

WEATHERING THE STORM: UNDERSTANDING ENVIRONMENTAL SECURITY
THROUGH INTERSECTIONAL GENDER ANALYSIS

by

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Weathering the Storm: Understanding Environmental Security through Intersectional
Gender Analysis

A Thesis submitted in partial fulfillment of the requirements for the degree of Master of
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LIST OF ABBREVIATIONS

Acquired Immune Deficiency Syndrome.....	AIDS
Alliance for International Forestation.....	AIR
Area of Responsibility.....	AoR
Centre for Research on the Epidemiology of Disasters.....	CRED
Convention on the Organization for Economic Co-operation and Development.....	OECD
Counterinsurgency.....	COIN
Disaster Risk Reduction.....	DRR
Environmental Justice.....	EJ
Environmental Justice Groups.....	EJG
Environmental Justice Movement.....	EJM
Environmental Racism.....	ER
Food and Agricultural Organization of the UN.....	FAO
Gender-Based Violence.....	GBV
Gender Development Index.....	GDI
Gender Empowerment Measure.....	GEM
Gender Equality Project.....	GEP
Gross Domestic Product.....	GDP
Gross National Product.....	GNP
Human Development Index.....	HDI
Human, Gender, and Environmental Security.....	HUGE
Human Immunodeficiency Virus.....	HIV
Inter-Agency Standing Committee.....	IASC
Intergovernmental Panel on Climate Change.....	IPCC
Internally Displaced People.....	IDP
Islamic State of Iraq and Syria.....	ISIS
Lesbian, Gay, Bisexual, and Transgender.....	LGBT
Millennium Development Goals.....	MDG
Non-Governmental Organization.....	NGO
North Atlantic Treaty Organization.....	NATO
Purchasing Power Parity.....	PPP
Refugees International.....	RI
Transformative Agenda.....	TA
United Nations.....	UN
United Nations Children's Fund.....	UNICEF
United Nations Convention on Climate Change.....	UNFCCC
United Nations Development Program.....	UNDP

United Nations Environment Program.....	UNEP
United Nations High Commissioner for Refugees.....	UNHCR
United Nations Inter-Agency Network on Women and Gender Equality.....	UN-IANWGE
United Nations Paris Climate Change Conference and the 21st session of the Conference of Parties.....	COP21
United Nations Permanent Forum on Indigenous Issues.....	UNPFII
United Nations Population Fund.....	UNFPA
United Nations Stabilization Unit in Haiti.....	MINUSTAH
World Meteorological Organization.....	WMO
Women of Color.....	WOC

ABSTRACT

WEATHERING THE STORM: UNDERSTANDING ENVIRONMENTAL SECURITY THROUGH INTERSECTIONAL GENDER ANALYSIS

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This thesis explores the relationships between gender, security, and the environment. Today, world leaders and international NGOs recognize climate change as the greatest threat to national and international security. It is important for policymakers to understand the complexity of conflicts and issues that arise from this threat. Traditional approaches to security that prioritize the military and police, while neglecting the environment and gender disparities that exist in policies and institutions are not sustainable nor appropriate in the face of a threat of this magnitude. There is only one atmosphere that we all must share. In the past decade, research has begun to focus on gender conflicts that have arisen from environmental degradation and natural disasters. People living in poverty are the most impacted by climate change, and more women are living in poverty than men. Women are also more likely to be killed in a natural disaster than men. These data indicate that more research is needed to understand what factors

contribute to women's vulnerability in the context of environmental security. This research is intended to help conflict resolution practitioners, researchers, and policymakers understand the significance of these relationships which is essential for program design, program evaluation, and policymaking. To illustrate these concepts, four natural disasters were examined as case studies: the 2004 Indian Ocean tsunami, the 2010 earthquake in Haiti, the 2010 floods in Pakistan, and Typhoon Haiyan that struck the Philippines in 2013. I collected data from reports published by the UN, Oxfam, and other international disaster relief agencies and analyzed them using a gendered lens based on intersectional feminism. The findings from this research demonstrate the complexities of gender conflicts in natural disasters, and the need for researchers from environmental and gender studies fields to expand their scope to be more cognizant of these dynamics.

CHAPTER ONE: GENDER, SECURITY, AND THE ENVIRONMENT

The purpose of this thesis is to bring attention to the importance of the relationship between climate change and security, from the perspective of a gendered narrative. The first chapter provides a background of traditional perceptions of security, and how the context is evolving through analysis of historical conflicts that impacted many states, such as the Cold War, the rise of globalization, and how climate change brought on by human development and industrialization has played a role in related conflicts. The impacts of climate change and conflict have been documented by international organization such as the Intergovernmental Panel on Climate Change (IPCC), formed by the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP), the High Representative and the European Commission to the European Council, as well as the Pentagon. Despite their unique purposes and missions, each of these organizations concurs that climate change is a major risk facing the entire planet.

This chapter considers the intersections of gender and climate change that impact human development. Social structures and gender roles place limits on women, and impair their recovery by making them more vulnerable during and after natural disasters. Their livelihoods are closely tied to environmental sustainability. Agriculture,

biodiversity, water resources, health, and migration all have unique impacts on women and girls in developing countries.

This chapter also reflects on two cases from a gendered environmental security lens to demonstrate the significance of this perspective or narrative in the field of conflicts resolution, as well as the important contributions it can make for political leaders and policy makers. The first case, Afghanistan, will examine the barriers women face in the context of 45 years of conflict and climate change. This case is important because of its timeliness and duration. It highlights the impacts of some of the earliest indications of climate change, post colonialism, and the Cold War, all of which is intertwined with development, and their own political conflicts from both within and beyond their borders. The second case this thesis will examine is the impacts on women affected by Hurricane Katrina. This case shows that developed nations are not immune to the impacts of climate change and policies that follow traditional masculine definitions. These cases are analyzed using a framework for gendered analysis approach.

The second chapter of this thesis analyzes the progress of tracking the UN human development reports as they incorporated gender and climate change. It examines the development of security to include gender and the environment, and how environmental security and climate justice are distinctive from a human rights methodology. In the third chapter, four natural disaster case studies are analyzed. This includes two hydrometeorological disasters, the floods in Pakistan and Typhoon Haiyan, and two geophysical disasters, the Indian Ocean Tsunami and the earthquake in Haiti. Hydrometeorological disasters are important because climate change has caused a

significant rise in this type of disaster, as well as made storms more powerful in recent decades. While geophysical disasters have not seen such an increase, they can often impact our oceans, as they cover over 70% of the earth's surface (Hawaii Pacific University Oceanic Institute n.d.). Rising sea levels brought by climate change can make tsunamis and earthquakes more devastating to people living in coastal areas. Chapters four and five provide analysis and discussion from a gendered perspective, and consider next steps for community leaders, NGOs, and policy makers.

Environmental Security: Perceptions and Background

In more developed democratic northern states, security is commonly understood to be superior to southern states. For decades it had been assumed that northern governments were better prepared to handle and address most threats and should, therefore, assist the southern states in eliminating or minimizing their own security threats and risks (Hoogensen, *Gender and Human Security: Transcending the North/South Divide* 2005). During the Cold War, the United States focused security on counterinsurgency and building the largest military including nuclear weapons in order to combat the spread of communism in a race for allies and resources. After the collapse of the Soviet Union, security was focused on changing state borders across the globe and on the new identity conflicts arising from these regions. The hijacking of commercial airplanes used to attack the World Trade Center and the Pentagon on September 11, 2001 showed how weak and unprepared the U.S. was for an attack that was organized abroad and carried out within its own borders. Later, Hurricane Katrina demonstrated that the U.S. was also unprepared to respond to and unwilling to acknowledge domestic

environmental security threats. Today, climate scientists, world leaders, and military experts are warning that climate change is the greatest threat to security which will impact both developed and developing nations, north and south, east and west, regardless of ideologies, religion, and politics. Government leaders must acknowledge this risk, as well as address the gendered impacts of climate change.

In 1988 the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP) created the Intergovernmental Panel on Climate Change (IPCC) to provide policy makers with analysis and assessments on the impacts and risks of climate change. The IPCC does not conduct their own research on climate change. Instead, they gather existing published research on issues including biology, hydrology, forests, oceanography, and glaciology to synthesize and summarize the data. The scientific assessments are meant to be informative, with analysis and predictions, but not prescriptive. This provides a scientific basis for governments to plan and create policies related to the environment (Intergovernmental Panel on Climate Change 2013). It is also important to note that the IPCC assessments are based on consensus, and tend to be very conservative in their analysis (Parenti 2011).

