classes, many of the students sought out for the study were either leaving campus or busy with final assignments. Though focus groups were scheduled in a flexible manner, a significant number of students were simply unable to attend. This was further compounded by an inability to conduct other key informant interviews with professors who were preoccupied with hosting final exams or grading final assignments. Conducting this

research at a more stable time during the semester may have meant collecting more diverse data.

Lastly, another potential limitation in this study may have been the power dynamic that naturally existed between the researcher and the sample populations. As a white, western-based researcher attempting to gather data on a highly sensitive and complex topic, it was inherently more difficult to foster feelings of safety and comfort due to the perceived status of the outsider-based researcher. Further, as timing and budget constraints limited the amount of days that the researcher could actually be in Uganda, no significant rapport building efforts were able to take place. Though students were familiar with the affiliated institutions (UNU-INWEH and McMaster University) and the professors coordinating the project at hand, the focus group facilitator still lacked any significant relationship with the sample participants. As a result, various pieces of information may have been left out and thus, using a local researcher for future projects may be more beneficial when undertaking research on such a sensitive project.

References

- Banjeree, B. (2014, May 1). Attackers of Indian sisters hang 2 bodies from tree; villagers protest police response. *The Associated Press*.
- Bartram, J., & Cairncross, S. (2010). Hygiene, sanitation, and water: Forgotten foundations of health. *PLoS Medicine*, 7(11), e1000367. doi:10.1371/journal.pmed.1000367
- Brooker, S., Hotez, P. J., & Bundy, D. A. P. (2008). Hookworm-related anaemia among pregnant women: A systematic review. *PLoS Neglected Tropical Diseases*, 2(9), e291. doi:10.1371/journal.pntd.0000291
- Buor, D. (2004). Water needs and women's health in the Kumasi metropolitan area, Ghana. *Health and Place*, 10(1), 85-103. doi:10.1016/S1353-8292(03)00050-9
- Calman, L. (2014). What is Grounded Theory? . Retrieved 06 05, 2014, from The University of Manchester: <http://www.methods.manchester.ac.uk/events/whatis/gt.pdf>
- Cheng, J. J., Schuster-Wallace, C. J., Watt, S., Newbold, B. K., & Mente, A. (2012; 2011). An ecological quantification of the relationships between water, sanitation and infant, child, and maternal mortality. *Environmental Health: A Global Access Science Source*, 11(1), 4-4. doi:10.1186/1476-069X-11-4
- Crooks, D. L. (2001). The importance of symbolic interaction in grounded theory research on women's health. *Health Care for Women International*, 22(1-2), 11-27.
- Deen, T. (2012, August 31). Women Spend 40 Billion Hours Collecting Water. *Inter Press Service News Agency*.
- Ehrenreich, B. (1976). *What is socialist feminism?*. Nationwide Women's Program.
- Fentiman, A., & Warrington, M. (2011). *Gender in East Africa: Woman role models in*

- Uganda*. The Centre for Commonwealth Education. Retrieved from [http://www.educ.cam.ac.uk/centres/cce/publications/CCE Report No8-Gender Report3_final_v2_.pdf](http://www.educ.cam.ac.uk/centres/cce/publications/CCE%20Report%20No8-Gender%20Report3_final_v2_.pdf)
- Glaser, B. (1978). *Theoretical sensitivity: Advances in the methodology of grounded theory*. Mill Valley, Calif.: Sociology Press.
- Groenewald, T. (2004). A Phenomenological Research Design Illustrated. *International Journal of Qualitative Methods*, 23, (3), 1.
- Grönwall, J. T., Mulenga, M., & McGranahan, G. (2010). *Groundwater, self-supply and poor urban dwellers: a review with case studies of Bangalore and Lusaka* (No. 26). IIED.
- Halldorsdottir, S. (2000). The Vancouver school of doing phenomenology. *Qualitative research methods in the service of health*, 47-81.
- Ishiyama, J. T., & Breuning, M. (Eds.). (2010). *21st century political science: a reference handbook*. SAGE Publications.
- JMP (2014). Progress on drinking water and sanitation, 2014 Update. *WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)*, ISBN 978 92 4 150724 0
- Kasente, D. (2003). Gender and Education in Uganda: A Case Study for EFA Monitoring Report, Makerere University
- Khan, S. N. (2014). Qualitative research method: Grounded theory. *International Journal of Business and Management*, 9(11), 224. doi:10.5539/ijbm.v9n11p224
- Kinuthia, G. K., Gicheru, M. M., Ngure, P. K., & Kabiru, E. W. (2012; 2011). *Lifestyles and practices that enhance malaria and typhoid fever in Njoro district,*

