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Thesis Prospectus: Revised

Introduction

For many, "security" issues are equated with issues of national and military security. As self-interested and rational people, we tend to categorize and define threats based on their immediacy. The "slow violence" of environmental issues, means that many people do not categorize these issues as threats (Nixon). Our subsequent neglect of these issues has and continues to lead to serious consequences for current and future generations. Added to this issue, there is a further neglect in the study of how environmental issues disproportionately affect different populations. My research proposal will focus on the environmental issue of water scarcity, and will aim to highlight the importance of water scarcity as a threat to security, particularly in Bolivia and Mexico. It will also aim to highlight some populations particularly vulnerable to issues of water scarcity in each of these countries. My research seeks to examine the relationship between gender equity and climate change. Gender equity examines justness and fairness, rather than sameness, as is the case with gender equality. The various studies conducted on this matter put gender *equity* at their focal points. My research will do so by addressing two questions. First, to what extent is water scarcity a gendered issue in Bolivia and Mexico? This question will lead me to answer an additional question; to what extent does climate-induced out-migration contribute to gender equity, or inequity in Bolivia and Mexico? The results will contribute to a better understanding of the intricate relationship between water scarcity and equity to access, and will lead to a more equitable treatment of the issue. It will also highlight the

emerging issue of "environmental migrants" and analyze the origins and implications of this trend.

Theoretical Framework

Margreet Zwarteveen and Vivienne Bennett compile a strong theoretical framework for the intersection of gender and water. In their chapter entitled "The Connection between Gender and Water Management" in the book *Opposing Currents: The Politics of Water and Gender in Latin America* (2005), Zwarteveen and Bennett explain the dichotomy of water systems and usage as "domestic water systems" (water for home use) or "irrigation water systems" (water for use in fields and agriculture). This distinction is highly important, particularly in Latin America, where gender bias often defines a woman's involvement to be in domestic water systems, and a man's to be in irrigation water systems. The domestic water approach uses frames of "social rights and welfare, health and hygiene, and basic needs," and recognizes women's need for water. In contrast, irrigation water, which is framed in the context of "production and economic efficiency" and is largely associated with masculinity, renders women invisible (Zwarteveen, 13). These implications create suboptimal outcomes of inequity and inefficiency. By denying women's involvement and perspective into policy and planning, gender inequity is perpetuated, and water is more likely to have a disproportionate effect on women's lives. Zwarteveen and Bennett also identify water as a social right, and argue for an expansion of the definition to include both domestic and irrigation water systems. Therefore, they suggest for policies to be inspired by a right to water, which poses challenges, as it often goes against status quo and cultural norm. The intersection of gender and water scarcity is important in that water management in times of water crisis and stress becomes more labor-intensive, physically

demanding, and stressful. This process is largely borne by women and thus has a gender-differentiated outcome. The implications are that improved water supply and access will benefit women by allowing more free time and energy to devote to other areas such as work and school. Women's role in irrigation is also largely ignored, and they are not considered true farmers. This creates another opportunity for increased inclusion and thus equity, and for potential to provide more efficiency in designing irrigation systems (Zwarteveen).

In urban areas, a WHO report argues that water quantity for households depends not on volume of water, but on accessibility, which is a factor both of distance and time. Water accessibility is demonstrated by the use of different service levels, including: no access, basic access, intermediate access, and optimal access. The report prioritizes the achievement of basic access to water, followed by the achievement of on-plot level of access, or intermediate access service level (Howard 22-5). Charisma Acey produced a case study regarding urban water infrastructure, and highlighted women's roles in urban water management to include not only the sourcing and managing of domestic water, but also the responding to problems obtaining water. Women must navigate these challenges within skewed gender power relations and traditional conceptions of roles and responsibilities. Women are largely excluded from the business of water supply (Acey 11). This offers yet another way in which women's role in water management can be expanded to be more inclusive and equitable.

In a 2008 report, the International Organization for Migration (IOM) proposed a working definition for the "environmental migrant," but no internationally accepted definition exists. The tentative definition defines environmental migrants as, "persons or groups of persons who, for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to have to leave their habitual homes, or choose to do so, either

temporarily or permanently, and who move either within their territory or abroad." Because of a general lack of research and understanding, the IOM discourages the use of "environmental refugee" or "climate change refugee," because they do not have legal basis in international refugee law ("Definitional Issues"). The lack of consensus poses its own problems, but, at least, offers a basic foundation for the understanding and framing of this demographic.

Case Selection

The research will present a comparative case study of Bolivia and Mexico, offering a "Most-Different Systems (MDS) Design." This design argues that, although the contributing factors of water stress and scarcity in Bolivia and Mexico differ, and each has distinct cultural norms, the outcome of gender inequity regarding water and the prevalence of "environmental migrants" are present in both cases. I chose Bolivia and Mexico due to a personal familiarity with the countries, as well as the prevalence of water scarcity as a pressing issue, especially in light of the serious consequences of drought and out-migration, and the widely cited studies of previous case studies in each country. With a rich history of water related conflict, Bolivia faces more recent issues with water scarcity and climate change. As recently as November 2016, Bolivia's government issued a state of emergency amidst water shortages and a severe drought, which led to the rationing of water (Martínez). These issues are compounded as residents of rural areas migrate to urban areas. An estimated 50 percent of migrants to El Alto move due to climate change, and particularly because of the increasing inability to sustain farming. Throughout La Paz, water comes from glaciers, which are severely depleted, and some of which are even dried out ("Drought in the Highlands"). Mexico, too, suffers from water scarcity. Mexico City is literally sinking due to negative effects of climate change, water scarcity, and subsequent

overexploitation of aquifers. In Mexico, as in Bolivia, it is all too common that people cannot rely on water from their taps, and trends of migration are on the rise as people attempt to escape heat and drought (Kimmelman). These examples offer a mere glimpse at the extreme water events plaguing both Bolivia and Mexico.