The IPCC has become more relevant since the end of the Cold War and the transition to Globalization. Globalization has helped many developing countries rich with natural resources improve their economies. Places like China, Brazil, India, and South Africa have benefitted greatly from more open borders and increased trade. However, this also means that damaging events, such as natural disasters and climate change can have an adverse impact on one country, as well as its geographical neighbors, political allies,

and trade partners. Globalization has contributed to growing economies and more interconnected international relations, and these changes have also contributed to climate change becoming a central security risk for the planet. However, many countries and regions are still trying to recover from the impacts of colonialism and the U.S. counterinsurgency doctrine from the Cold War era. This state of affairs makes certain countries more vulnerable to climate change and natural disasters, but the impacts will not remain within their man-made borders. The Climate Change 2014 Synthesis IPCC Report states,

...nearly all systems on this planet would be affected by the impacts of a changing climate, and that it is not possible to draw boundaries around climate change, its associated risks and impacts on the one hand and on the other, development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs (vii).

In 2008 the High Representative and the European Commission to the European Council issued a report on climate change and international security. It explained that climate change functions as a threat multiplier, which intensifies existing conflicts and increases instability. These are not only risks to consider for humanitarian aid, but for political and international security as well. Rainfall patterns are expected to change and reduce available freshwater by 20 to 30%. Droughts will lead to increased food scarcity, thereby creating civil unrest and conflict over resources. They estimated that if nothing is done to reduce carbon emissions and address climate change, it will cost 20% of the global gross domestic product (GDP), while cost effective strategies could limit the cost

to 1% global GDP. They also predicted that by the year 2020 there would be environmental migrants. [This has already begun to happen in places like Bangladesh, and in Europe as Syrian refugees travel across sea and land for safety.] Climate change will also damage relationships between nations, as those affected the most will be in developing countries, and they in turn may expect those producing the most CO₂ emissions to be held accountable (High Representative and the European Commission to the European Council 2008).

The New York Times reported that the Pentagon has also recognized that climate change is a security threat to the United States in 2014 (Davenport 2014). Up to this point, the U.S. had classified climate change as a future risk and focused on projects such as protecting military installations, particularly navy bases close to rising sea levels. However, this report states that the military must adapt and shift towards strategic planning in regions impacted by climate change, including the Middle East, and parts of Africa experiencing drought and food shortages, which may give rise to extremist groups similar to ISIS and Boko Haram. The New York Times article quotes Secretary of Defense Chuck Hagel, “Destruction and devastation from hurricanes can sow the seeds for instability. Droughts and crop failures can leave millions of people without any lifeline, and trigger waves of mass migration” (Davenport 2014).

History and Climate Converge

In the midst of climate change, the world has experienced the transition from the Cold War to Globalization. The Cold War helped set the stage for today’s conflicts in developing nations through counterinsurgency. Parenti describes how the U.S. has

employed counterinsurgency (COIN) strategies in the past and that in the midst of climate change, this approach is becoming more common in the U.S. military mission strategy. Unlike traditional warfare, which attempts to destroy the opposing military and control territory, counterinsurgency is a theory of internal warfare that attempts to control a society. The U.S. military employed this tactic to destabilize and create chaos in many countries in order to set up proxies for the U.S. government. These countries became weakened societies with gun cultures. Many men were left unemployed, and adapted to systems and cultures of secrecy, violence, and with a more salient group identity. Additionally, many possess experience in smuggling, robbery, extortion, and assassination. Corruption and violence also exist in the police departments and politics of these societies (Parenti 2011).

Parenti explains that the doctrine of counterinsurgency entails the use of ethnic minorities to divide and conquer, while also creating local auxiliary forces. This strategy was useful to the U.S. during the Cold War. During the Vietnam War, the C.I.A. relied on mountain tribes from Laos, and later armed the mujahedeen in Afghanistan to fight the Soviets in the 1980s. In Iraq there were Shia death squads and Sunni based Safwa militia. This strategy of creating proxies for political gain relied on recruiting and collaborating with extremists and criminals (Parenti 2011). The formation of ISIS is a direct result, or a natural progression of the U.S. counterinsurgency strategy against Syria (Lewis 2014).

Parenti goes on to describe how counterinsurgency strategies have attacked and damaged the social fabric of so many developing countries. As a result of this history of dirty wars, many countries are underdeveloped and unprepared to address or respond to

natural disasters and climate change. They have been left to rebuild in a state where smuggling, crime, and civilian militias are beyond their government's control (Parenti 2011). Droughts, floods, tsunamis, earthquakes, and hurricanes will leave them weaker and less stable, creating mass migrations of people that will cross international borders, and radical groups such as ISIS, Boko Haram, and the Taliban will continue to rise and gain strength. If governments and international aid groups do not include climate change in their strategies and assessments of program planning, implementation, and evaluations, then vital strategies such as gender mainstreaming will not be as effective or impactful for achieving gender equity in these regions. Both environmental security and gender equality are essential for development and building peace, regardless of the level of development. Evidence of this relationship has played out in different countries at different levels of development.

Gendered Intersections

Catastrophic natural events such as earthquakes or tsunamis not only impact the environment, but also social development. This leaves developing and/or war-torn countries, and even poor regions of more developed countries at a much greater disadvantage. According to the UN, in most developing countries women are dependent on natural resource supplies for daily survival because it is considered to be the responsibility of the wife, mother, and daughter to provide water, food, and energy for cooking. Unlike their husbands, fathers, and sons, women have less ability to make decisions and less access to money. This means that the impacts of droughts, heavy rainfall, or deforestation harm women more severely (UN Women Watch 2009).

Hines (2007) states that, social norms, gender constructs, and traditional masculine approaches to security are ingrained in even the most developed nations, all of which contribute to a discriminatory practice following natural disasters. In any country impacted by a natural disaster, we see that women become increasingly vulnerable to gender based violence including rape and domestic violence. Most shelters do not provide adequate security or privacy. Many disaster relief organizations may not provide obstetrical care, while other women may not have access to contraception or sanitary supplies. Additionally, it is common for men to distribute supplies for relief programs, and many women do not feel comfortable receiving such products from males (Hines, Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of Gender 2007).

In a report for Infocus Programme on Crisis Response and Reconstruction (2000), Elaine Enarson explains that women also have a slower recovery process than men for four primary reasons: (1) women are usually less mobile than men, (2) common gender divisions in labor provide fewer opportunities for women, (3) whereas men are typically the officially recognized head of the household, women cannot receive financial assistance, and (4) women are more economically and socially vulnerable in most patriarchal societies (viii). According to Hines, many women have less access to resources, and if a husband dies, a wife is often ill-prepared to become the head of the household. Opportunities are limited and restricted by social structures and stereotypes. Mothers must maintain their traditional workloads in the home which makes it difficult for them to participate in their communities with greater responsibilities and tasks to

perform without assistance, this may also contribute to family conflicts, (Hines, Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of Gender 2007), and prevent women from participating in and serving in leadership roles when rebuilding their communities.

Sustainability and Development Connected to the Environment and Gender:

Understanding the relationships women have with the environment in each region and community is essential for assessing how they will be impacted by natural disasters and climate change, as well as how aid programs must plan for disaster recovery and gender mainstreaming. The UN states that women are more likely to suffer from hunger, malnutrition, diseases, and lose access to fresh water supplies. The effects of climate change impair people's rights to food, shelter, and water, as well as reducing social, and economic rights of individuals within their communities, all of which contributes to women being likely to suffer from hunger, malnutrition, diseases, and lose access to fresh water supplies. (UN Women Watch 2009). John Burton's theory of basic human needs is applicable to environmental issues and conflicts affecting women and girls. Without including women's specific needs for their own identity, recognition, and autonomy during disaster relief or in response to the impacts of climate change, then recovery and progress are likely to stall or fail (Burton 1993).

The UN Women Watch (2009) website provides a better understanding of gendered relationships with agriculture, biodiversity, water resources, healthcare, migration, and how they all connect to climate change which is essential for practitioners

and researchers in the field of Conflict Analysis and Resolution. The following are presented:

Agriculture:

In most developing countries, women account for 45%-80% of farmers, making them responsible for producing and providing food for their families. Female farmers make up approximately 2/3 of many countries' female labor forces, and in Africa over 90% of women perform agricultural work. Climate change has been shown to reduce harvests, thereby decreasing income and a sole source of food for families. This also leads to an increase in food prices, which tends to harm the health of women and girls more than men and boys (UN Women Watch 2009). In many societies, women and girls wait to eat until after male family members have eaten, meaning that even in places where food supplies are sufficient, they may not receive adequate nutrition. This food discrimination impacts women, girls, the sick, and the disabled. Women and girls who are pregnant or lactating are also more susceptible to malnutrition and micronutrient deficiencies. Two times as many girls die from malnutrition as boys, and women are twice as likely to suffer from malnutrition as men (Food and Agriculture Organization of the United Nations 2016). These factors indicate that protection is required for women and girls living in rural areas, in order that they may have equitable access for food supplies, resources. This is true for women's inclusion in decision making processes too (UN Women Watch 2009).