- Kenya. *Journal of Community Health*, 37(1), 224-233. doi:10.1007/s10900-011-
- Kjellén, M., & McGranahan, G. (2006). *Informal water vendors and the urban poor*.
London, UK: International Institute for Environment and Development.
- Lindsey, L. L. (1997). The sociology of gender: Theoretical perspectives and feminist frameworks. *Gender roles: A sociological perspective*, 1-20.
- Lorber. (2012). Varieties of feminism: German gender politics in global perspective.
Stanford, California: Stanford University Press.
- Moran, D. (2001). Introduction to Phenomenology. *Journal of the British Society for Phenomenology*, 32(1), 109-112.
- McPHAIL, J. C. (1995). Phenomenology As Philosophy and Method Applications to Ways of Doing Special Education. *Remedial and Special Education*, 16(3), 159-165.
- Prüss-Üstün, A., Bos, R., Gore, F., & Bartram, J. (2008). *Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health*.
World Health Organization.
- Raikes, A. (1989). Women's health in east africa. *Social Science & Medicine* (1982), 28(5), 447.
- Sam, N. P. (2006). Gender Mainstreaming and Integration of Women in Decision-Making: The Case of Water Management in Samari-Nkwanta, Ghana. *Wagadu: A Journal Of Transnational Women's & Gender Studies*, 325-38.
- Sorenson, S. B., Morssink, C., & Campos, P. A. (2011). Safe access to safe water in low income countries: Water fetching in current times. *Social Science & Medicine*, 72(9), 1522-1526. doi:10.1016/j.socscimed.2011.03.010

- Strauss, A., & Corbin, J. (1994). Grounded theory methodology. *Handbook of Qualitative Research*, 273-285
- Technical Brief: The Importance of Safe Water, Sanitation and Hygiene for the Health of Mothers and Children/ (2012). *Center for Affordable Water and Sanitation Technology*.
- Tong, R. (2013). *Feminist thought: A comprehensive introduction*. Routledge.
- Tyler, M. (2015). *Freedom Fallacy: The limits of liberal feminism*. Connor Court Publishing.
- Tumwine, J. K., Thompson, J., Katua-Katua, M., Mujwajuzi, M., Johnstone, N., & Porras, I. (2002). Diarrhoea and effects of different water sources, sanitation and hygiene behaviour in East Africa. *Tropical Medicine & International Health : TM & IH*, 7(9), 750.
- Viteri, F. E. (1994). The consequences of iron deficiency and anaemia in pregnancy on maternal health, the foetus and the infant. *Hemoglobin*, 90(310), 250.
- Waititu, A. (2009). Water and Women in East Africa. *Isis International Manila*, 9(2), 9-12.
- Wallace, C., & Elliot, S., & Bisung, E. (2015). The water-health nexus. In *Geographies of Health and Development* (pp. 197-209). Ashgate Publishing.
- Waithera, D. (2011). *Don't Sleep African Women: Powerlessness and HIV/AIDS Vulnerability among Kenyan Women*. Rose Dog Books.
- Watt, S., & Chamberlain, J. (2011). Water, climate change, and maternal and newborn health. *Current Opinion in Environmental Sustainability*, 3(6), 491-496. doi:10.1016/j.cosust.2011.10.008

Watt, S. (2011), Water, Women & Health: The Dilemma of the Two Goats,

Global Bioethics 24(1-4), doi: 0.1080/11287462.2011.10800691

Letter of Information and Consent for Key Informant Focus Group
Participants

Linkages between WaSH and Maternal and Newborn Health

Susan Watt, McMaster University and Corinne Wallace, UNU-INWEH

Name of Focus Group

Participant.....

Date of Birth..... Sex.....

Profession.....

Purpose of the Study:

The purpose of this study is to understand the experiences of both health care providers and pregnant women in water, sanitation and hygiene (WaSH) poor settings (e.g. difficulties in accessing safe water, lack of sanitation facilities, violence associated with water and sanitation access, lack of hygiene supplies).