Hypotheses

Based on the ideas proposed in the theoretical framework, I hypothesize that water presents a gendered issue, and that an increase in women's participation in government will result in greater gender equity of water. Furthermore, I hypothesize that an increase in out-migration due to climate change will result in an increased (informal) participation of women in the irrigation sector of water management.

Data and Methodology

In order to test these hypotheses, I will operationalize my variables. "Women's involvement" can be measured as the percent of women constituting governmental bodies at either a local or national level (such as parliament). Gender equity can be measured by examining women's time spent on household chores, specifically on time spent performing water activities in the household, or by examining women's percent participation in education or the workforce. Environmental migrants can be identified using survey data offering reasons for migration, while measuring its effects on women would involve the measurement of women's participation in irrigation water systems, and can be measured by examining percent of women in the agricultural sector (though this will overlook informal participation by women).

I will perform a mixed methods approach. With a strong interest in human interaction and cross-cultural connection, I will use significant qualitative data, including both primary and secondary sources. I will begin by constructing a brief historical narrative of the acknowledgement of gender in water management in each country, looking at general trends over the past decade. Furthermore, I will analyze academic documents, newspaper articles, theoretical works, and even tweets, which will provide insight into the acknowledgement, and concern surrounding gender (in)equity in water management, as well as to the emerging trend of environmental migrants. I will also implement the use of interviews (of water experts, organizations in Mexico and Bolivia, and authorities), generated informally (largely by phone, skype, or email) due to distance. I will find these interviewees through searching online references, research projects, websites for organizations, and through previous contacts from past research. Nonetheless, I will strive to interview employees of organizations, especially ones that focus on gender equity, water management, and migrants, as well as residents who *experience* the effects of these norms, including both men and women. Though it may be difficult, I would also like to talk to government employees about the issue of water and gender equity, and of environmental migrants. I would ask questions involving the quotidian effects of water inequities, opportunity costs of time investment in water management by women, and questions about cultural norms in order to gauge willingness to challenge the status quo. These interviews will be conducted in English or French if possible, and Spanish with the aid of an interpreter. The use of an interpreter to conduct Spanish interviews will allow me to gain a more comprehensive and representative sample of the population.

In past research experience, I have lacked the numerical data to back up points made with qualitative evidence. Therefore, I will also seek to augment these claims using databases, and I

will run linear regressions in order to test the relationships between variables and thus test my hypotheses (for example, running a regression of the data for percentage of women in parliament, and hours spent on water collection, two proxy variables that can provide insight into the relationship between gender representation and gender equity in the management of a resource). This section will consist of descriptive statistics about the prevalence of water scarcity and environmental migrants in a region, and will create a roadmap for understanding the importance of the issue and who is most affected by these trends. Quantitative data will also be used to determine correlation between representation in government and gender equity. Some additional, more specific examples of databases that I will use include Amber Wuitch's study entitled "Intrahousehold Disparities in Women and Men's Experiences of Water Insecurity and Emotional Distress in Urban Bolivia," which offers quantitative and qualitative analyses of interview data (Wutich). I will also use data collections from LAPOP of Vanderbilt University, such as the core questionnaires. UN Data (such as the Gender Data Portal) and World Bank will also provide extremely beneficial data such as participation of women in government, household duties, etc. In Switzerland, leaders at the University of Neuchâtel compiled the CliMig database, which examines migration, environment, and climate change, and which will offer another source of data for this project ("CLIMIG Database").

Limitations

There will be some inevitable limitations of this research. Because of the subject's relative nascence, and because data collection is often challenging in lower-income countries, data availability could prove difficult and sparse. However, through the use of qualitative data, survey data, and operationalization of variables, my analysis will be able to provide the closest

approximation possible for any such scarcity. The intentionality that will be used to represent all sides of the question (including who is represented in interview, as well as what types of data are used) will also help ensure the reliability of conclusions drawn from limited data. An additional challenge will be a potential unwillingness on behalf of women to discuss openly the issues of gender inequities, potentially for fear of speaking out against norms and cultural customs. In order to recruit subjects, I will use local organizations as liaisons, and ask if they can put me into contact with potential candidates. Ensuring anonymity and conducting interviews without a male in the room will address this issue. Understanding these norms and their potential to inhibit the easy exchange of information, as well as talking to organizations and NGOs that might provide a more honest response, will further help address this potential challenge. Distance will present an additional limitation, making interview and ethnographic data difficult to obtain. I will combat this problem by conducting interviews via Skype, phone, and email. My lack of fluency in Spanish will present another challenge, but this will be combatted by copious amounts of studying and translating on my part, as well as through supplementing Spanish data with data in English and French. In order to ensure a wide and honest representation of interviewees, I will also use a hired interpreter to enable interviews with people who cannot speak English.

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