Biodiversity:

Climate change is predicted to be the primary cause of loss of biodiversity at the end of this century. Again, the impacts from a loss of biodiversity has the greatest impact on those living in poverty. Communities dependent on fish, biomass, woods, wastes, and forests for energy sources will feel affects sooner. In many places where deforestation is occurring, people are losing the most common solid fuel. In many cultures, it is the responsibility of women and girls to collect and provide this resource for their families. As a result, women and girls must travel further and further away from their villages, which prevents them from accomplishing their other household responsibilities, earn income, attend school, or participate in local political activities. They are also at a greater risk of succumbing to injuries and becoming victims of sexual violence while traveling greater distances in search of wood. Threats to biodiversity also harm indigenous women who possess an inherited knowledge of ancestral food sources, medicinal plants, and domestic animals. The destruction or loss of biodiversity would weaken the position once held by many women from such cultures (UN Women Watch 2009).

Water Resources:

Access to fresh drinking water is crucial for everyone, including human consumption, livestock, and agriculture. But in many rural communities it is again the women and girls who are responsible for collecting this resource for their families. In areas affected by droughts and floods women are traveling further distances to collect water. Many distant water sources are also more likely to be contaminated, thus impacting women at a higher rate than men or boys. For example, many poor communities have water contaminated with arsenic, which can have different symptoms

or effects. One common symptom of arsenic exposure is skin lesions. Many women are stigmatized, shunned, or excluded if they have any physical defect because it reduces their chances of marriage, which increases their likelihood to remain in poverty (UN Women Watch 2009).

Health:

Climate change can affect everyone's health risks through increased morbidity and mortality rates caused by heat waves, droughts, floods, and severe storms. Changes in weather patterns also affect common diseases such as malaria, and cholera. While men, women and children are all at risk from these diseases, women fulfill a specific caretaker role that the entire family is dependent upon. Increases in the rate of such diseases will impact the care a woman can provide for her family (UN Women Watch 2009).

Migration:

Climate change is also impacting the mobility and settlements of people. It is predicted that the effects of climate change on environmental degradation will increase local and cross border migrations due to the erosion of shorelines, coastal floods, droughts, and damage to agriculture (United Nations Development Program 2007). Cyclones devastating coastal regions and desertification have forced many to flee their homes and left hundreds of thousands of people displaced. Women are more likely to die during such events because of cultural restrictions, lack of access to information, and their lower socioeconomic status within less developed countries and regions. These migrations also increase the loss of biodiversity and eco-systems through changes in land use and man-made water diversions of rivers (UN Women Watch 2009).

Each of the above listed aspects of environmental conflicts demonstrates how serious the effects of climate change and natural disasters are impacting people living in poverty. Environmental conflicts are rarely isolated from conflicts involving culture, religion, gender, or class. Coser (1956) states,

...in cases in which conflict behavior against the original object is blocked
(1) hostile feelings may be deflected upon substitute objects and that (2) substitute satisfaction may be attained through mere tension release. In both cases continuation of the original relationship may be facilitated (40).

In response to competition for resources, or the devastating effects of an earthquake, people may direct hostilities towards other groups based on religious or cultural identities, as well as gender differences. When resources are scarce, women and girls are often the first to suffer and the last to recover.

In addition to beginning and fueling conflicts, environmental issues may also prevent post conflict stability for peacebuilding or disaster recovery. Burgess and Burgess (2006) explain,

High-stakes distributional issues are conflicts over who gets what when the “what” is so valuable that it justifies the costs of an all-out confrontation... If the conflict threatens what one views as the resources essential to a livable future, then things are likely to escalate (180).

In poor, rural communities, competition for resources can exist within a household, not just between neighbors or within the community. Again, women and girls are commonly the first and most severely impacted.

When analyzing environmental and resource scarcities contributing to conflicts, we understand that the causes are complex. Homer-Dixon (1999) states that resource depletion derives from the physical limits or vulnerability of a resource, the population size consuming the resource, and the technologies and practices employed by the resource consuming population, which influence the manner of consumption. The physical impacts of resource depletion and degradation are recognized through the actual size of the resource consuming population, the technologies in use, and the practices employed by the consumers. These are physical aspects influenced by the culture and financial structure of the population's society (Homer-Dixon 1999). In the field of conflict resolution, we must understand the culture that is both influencing and reacting to an environmental conflict. Understanding how cultures treat gender differences is also necessary for conflict prevention in relation to relief from natural disasters, and climate change.

Homer-Dixon explains that the imbalance of the distribution of wealth causes resource scarcities. This structural scarcity is built into societies through class, ethnicity, and traditions, often originating from colonial influences (Homer-Dixon 1999). In many cases, the societal structures, and resource depletion exclude women from participating in local governments and deny girls access to education. Exclusion from these two important facets of life immediately devalue women and girls in many cultures, leaving them more susceptible to risks brought about from natural disasters and climate change.

By analyzing conflicts within the context of resource depletion, climate change, and natural disasters, as well as the intersections with gender, we in the field of conflict

resolution can better understand the relationships and gaps that exist in research and practice, including gender mainstreaming. It may be possible to detect patterns and indicators that were overlooked or unrecognized. In some cases, such as in Afghanistan, climate change, resource depletion, and natural disasters all contributed to the increased instability in this developing region, and the rise of the Taliban. In the case of Hurricane Katrina, a single natural disaster revealed racial and gender inequities that had existed over time, but became more relevant during post disaster recovery and rebuilding.

Afghanistan: 45 Years of Conflict and Climate Change

In 2013 the Afghanistan Research and Evaluation Unit issued a report on women's rights, gender equality and transition in Afghanistan. The report found that more than 10 years after the fall of the Taliban, advances had been made, but 87% of women still reported experiencing violence that prohibited them from full participation in their communities. The government's primary method for achieving gender equality has been through gender mainstreaming, meaning that programs must be assessed for implications on both men and women. The report states that this approach has failed due to "A lack of political will, limited funding and weak capacity among key national and international stakeholders..." (Afghanistan Research and Evaluation Unit 2013, 1). Additionally, there has been a lack of coordination amongst ministries, making it difficult for donors and international agencies to provide adequate support (Afghanistan Research and Evaluation Unit 2013).

The United Nations Development Program (UNDP) also tracks improvements and setbacks of the struggle for gender equality in Afghanistan based on a timeline that

begins with the fall of the Taliban. According to the Gender Equality Project (GEP II) that runs from January 2013- April 2016, they have so far found that women are limited in social mobility for many reasons: only 12% of women are able to read and write, they are unable to make healthcare decisions, and they continue to be denied access to educational and economic opportunities. While 47% of women are employed, almost all are in vulnerable employment, because cultural norms in rural areas restrict their work to inside the home. They are limited to jobs such as carpet weaving, sewing, tailoring, and farm duties (United Nations Development Program 2013).

The study of challenges in gender mainstreaming strategies, and other socioeconomic obstacles is vital, but another level of analysis would be beneficial to better understand what barriers are preventing programs and reforms from improving gender equality. Environmental factors such as climate change, natural disasters, flooding, and droughts impact existing conflicts, causing them to escalate and intensify, thereby creating more obstacles inhibiting development and sustainability. In a 2009 study by the Global Humanitarian Fund (2009), climate change is estimated to be responsible for 300,000 deaths per year and is impacting 325 million people worldwide. Gradual environmental degradation caused by climate change is responsible for over 9 out of 10 deaths, primarily from malnutrition, diarrhea, and malaria. The remaining deaths are caused by weather related disasters caused by climate change. This accounts for hundreds of thousands of deaths each year, and is expected to rise to approximately 500,000 by 2030. Weather related disasters bring famine, disease, poverty, and loss of livelihoods, all of which contribute to civil unrest and political instability. It is also

estimated that if emissions are not reduced within the next 25 years that 310 million or more will suffer adverse health conditions as a result of temperature increases, at least 20 million will fall into poverty, and the number of people suffering from hunger and malnutrition will jump from 45million to 75 million (Global Humanitarian Forum 2009). When considering these factors in respect to the history of Afghanistan, the analysis of gender equality and security within the region becomes more complicated, but essential for government and NGO program interventions at all levels.