This study has been approved by the McMaster Research Ethics Board at McMaster University.

The study is under the direction of Susan Watt, Professor Emeritus, McMaster University and Corinne Wallace, Senior Research Fellow, United Nations University Institute for Water, Environment and Health.

Procedures to be followed:

You have volunteered to participate in a focus group, with up to seven of your peers, which will last for approximately 90 minutes. We will ask specific questions about your lived experiences as they pertain to the challenges and risks facing pregnant women, and newborns and their mothers, as a result of living in low WaSH resource settings. We will tape record your responses to ensure that we can accurately report your responses.

Risks:

There are few risks associated with participation in this study. However, there is the chance that you may feel uncomfortable answering some questions within

the interview. Please note that you do not have to answer any questions within the interview that you feel uncomfortable with, or any others that you wish to leave unanswered. Any person participating in the focus group may withdraw at any time without penalty.

Benefits:

We hope to use the information gathered to better understand the current knowledge, attitudes and practices of various groups to the links between water, sanitation and hygiene access and maternal and newborn health outcomes.

Confidentiality of the Records:

Every effort will be made to ensure that anything you say will remain anonymous and confidential. All records will be kept in a locked cabinet in the researcher's office at United Nations University Institute for Water, Environment and Health. All records will be made available only to the researchers and will be destroyed upon completion of the study.

Financial Considerations:

You will not be paid for participating in this study.

Obtaining Additional Information:

You are encouraged to ask any questions that occur to you before, during, or after the time of participation within the study. You will be given a copy of this agreement for your own information. If you desire more information at a later date you may contact Corinne Wallace at +1 905 667 5511 or Corinne.schusterwallace@unu.edu. If you have any questions concerning the ethics of this study, please contact Dr. Karen Szala-Meneok, Chair of the McMaster Ethics Review Board at szalak@mcmaster.ca.

Basis of Participation:

It is your choice as to whether you wish to participate in this study. If you do choose to participate, you have the right to stop participating within the study, even after signing the consent form or in the middle of the study. If you do decide

to stop your participation, no consequences will occur to you. If you do not wish to answer some of the questions, you may decline from answering them, but still participate in the rest of the study.

Signature:

Have you been informed about what this research involves?

☐ Yes ☐ No

Have you had the opportunity to ask questions?

☐ Yes

☐ No

Do you agree to participate in an interview?

☐ Yes

☐ No

Do you understand that you may withdraw from this research at any time?

☐ Yes ☐ No

Participant's name _____ **Participant's Signature** _____

Researcher's name _____ **Signature** _____ **Date** _____



I WISH TO RECEIVE A SUMMARY OF THE RESEARCH FINDINGS.

My email address is: _____

KEY INFORMANT FOCUS GROUPS GUIDELINES AND QUESTIONS

Linkages between WaSH and Maternal and Newborn Health Susan Watt, McMaster University and Corinne Wallace, UNU-INWEH

1.1.1 D) INTRODUCTION AND INSTRUCTIONS:

Hello, my name is _____ (facilitator) and I am [STUDENT AT MAC, WWB STUDENT, EXPERIENCE]. Thank you for agreeing to participate in this focus group meeting. Just to remind everyone, the purpose of this study is to explore your lived experiences as they pertain to the challenges and risks facing women during and after their pregnancy, and their newborns, while trying to access clean water and sanitation facilities.

If you haven't already, please fill in a name tag, read the information letter and complete the consent form. Please feel free to ask any questions you may have.

[FOR FACILITATOR: REVIEW INFORMED CONSENT FORM AND ANSWER ANY QUESTIONS ABOUT IT. COLLECT SIGNED CONSENT FORMS AND ENSURE THAT PARTICIPANTS HAVE A COPY OF THE LETTER OF INFORMATION TO TAKE WITH THEM IF THEY WISH TO HAVE ONE]

Now that I have all of the consent forms, I would like to take this opportunity to remind you that anything and everything that is spoken in this group is confidential. I recognise that all of you are students in the same programme, but what is said in the focus group must remain here. It should not be discussed further and certainly not with others outside this group. Having said this, and having made these requests, you know that we cannot guarantee that the request will be honoured by everyone in the room. We are counting on your professional ethics to maintain confidentiality.