Parenti shows that Afghanistan was impacted by some of the earlier signs of climate change in the form of major droughts that caused famines. One thousand years ago, the Ghor Province was a lush forest, but beginning in 1969, the rains in Afghanistan failed, and by 1972 their wheat crops were insufficient, leading to a famine in the spring. The drought and famine drove people to burn what plant life was left in order to access mineral ore to sell in order to survive. Eventually, the region became a center for herding cattle and goats, which destroyed what was left of the land (Parenti 2011).

Parenti briefly explains the political chaos Afghanistan faced during a historic drought. During the famine thousands died, yet in Kabul little was said or done to help because of government corruption and greed. King Mohammed Zahir Shah took power at the age of 19 in 1933 after his father was assassinated. His youth and inexperience allowed his relatives to become powerful and influential, leaving the young king politically weak, acting as a symbol, rather than a leader, and the government was left decentralized. By the 1960s, Zahir Shah attempted to assert more power and modernize, but more conservative members of parliament thwarted him. As a result, not one single

piece of legislation was passed in 1970, and Afghanistan remained in poverty and isolated, without any political reliability, and economically stagnate. Eventually, the king and parliament were able to act and tried to help those affected by the famine, but their efforts were ineffective due to corruption at all levels of government (Parenti 2011).

By 1973 Afghanistan was entering into its third year of drought and the New York Times reported that over 80,000 people had died from famine (Afghan King Overthrown, A Republic is Proclaimed 1973). Parenti explains that as the drought continued, the political leaders in Afghanistan found themselves in increasingly intractable conflicts. The king's cousin and brother-in-law, Lt. General Mohammed Daud Khan seized power in a coup, and as a modernizer, he pursued both the United States and the Soviet Union to build its infrastructure. They needed roads, dams, schools, and factories to create sustainability. He also opposed the Afghanistan-Pakistan border that was drawn in 1893, which in his view, had ceded Afghanistan's land to what was then the British India, and what was to become Pakistan in 1947. This has created tensions and alliances between Afghanistan, Pakistan, India, and the Pashtuns in Pakistan. Additionally, with Daud's republic made up of members from Islamic groups and the communist party, political conflicts remained intractable, instability continued, and eventually the Taliban was able to seize power (Parenti 2011).

But this history of political instability is not the only challenge faced by parties in Afghanistan. According to a report by the Department for International Development in the UK (2009), Afghanistan is suffering from the worst drought in living memory, with large regions receiving little to no rainfall. Since 1960, the annual temperature has

increased by 0.6 degrees Celsius, and the average rainfall has decreased by 2% over each decade since 1960. The report predicts that drought will become the norm for Afghanistan by 2030, rather than a cyclical event. This will lead to desertification and land degradation. The increase in temperature will contribute to flooding as faster snow melts and untimely rainfalls converge. This will impact water and agricultural resource management, and impair socioeconomic development, which will impact the most vulnerable in the population more rapidly and severely (Matthew Savage, et al. n.d.). Of course this scenario presents greater challenges for improving security, development, and achieving gender equality, and this must be accounted for in planning and policymaking.

For further evidence of environmental factors impacting programs in Afghanistan, we can look to agriculture and the poppy. Parenti explains that the poppy is the only crop that can bring any form of security and stability to a region stricken by droughts and floods because it requires only 1/6 of the water needed for wheat. Even though wheat prices have risen since 2008, the poppy seed for the drug trade still pays more. Officially, the poppy is an outlawed crop, and this is enforced by Hamid Karzai and NATO occupiers, but the Taliban supports it, and so poor farming families are pushed towards the Taliban for survival and protection. As the drought continues, so does the cycle of poverty, and poor farm hands find themselves in the ranks of the Taliban, only to be killed by drones and battles with the U.S. military. This scenario demonstrates how efforts to bring peace and security to a region are thwarted by environmental impacts such as climate change. If this is not addressed soon, the Taliban will likely become stronger, as will the poppy economy. (Parenti 2011)

Climate change alone did not create the instability in the region, but it contributes to the overall state of affairs and all types of interactions on a daily basis, as well as obstructing reforms and programs offering aid and attempting to rebuild with gender mainstreaming. Sometimes resource scarcity can bring positive changes, such as the creation of new institutions and technologies, but many changes are more harmful to society. Homer-Dixon (1999) identifies five main social effects that increase the occurrence of violence. They can do this in combination with one another, or individually: (1) constrained agricultural productivity, often in ecologically marginal areas, (2) constrained economic productivity, mainly affecting people who are highly dependent on environmental resources and who are ecologically and economically marginal, (3) migration of these affected people in search of better lives, (4) increased division of society, typically along existing cultural cleavages, and (5) disruption of institutions, especially in the state. It is important to remember that environmental scarcity interacts with other factors to produce these five social effects, it does not create or cause them alone (Homer-Dixon 1999). In Afghanistan it is clear that environmental scarcity interacts with political, gender, cultural, religious, and socioeconomic conflicts in different ways which can have various impacts on a developing country. Because of their social status, cultural norms, and the continuous impacts from climate change, the majority of women and girls continue to suffer and be marginalized in Afghanistan despite the efforts from the government and the international community.

Afghanistan is an important country to begin looking at the relationship between the environment and gender conflicts. The duration and continuum of the conflicts there

span the decades through the Cold War, Globalization, and the early signs of climate change, to the present day. It raises questions about relationships, alliances, evaluation, and analysis, as well as demonstrates how vital environmental security is for development and improving gender equality.

New Orleans: Hurricane Katrina Exposes Social and Gendered Inequalities

Hurricane Katrina revealed to the world that wealthy developed nations are also susceptible to climate change and powerful natural disasters. Before Hurricane Katrina devastated the Gulf Coast, the city of New Orleans was already in worse condition than most other U.S. cities. According to Katz, that year, 2005, unemployment was over 10% throughout the city, but as high as 40% in certain neighborhoods, 2/3 of the public schools were considered failing, 27% of the population was living below the poverty level, and there was only one public hospital that was required to treat un-insured and under-insured patients. A lack of investment in social reproduction, including environmental infrastructure, health care, education, housing, and social justice contributed to the poor security in New Orleans before Hurricane Katrina, and also slowed the post Katrina recovery process (Katz 2008).

When Katrina hit Louisiana, Mississippi, and Alabama in August, large populations of people were uprooted. Most, but not all, were people belonging to racial minorities, and people from various levels of the socioeconomic spectrum. If the UN High Commissioner for Refugees (UNHCR) were to include survivors of Katrina in the list of countries with the most internally displaced populations of concern, then the U.S.

would be part of the top ten countries, ranking higher than many war-torn countries such as Afghanistan, Myanmar, and Bosnia/Herzegovina (Murakami-Ramalho and Durodoye 2008). The UNHCR defines internally displaced people different from refugees because they do not cross any international borders, although they may flee their homes for similar reasons, such as armed conflict or human rights violations. People fleeing their homes from natural disasters such as earthquakes or floods may also be considered IDPs (United Nations High Commissioner on Refugees n.d.).

According to the Institute for Women's Policy Research (2010), 1,464 deaths occurred either during or in the immediate aftermath of the storm, while over 100 people remain missing from Louisiana. Approximately 2/3 of the deceased likely drowned in floods after the levees broke, while the other 1/3 died in shelters and hospitals in flooded areas. An equal percentage of men (50.6%) and women (49.4%) died, 55% were African American, and 60% were 65 years or older (Henrici, Helmuth and Braun 2010). The Women's Environment & Development Organization and the World Conservation Union state that gender inequalities make women and children 14 times more likely to die during a natural disaster than men (Araujo, et al. 2007). When Hurricane Katrina struck New Orleans, 20% of men and 29.5% of women were living below the poverty line. People living in poverty are more susceptible to natural disasters because they are less able to evacuate. Women living below the poverty line before Katrina were able to travel in New Orleans via public transportation and by walking. During Katrina these women were unable to leave their homes, and they were stranded in New Orleans, unless they

were able to find someone who could provide transportation (Henrici, Helmuth and Braun 2010).

The Institute for Women's Policy Research explains that women face other challenges due to societal gender roles and norms. They are typically more responsible for child care, and thus more likely to work at home. Houses are not as structurally secure as most office and public buildings. Pregnant women and new mothers are less mobile and at a greater risk if they suddenly need to evacuate. Most of the elderly population are women due to life expectancy, which puts them at greater risk, as we saw in New Orleans when hospitals needed to evacuate (Henrici, Helmuth and Braun 2010).

According to the Institute for Women's Policy Research, women are at an increased risk of gender based violence, including physical, mental and emotional abuse, sexual assault, and domestic violence. When Katrina hit in 2005, the rate of gender-based violence in Mississippi was 4.6 per 100,000, per day. In 2006 the number rose to 16.3 per 100,000 per day, then dropped to 10.1 per 100,000 per day in 2007. This increase occurred when women were living in shelters and trailers while they were displaced from their homes (Henrici, Helmuth and Braun 2010).

Rebuilding New Orleans also presented gender related issues. Katz states that hospitals had doctors, mostly men, but there was a shortage of nurses and support staff, traditionally women. Much of this had to do with a lack of adequate child care services and safe, accessible schools because mothers are typically the primary caregivers for their children. Many women also felt that there were not enough places for children to play

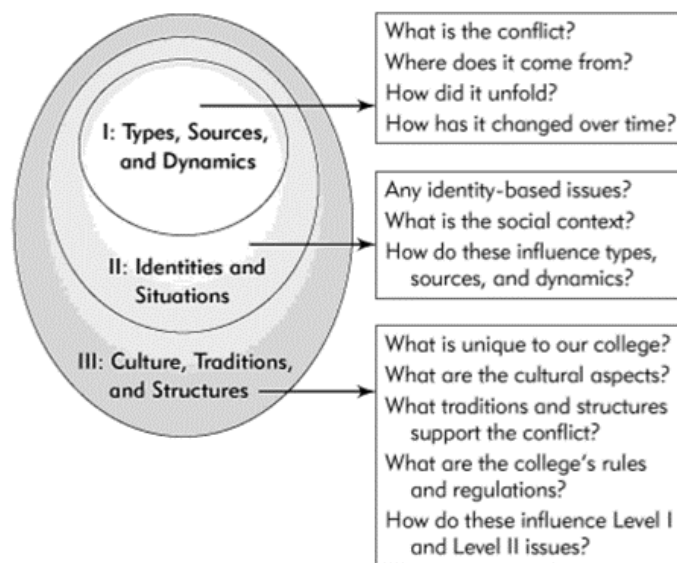
safely during the later afternoon hours when school was out, but parents were still at work (Katz 2008).

Katz further explains that New Orleans also had trouble rebuilding its schools because the teachers union ended, and traditionally, most teachers are women. This has greater implications for communities in New Orleans because many communities were based around an elementary school's geographical area. With only 2/3 of the city's schools operating in the 2007/2008 school year, many students were bussed out of their neighborhoods. Additionally, many of these schools were understaffed and students were learning in new schools with new teachers and new classmates (Katz 2008).

Katrina demonstrated how even a wealthy, developed nation like the U.S. can succumb to the impacts of climate change, and that a single natural disaster can magnify the societal and economic injustices damaging communities. Katz states that divided social relations and neoliberal policy making at the national, state, and local levels increased poverty, neglected the complicated water management systems, ignored the need for better housing, healthcare, and education, while a military and police presence increased all in the name of privatization and states' rights (Katz 2008). Environmental scarcities may be caused by foreign invasion, natural disasters, domestic policies, or a combination of factors. Regardless of the cause, they can increase divisions among groups, which may be based on race, ethnicity, religion, or gender, and then incentivize competition and conflict. This segmentation harms the social capital that can benefit a community or region when faced with an event such as Hurricane Katrina (Homer-Dixon 1999).

Gendered Analysis Approach

This thesis will combine existing research on environmental conflicts caused by natural disasters and climate change with a framework for gender analysis. Using Cheldelin and Lucas' framework for conflict analysis, there are three levels to identify components and dynamics of conflicts.



Source: Adapted from Cheldelin, Druckman, and Fast (2003).

Figure 1 Framework for Conflict Analysis

The first inner circle identifies types, sources, and dynamics, or micro issues of a conflict. The second level shows the identities, and situations, or meso aspects of conflict. Finally, the third level identifies macro issues such as culture and traditions (Cheldelin and Lucas

2004, 14-21). This framework provides an additional tool of analysis in the conflict resolution practitioner's toolkit.

When analyzing conflicts arising from natural disasters at the micro level, a common issue is competition for resources after a disaster strikes. Many displaced people are forced to live in camps and are dependent upon disaster relief organizations such as the UN for food and shelter. Trauma, stress, and competition for basic human needs can create a situation that will easily escalate. Women and children are especially vulnerable in these situations. Without adequate planning, resource management, and security from the government and humanitarian relief organizations, violence and conflict will flourish. Additionally, a lack of understanding about climate change and disaster preparedness from the state will create conflicts over agriculture, land ownership and responsibilities, infrastructure maintenance and security, or access to roads for evacuation. In Afghanistan the drought and instability of the government has allowed the poppy to become more economically sustainable than other crops such as wheat. This allows the Taliban to maintain power in certain regions and prevents the government and NGOs from implementing programs with gender mainstreaming that could improve gender equality. After Hurricane Katrina struck the Gulf Coast, many people who lost their homes had to stay in shelters and trailers. These living conditions put women at greater risk of gender based violence. The rise in reported gender based violence remained high two years after Katrina, while people were still displaced from their homes.

At the secondary meso level, situations and identities further explain the context of the conflict. Gender roles are not unique to any culture. Men and women fulfill

specific roles in their communities and often live in separate spheres from one another. This may place them in different locations at the time of a conflict, as well as influence their reactions. When rebuilding, gender roles may create new obstacles for women trying to piece together their families and livelihoods. A 2010 report from the UN General Assembly Security Council about gender equality in peacebuilding states,

Enabling women to contribute to recovery and reconstruction is integral to strengthening a country's ability to sustain peacebuilding efforts. Similarly, efforts to facilitate an increased role for women in decision-making processes must be based on recognition of the fact that peacebuilding strategies cannot be fully 'owned' if half the nation is not actively involved in their design and implementation (4-5).

While this report refers to post conflict peace building, it can also apply to the phases of providing relief and rebuilding after a natural disaster and mitigating the impacts of climate change. Although the cultures in Afghanistan and the Gulf Coast of the U.S. are quite different, climate change and natural disasters had unique impacts on women living in these regions. Gender roles and poverty contribute to women's unique vulnerabilities in post disaster settings. Women in poor and rural regions of Afghanistan are still limited in types of jobs they can have based on their gender. These jobs are not reliable and do not allow women to leave their homes. Similarly, in New Orleans, women faced challenges as the city was rebuilding because of their traditional roles as mothers, caregivers, teachers, and nurses. The geographical changes in school districts, lack of

adequate child care services for after school care, and lack of school unions, meant many women were unable to return to work as nurses and teachers.

At the macro level, looking at cultures and traditions, we can see challenges faced when recovering from a disaster are gendered. Laws, policies, and culture impact women uniquely, and often contribute to poverty in urban and rural areas. This is true for both Afghanistan and New Orleans. Laws created by the Taliban have kept women and girls out of schools and the workforce in Afghanistan. In New Orleans, racial disparities have created additional cultural and economic challenges for African American women to overcome following Hurricane Katrina. Neo liberal economic policies contributed to poverty and neglected the water management systems that failed the city when the levees broke during the hurricane. In both places, many people live in heavily policed and militarized communities without access to healthcare, childcare, adequate schools, or safe homes. Each culture and situation is unique and governments and NGOs must recognize and address these differences if they are to have a positive impact on the people they are trying to help.

New Tools Are Required

Other tools are needed to enable policymakers, NGOs, and conflict resolution researchers and practitioners to understand the complexities of environmental conflicts before, during, and after natural disasters. As the case from Afghanistan demonstrates, some natural disasters are not sudden and catastrophic. Droughts can last for years, slowly weakening the foundations of stability, fueling hostilities, and making individuals, communities, and governments more susceptible to other threats. In the case of Hurricane

Katrina, one single storm revealed the impacts of poverty and racism on African American communities, especially in New Orleans.

The conflict analysis framework provided by Cheldelin and Lucas is useful for identifying levels of conflict for interventions, but it could be more effective if it were combined with other tools for analysis. Environmental and gender conflicts do not occur in isolation from one another, and their impacts are seen at micro, meso, and macro levels. In order to better understand the intersections of these conflicts, policymakers and conflict resolution practitioners need tools that can function by intersectional means. Chapter two breaks down the foundations and intersections of environmental and gender conflicts, and provides an intersectional tool that can work with other conflict resolution tools, such as Cheldelin and Lucas' framework.