There are some basic ground rules for our conversation today:

- Everyone's views are welcomed and important so I will step in if too many people are speaking at once or to make sure that everyone has a chance to speak.
- I may step in if I feel that the conversation is straying off topic.
- The information which we will collect today will be attributable (*connected or associated*) to you as a group, not as individuals.
- We will not identify quotes or ideas from *any one person* of this group. However, because of the nature of small communities or groups, it is possible that people could link participants in this room to quotes in the report. The researchers will make every effort to keep the quotes anonymous.
- You can expect this discussion group to last about one and a half hours.
- I remind you that this session is being tape recorded so that we can be accurate in conveying your experiences.

II. QUESTIONS:

Since all of you know each other, I would like to get to know you before we begin this discussion. Please go around the circle and explain to me what you do in your regular job and why you are in the Masters in Public Health Leadership programme.

[FOCUS GROUP LEADER HAS OPTION TO INCLUDE SHORT RESPONSE TO WHAT THEY HAVE HEARD AND ADD WHY THEY ARE INTERESTED IN LINKAGES BETWEEN WASH AND MATERNAL AND NEWBORN HEALTH]

General Community Information

Let's begin with a few general questions to start thinking about risks and challenges facing women in communities low WaSH resource communities:

1. What do you see as the major social risks and challenges facing women in communities in East Africa?
2. Many people, when asked about risks and challenges facing community members in East Africa, will identify WaSH access. How would you rank the risks and challenges of WaSH access in East Africa among those identified so far?

[Prompt: e.g. highest, middle, lowest; one of top xx etc.]

Water and Sanitation

3. What are the main sources of drinking water for members in your communities?
4. How do people judge when the water is clean and/or safe to drink?
5. If it is not clean and/or safe, what do people do to try to deal with this?
6. What is the most common type of toilet used by ADULTS in your community?
7. Would you say that most community members have access to improved sanitation facilities? *[Note: these are household VIP latrines or better]*
8. What are some of the realities your communities face when they don't have access to water and sanitation? *(Prompts: open defecation, poor hand washing practices)*
9. What are the main WaSH-related health issues in these communities?
 - a. For men?
 - b. For children?
 - c. For women?
 - d. For pregnant women?

10. In your experience, who in your community is responsible for collecting water for domestic use? Can you provide demographics of this group? *(Prompt: age, gender)*
11. Are there specific instances when this group is excused from water collecting? *(Prompt: injured people, pregnant women, young children, elderly)*

Risks and Challenges to Accessing Water and Sanitation

The following questions are related to the potential risks and challenges that exist due to a lack of/poor access to drinking water and sanitation facilities.

12. What are your experiences of the WaSH risks and challenges facing women in the communities in which you live and work? *(Prompt: long distances, physical strain, injury, assault, animal attacks, etc.)*
13. Are you aware of any personal risks women may assume in order to access water and sanitation? *(Prompt: selling or trading of sex for water, intense physical work for money or water)*
14. Do these risks and challenges change for a pregnant woman?
 - a) If so, how?
 - b) If not, do you think that they should?
15. Do these risks and challenges change for a mother of a new baby?
 - a) If so, how?

The literature is unclear about times when women may be more or less vulnerable to violence while water fetching and seeking sanitation facilities. We are interested in your experience in this regard.

16. Do you think that violence against women linked to poor WaSH access is prevalent?
 - a) What is your understanding of violence against women linked to poor WaSH access?
 - b) In your opinion, which females are at greatest risk of WaSH-associated violence?
17. What is your understanding of violence against pregnant women?
 - a) What is your understanding of violence against pregnant women linked to poor WaSH access?

Professional Responsibility

18. What do you view as the role of your profession in:

- a) Reducing WaSH-related challenges and risks for women?
 - b) Reducing WaSH-related violence against women?
 - c) Reducing WaSH-related challenges and risks, including violence, against pregnant women?
 - d) Reducing WaSH-related challenges and risks for mothers of newborns?
- 19.** What type of a) policy changes and b) social structure interventions would your profession support to reduce the WaSH-related risks and challenges to women that we have discussed?

20. Conclusion

Thank you so much for your time and contributions. This is the end of the formal questions, but we would still welcome any additional comments, ideas, or concerns that you have relating to any of the concepts we have talked about. Is there anything we forgot or anything important we should know about?

Wrap-up:

- Remind participants that “what is said in the room should stay in the room”.
- Thank the participants.