CHAPTER TWO: HUMAN DEVELOPMENT AND SECURITY RELATED TO GENDER AND THE ENVIRONMENT

The purpose of this thesis is to explore and understand the dynamics and relationships between gender, security, and the environment related to climate change and natural disasters. This chapter examines the progress made in the UN Human Development reports, by first looking at the 1990 Human Development Report, the first one issued by the UN, which defined human development as a process of enlarging or expanding people's choices, and ensuring three essential principles: leading a long and healthy life, to acquire knowledge, and to have access to the necessary resources to maintain a decent standard of living. The second document examined is the 1994 Human Development Report, which linked security to human development. This transitioned from the traditional narrative and perceptions of state security focused on military power that occurred after the Cold War ended and as new regional identity conflicts and threats of terrorism arose, and the HIV/AIDS epidemic that was crossing borders and devastating communities in developed and developing countries. The 1995 Human Development Report expanded on their methodology of measuring human development to include the gender development index (GDI) and the gender empowerment measure (GEM) along with the human development index (HDI). Finally, the 2007/2008 Human Development Report addressed the problem of climate change and its impacts on human development and security.

This chapter includes data tracking the impacts and costs of natural disasters, as well as distinctions between human rights and human security related to environmental security. It explains that human insecurity derives from several factors, how climate change affects this, how to examine these factors from a gendered lens, as well as how this perspective can vary in different cultures and regions. Next, this chapter looks at the need for gender security to address gendered power imbalances in traditional hierarchies. Dr. Ursula Oswald Spring provides a tool for conflict resolution practitioners and researchers to use when considering program planning, program evaluation, policymaking, and analysis. Her constructionist approach to understanding vulnerability on a global scale is called HUGE (Human, Gender, and Environmental Security). Finally, this chapter presents data and trends on natural disasters and gender that demonstrate the need for tools like HUGE.

Tracking Human Development

The first UN report on Human Development was published in 1990. It was the first of its kind to provide measures and concepts of human development. It defined human development as,

...a process of enlarging people's choices. In principle, these choices can be infinite and change over time. But at all levels of development, the three essential ones are for people to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living. If these essential choices are not available, many other opportunities remain inaccessible (Box 1.1).

The report addresses the inequality of development in different countries in the 1980's and acknowledges that output measures in GNP, production, and commodities are only part of the human development narrative. Development must also account for the ability of individuals to make choices, live long healthy lives, receive an education, have access to resources needed to maintain a decent standard of living, political freedom, self-respect, and guaranteed human rights (United Nations Development Program 1990). These indicators are essential for promoting gender equality and environmental security.

The report explains that human development is a *process* of expanding choices, and identifies the two most important choices as the ability to live a healthy life, and access to resources necessary for a decent standard of living. These enable individuals to improve their own status and contribute to economic growth (United Nations Development Program 1990). Without accounting for environmental security and gender equity, this process cannot take place. Environmental security ensures that people will have access to the most basic resources such as water and fuel for heat and cooking, because women are often responsible for obtaining these resources, environmental security is key for gender equality to progress.

The 1994 Human Development Report states that human security can be found in development rather than with militaries. This is an important transition from a traditional narrative of national state security that concentrated on the acquisition of natural resources, and the buildup of nuclear weapons, to the recognition of post-Cold War security related to economic ties, health, environmental disasters, and identity conflicts. It identifies changes in the understanding of threats to human security that are no longer

bound by borders or regions. Examples of global threats in this report include drugs, the spread of AIDS/HIV, terrorism, nuclear proliferation, and environmental disasters. Other threats listed include food shortages caused by population growth, deforestation, and the use of fossil fuels which threatening the stability of the environment. The report also recognizes signs of failed states and poor socioeconomic progress that contribute to ethnic, religious, and political conflicts. With this evidence, the report links human security with human development and sustainability (United Nations Development Program 1994).

The 1995 Human Development Report focuses on gender inequality and supplements the human development index (HDI) with the gender development index (GDI). It also introduced the gender empowerment measure (GEM) to account for women's ability to participate in political decision-making and access professional opportunities to improve their wealth. It acknowledges that these measures cannot account for women's participation in their local communities, decision-making, consumption of resources within the home, personal security, and dignity (United Nations Development Program 1995), but this is an important step towards improving gender equality by identifying and measuring specific indicators related to development and security.

The 2007/2008 the Human Development Report focuses on climate change and it recognizes that sharing a planet makes the nations of the world ecologically interdependent. While much attention is given to conflicts based on nationalism, cultural and ethnic identities, and religion, it is also important to recognize that we all share the

same atmosphere. Climate change is damaging this one resource that cannot be replaced. By ignoring our ecological interdependence, we are creating a climate of conflict (United Nations Development Program 2007). This type of conflict will impair or damage development and gender equality due to its relation to economies, security, and policymaking.

It is important to recognize that natural disasters, environmental scarcity, and climate change can have a significant impact on many of the indicators that are not captured through the GDI and GEM. The impacts of climate change include droughts, floods, and extreme weather events such as hurricanes. These and other natural disasters such as earthquakes and tsunamis will affect men and women uniquely, while those living in poverty will feel the greatest impacts. According to the United Nations Framework Convention on Climate Change webpage, women make up 70% of the earth's population living in poverty, and are typically responsible for providing household meals, water supplies, and energy for heat, and they are disproportionately affected by climate change and natural disasters (United Nations 2014).

Human Security in the Context of Climate Change

The 2012 report, *Measuring the Human and Economic Impact of Disasters* (Guha-Sapir and Hoyols), states that from 2002-2012 the incidents of natural disasters increased six fold compared to the 1960's (Guha-Sapir and Hoyols, *Measuring the Human and Economic Impact of Disasters* 2012). This increase is largely due to the amount of small and medium scale of disasters. Almost 90% of these fall into the category of hydrometeorological events such as droughts, floods, and storms. Scientific evidence

suggests that climate change will increase the intensity and frequency of these events, and most governments agree that to address this concern the goal is to reduce the risk and mitigate the vulnerability of populations affected. However, from a cost perspective, there is a debate over investing in risk reduction or vulnerability reduction (Guha-Sapir and Hoyols, *Measuring the Human and Economic Impact of Disasters* 2012). At its core is a debate between social and structural investment. Risk reduction is based on cost and does not depend on reducing vulnerability, which is a human rights concern. While policy makers discuss this dichotomy, the reality is that most disaster spending occurs post natural disasters, during disaster relief efforts. This is the trend in countries that provide aid, as well as those that experience natural disasters (Guha-Sapir and Hoyols, *Measuring the Human and Economic Impact of Disasters* 2012).

Humphreys (2010) explains that initial international conflicts over climate change arose out of realization that actions taken in one part of the world could have an impacts on other regions, and due to the history of colonialism and conflict, this evolved as a cause-and-effect and perpetrator-victim dynamic. Legally, underdeveloped nations sought reparations from developed countries that had exploited their natural resources for economic growth, but also looked for global cooperation in addressing the impacts of climate change in a post-war and post-colonial environment (Humphreys 2010).

Humphreys states that this dynamic of international reparations and global solidarity highlight the distinctions between human rights and human security. It has evolved as sustainability and growth issues in developing countries have come into conflict. The United Nations Framework Convention on Climate Change attempted to

shift the dialogue by focusing on global solidarity and downplaying the narrative of colonialism. This framework focuses on pragmatic problem-solving and compromise which tries to balance needs and capacities, thereby shifting away from a human rights framework which relies on legal resolution in courts (Humphreys 2010).

According to Humphreys, the human rights most directly impacted by climate change are social, economic, and cultural. These rights are typically unrecognized through human rights laws in courts that focus on resolution for individuals rather than collectives, and private versus public rulings. Human rights issues also lack the economic scope to address the effects of climate change, and so these impacts remain overlooked. Additionally, the framework of environmental negotiation relies on management, which contradicts an emphasis on more adversarial conflicts (Humphreys 2010).

According to Alkire (2010), human security can be seen as a component of human development. While human development focuses on expanding capabilities, human security does the same but also has a more narrow focus on creating specific capabilities and protecting them from threats. Human security also includes responses to violence and causes of violence such as poverty, as well as how people may become trapped in cycles of poverty and violence, which also allows for consideration of the value of political and military security. Both human development and human security analyze short term and long term issues, but human security focuses more on financial, natural, and climate disasters. This allows human security to show human vulnerabilities, particularly those related to the environment (Alkire 2010).

In 2014 the IPCC issued a report on the impacts of climate change. It defines human security in the context of climate change as “a condition that exists when the vital core of human lives is protected, and when people have the freedom and capacity to live with dignity” (Adger, et al. 2014, 759). This includes universal and culturally specific resources required to attain these goals, and recognizes threats to these, including poverty, discrimination, markets, and extreme natural disasters. While no country is without risks to human security brought on by climate change and natural disasters, it is clear that developing countries are at a higher risk than those developed (Adger, et al. 2014).

The IPCC 2014 report explains that human insecurity does not result from a single cause, but rather from interactions of multiple factors. Climate change threatens human security through: (1) undermining livelihoods, (2) compromising culture and identity, (3) increasing forced migration, and (4) creating obstacles that prevent states from providing conditions necessary for human security. Land loss and migration will impact cultural identities at varying levels. Cultural livelihoods and traditions, narratives, world views, community cohesion, and a sense of place likely will be damaged or lost. Some migrations may be subtle over time, but severe natural disasters or competition over water resources caused by droughts will lead to major population displacement. Some indigenous populations are more accustomed to adapting to changing environments, while others are less so, so the impacts will be unique for each group or community. Livelihoods disrupted by violent conflict are also more vulnerable to climate change. Violent conflict impacts infrastructure, institutions, natural capital, social capital,

and livelihood opportunities, making these societal pillars more susceptible to the impacts of climate change and natural disasters, thereby making their populations more susceptible. As sea levels rise, prolonged droughts continue, and weather events become more extreme, states will find more challenges in maintaining or improving levels of human security. Some states may be threatened by a loss of territory due to rising sea levels, while others will enter into conflicts with neighbors with whom they share transboundary water resources, or suffer from food shortages from changes in migration patterns of fish stocks (Adger, et al. 2014).

Understanding Human Rights and Security from a Gendered Perspective

As a scientific concept, gender security was first formally identified in 2000 by the United Nations Security Council in Resolution 1325. It acknowledges the role women play in conflict resolution and prevention, peace-building, peace negotiations, peacekeeping, and post conflict reconstruction. It advocates for women's roles to be increased in all levels of participation in peace processes, and requires the incorporation of gendered perspectives. It also recognizes the need for special protection for women and girls in areas of violent conflict (Office of the Special Advisor on Gender Issues and Advancement of Women n.d.). Oswald Spring (2008) explains that culture and diversity were included to modify the definition in order to address women and girls in multi-cultural, multi-ethnic, and multi-religious communities facing marginalization and threats of domestic violence and physical harassment (Oswald Spring 2008).

Oswald Spring explains that economic security related to women focuses on property rights, equal access paid work regardless of religion, caste, or ethnic differences,

and encouragement to start small businesses. Professionally trained women also face professional upward mobility challenges such as the 'glass ceiling.' In developing countries gender and security focus on access to basic services such as water, sewage, electricity, and communication. In both developing and more developed countries, political participation of women is a concern (Oswald Spring 2008). According to the United Nations Department of Economic and Social Affairs 2015 report, The World's Women 2015 Trends and Statistics, approximately 18% of the world's cabinet members are women, 22% of lower or single parliamentary seats are held by women, 18% of cabinet ministers are women, and there are 19 female heads of state governments, up from 12 in 1995 (United Nations Department of Economic and Social Affairs 2015). The types of ministerial positions held by women are also significant. The majority of female appointed ministers were placed in areas related to social affairs, environment, natural resources, energy, women's affairs and gender equality, education, or family, youth, older persons, and persons with disabilities. The media also remains underrepresented by women, where women make up 7% of directors, 20% of filmmakers, 20% of writers, and 23% of producers. In the private sector, women still seem unable to break through the glass ceiling in the world's top 500 corporations, where women account for only 4% of CEOs, and there is no parity in the gender composition of executive boards (United Nations Department of Economic and Social Affairs 2015).

In the context of food security, the International Fund for Agricultural Development (IFAD) identifies three sets of pressures faced by women: (1) external pressures including macro policies impacting women living in poverty such as food

supplies; (2) internal pressures such as conflicts within the home related to traditional hierarchies from patriarchies, castes, or religions; and (3) given variables, or an entitlement base including essential resources such as land ownership; access to forests; livestock, seeds collected, processed, and stored by women; home; family size; access to fuel; clean water; sewage systems; and women's use of time. In addition to these pressures, women operate and exist in this resource bundle consisting of 6 variables: (1) productive assets such as land, seeds, forests, and livestock; (2) nonproductive assets such as jewelry, savings, and a house; (3) human capital including household labor, children, literacy, and age, all of which are intertwined with basic human needs such as water, housing, fuel, and toilets; (4) income and employment based on wage work, agriculture employment, resource base, migration, and microenterprises; (5) social claims such as the public distribution system, midday meals, subsidies, or extension support; and (6) community claims based on traditional practices supporting families, such as barter systems based on reciprocity. Women are expected to perform certain tasks while existing and operating within these pressures and variables. These tasks include: (1) reproductive role; (2) productive role; (3) responsible for home maintenance; and (4) community management (The International Fund for Agricultural Development n.d.)

Oswald Spring also explains that time becomes a variable in terms of security for women and empowerment. Because women's roles are linked to human capital, they also suffer from what is called a 'poverty of time,' meaning that a lack of essential resources forces women to compensate in ways that make them less able to care for their families as caregivers, communities as leaders, or attend to their own basic healthcare needs.

Women are marginalized by these variables and pressures and must find ways to manage when there are shortages of food and clean water, fuel for heating and cooking, housing, and access to toilets or sewage. These resources are essential for basic human life, but due to societal gender roles, women are forced to adapt, perhaps by traveling farther into unsafe areas to collect water and wood for fuel. This causes them to miss out on human interactions within their communities and families, thereby excluding them from positions of power and decision making (Oswald Spring 2008).

Oswald Spring states that many international organizations recognize that security and gender equality are related. The Inter-Agency Network on Women and Gender Equality (UN-IANWE), along with many other international agencies, refer to gender security as related to human security, equity, mainstreaming, empowerment, livelihood security, and gender improvement. The Food and Agricultural Organization of the United Nations (FAO) describes gender as promoting household security, family well-being, planning, production, as well as other household skills required for food security. Other definitions include livelihood security and acknowledging women as being responsible for the livelihood and well-being of the family. A framework of security related to gender, safety, and staff security derives from UN peace-keeping forces who deal directly with a variety of security norms, threats, and other dangers for women and girls during peace-keeping missions (Oswald Spring 2008).

Oswald Spring explains that gender security has different priorities in different regions. In Europe, gender security is concentrated on gender perspectives and gender inclusive decision-making, and also associated with access to healthcare as central to

women's security and freedom in daily life. Human trafficking threatens human and gender security in Asia. Gender-based violence is included in most treaties, and rape is considered an important gender security issue in South Africa. The Millennium Development Goals (MDG) include improving maternal health, and the United Nations Population Fund (UNFPA) approaches gender equality through reproductive health to prevent HIV/AIDS, unwanted pregnancy, abortions, female feticide, and inter-family violence (Oswald Spring 2008).

Today, gender security is recognized in the field of conflict analysis and resolution across socioeconomic, cultural, ethnic, religious, and political spheres. It was not until the end of the Cold War that security was thought of outside of terms of state security and military power, and there are still traditions of a top-down hierarchy, and a north-south divide when discussing security. Hoogensen (2005) states that the more developed northern states often project ideals of security related to poverty to less developed southern states (Hoogensen, *Gender and Human Security: Transcending the North/South Divide* 2005). The recognition of gender security establishes a more balanced approach to security issues by acknowledging unique challenges faced by women and men at all levels of society, and in states existing in various levels of development.

Why We Need Gender Security

As our understanding of security transitions from the traditional masculine perspective of military dominance, researchers in the social sciences first addressed the origins of gender-based violence in society. Betty Reardon (1996) describes the *War*

System as a "...competitive social order, which is based on authoritarian principles, assumes unequal value among and between human beings, and is held in place by coercive force" (p. 10). This system is run and controlled by a minority of elite members of industrial western countries, who are able to control global economies and politics of states. The minority elite are white men, educated in the west, and trained to think in analytical terms. Despite their internal conflicts, they are determined to maintain their wealth and power through threats, intimidation, coercion, and violence if necessary. She identifies these masculine institutions as the root cause of gender-based violence as they are based on competition, exclusion, and hierarchical violence. This instills a group identity that values the violence of masculinity and heroism (Reardon 1996).

Oswald Spring proposes transitioning from traditional hierarchical, masculine perceptions of security to end violence against women must be inclusive of Southern states, and those living in poverty. Shifting narratives to counteract traditional mindsets of male and female duality, in order to better understand gender biases in all fields of research are challenging and critical. Gender bias can be found in cases where women are under-represented, as well as underlying values and constructs of objectivity in research. To counter this bias, feminist researchers have proposed solutions such as including gender -related values, and empirical field research (Oswald Spring 2008).

Dana Pankhurst and Jenny Pearce (1998) recognized a lack of attention to gender equity in the fields of development and international relations, and designed an approach for gender mainstreaming in the conflict analysis field which is applicable to gender security. In this approach they identify 5 levels, or steps for engendering research. These

levels are not intended to show a linear progression, because different types of conflict do not transform uniformly. Instead they might be thought of as pieces of a puzzle that can come together to improve conditions related to gender conflicts, as well as contribute to a larger puzzle encompassing development or disaster recovery. At the first level they propose filling the absence with research titles such as “Women and ...”, and “Women in ...” studies. This will enable researchers and practitioners to bring attention to gender conflicts that may be overlooked by traditional researchers by simply naming the problem. The second level is the removal of male bias from data collection and analysis. This practice helps to promote equity as well as provide a more accurate perception of a conflict. The third level is the study of gender relations in order to transition from focusing on the uniqueness of men and women to a better understanding of relations. This enables researchers to analyze power relations and the biases built into systems and institutions. The fourth level is mainstreaming gender into theoretical constructs so that women are no longer considered a distinct social category. By making the fundamentals of a discipline more encompassing of gender relations, women may no longer be identified as a separate or privileged class while still considering gender relations in any program or policy. The fifth level is reached when we come to a point where discussions about gender become part of the everyday language in regards to research, policymaking, and planning. They explain that gender cannot be ignored if program planning and development are to ever be effective in addressing poverty and economic development, both of which are concerns of human development and security (Pankhurst and Pearce 1998). It is true that a great deal of progress has been made since these levels were

proposed. Today gender mainstreaming is part of most NGO programs and development planning. However, as recently as 2015, we saw that the COP21 Climate talks in Paris set aside only one day to discuss the impacts of climate change and policies on women, and issues facing individuals with new definitions of gender identities and gender fluidity must be included in these levels.

Oswald Spring explains that in much of international politics, security is still predominantly viewed as related to nation states, violent extremism, and police and military actions. Civilians killed by drones, bombing campaigns, and the wars are considered to be collateral damage. This perspective continues to allow dehumanizing of enemies, justifies violence, and we continue to see human, gender, and environmental security excluded from analysis (Oswald Spring 2008). Today in the U.S., there are some in the media and from other organizations calling for the man accused of murdering and injuring people at a Planned Parenthood clinic in Colorado to be labeled as a “terrorist” rather than a “shooter” (Tucker and Gurman 2015).

Oswald Spring also explains that gender security shifts away from traditional hierarchies and replaces them with a framework that is broader and more complex. It attempts to break away from the western middle class feminism and seeks human and political liberation. By being more inclusive of culture and space, gender security attempts to empower marginalized members of society to reshape old hierarchies into systems that are more inclusive (Oswald Spring 2008).

Mary Caprioli (2004) explains that human rights and democracies are intended to be gender neutral and therefore inherently biased against women. Because their theories

and practices lack sufficient indicators of women's security, she suggests increasing indicators to include: (1) health, including rape, violence, fertility, gender, and births attended by health staffs; (2) economic and political security through economic inequality, political inequality of women in legislatures, policies, job structures, and unemployment; (3) social and cultural security by assessing education, literacy rates, structural violence, and poverty; (4) and (5) measures of human rights and democracy through analysis of personal integrity rights, executive recruitment, polity type, and democracy. Without this gendered analysis, she concludes that human rights and democracies are unable to ensure women's security (Caprioli 2004).

As previously stated in this thesis, Cheldelin and Lucas (2004) explain that we cannot intervene as researchers or practitioners until we understand how different aspects of gender conflicts are interrelated. Recognizing the relationships between the formation and saliency of group identity, violence, and gender is essential for analysis and intervention as well as understanding gender security. Cheldelin and Lucas' Framework of Analysis model previously discussed illustrates the manner in which conflict exists on different levels impacted by factors such as structure, identity, gender, and culture. This framework allows researchers to address the sources and identify the parties involved (micro), recognize the role of identity and the situational context (meso), and how these issues relate to culture, tradition, and social structures in a community (macro).

Gender Security is not determined by biological differences, but by social constructs that can empower some, while marginalizing others. Gender roles and responsibilities are shaped by age, culture, and ethnicities (Cheldelin 2006). Oswald

Spring explains that these social relationships impact women in the form of discrimination, marginalization, poverty, minority status in relation to the model status, and normalization of violence. The threat to their security comes from hierarchical institutions such as religion, governments, and elites in society. These threats are reinforced through violence from within and outside of the family (Oswald Spring 2008).

For thousands of years, humans have lived in societies where power and wealth have been divided across economic, cultural, ethnic, racial, religious, and gender lines, leaving women without property, education, and autonomy. Without gender security, growth and progress are limited, and the intersections of gender conflicts cannot be properly analyzed or resolved. The field of conflict analysis and resolution must continue to understand how this concept is evolving and how it applies to all levels and types of conflict.

Intersections: Human, Gender, and Environmental Security (HUGE)

Dr. Ursula Oswald Spring has developed a constructionist approach to understanding vulnerability on a global scale. She has combined this with Human Gender and Environmental Security (HUGE), which allows us in the field to better understand the concept of gender intersections. This concept is inclusive of children, the elderly, indigenous peoples, minorities, and other groups whom are marginalized, and connects to human equality, gender equity, peace-building, and the challenges of environmental security. HUGE questions the traditional social process of forming gender identities (Oswald Spring 2008).

Oswald Spring recognizes that traditional concepts of security in the form of nation-states and hierarchies are not adequate for understanding and addressing environmental conflicts. This approach has created a globalized system of consumption and violence that influences climate change. There is a need to expand security concerns from military, and police to also include political, economic, social, and environmental concerns (Oswald Spring 2008). The 1994 Human Development Report brought attention to the fact that human development relies on human security, which is directly linked to the environment (United Nations Development Program 1994). With human development, human security, and gender security being so closely intertwined, the concept of national military security must be broadened to also include political, economic, environmental, and social categories. State security concepts must also expand deeper to human, and gender levels, and national concepts must rise up to acknowledge regional and globalized levels of society (Oswald Spring 2008).

Oswald Spring explains that recent history has shown that regions impacted by climate change and threats to the environment, whether they be natural disasters or industrial progress, have left people impoverished, caused forced migrations, impacted agricultural prices, created depopulation in areas due to desertification, and started wars. These events have created more barriers for women to overcome and forced them to adapt in order to survive. Patriarchal systems are the primary threat to women and they act in authoritarian governments, religious institutions, and the elites from hierarchies. These threats converge and exhibit abuses in power where equity and equality are diminished among minorities and along gender lines. This abuse penetrates to the

individuals, families, and communities impacting social interactions, community relations, and labor, which too often leads to intra-family gender-based violence (Oswald Spring 2008).

By focusing on the equity and development concerns of human security, HUGE attempts to empower those who are most vulnerable in a society based on survival strategies, social organization, government policies and legal reinforcements. Understanding and improving specific government policies, the transparency of institutions, and legal tools that reduce discrimination attempts encourage and enable participation from women and decrease their vulnerability in society. Management of environmental concerns is necessary to improve or minimize damage caused by climate change and natural disasters. HUGE combines efforts to mobilize and empower women in a grassroots bottom up approach, while also implementing top-down policies that will improve security through early warning systems, evacuation plans, disaster relief, reconstruction, and immediate and effective support for rural and isolated regions. All of this is necessary in the event of a natural disaster to prevent famine, violence, and disease (Oswald Spring 2008).

Oswald Spring's concept of HUGE could be a vital tool on the international level when dealing with conflicts that arise from climate change and natural disasters. It could enable even the poorest countries to have equal access to free markets, which could reduce regional inequities and empower those who are socially vulnerable. A horizontal interchange between nations could benefit the poorest nations with a reduction in debt and freeing them from dependency on special interests. By integrating gender,

environmental, social, human, and cultural identity concerns with peace-building and improving equity, HUGE could produce a more secure world (Oswald Spring 2008).

Data and Trends: Natural Disasters and Gender

The Annual Disaster Statistical Review of 2014 states that approximately 199.2 million people have been impacted by natural disasters annually from 2004-2013, and the annual cost of damages caused by natural disasters from 2004-2013 is \$162.5 billion (Guha-Sapir, Hoyois and Below, Annual Disaster Statistical Review 2014 The numbers and trends 2015). According to a 2013 article in the New England Journal of Medicine Natural disasters fall into three categories: (1) biologic, including epidemics of infectious diseases, insect infestations, and animal stampedes; (2) climate related or hydrometeorologic, in the form of floods, landslides, storms, and droughts; and (3) geophysical referring to earthquakes, and volcanoes. From 2000-2009 there were three times as many natural disasters compared to 1980-1989. Some of this increase may be accounted for in improvements in communication technologies, but most of this increase is attributed to climate change because geophysical disasters remained the same, while hydrometeorological disasters account for 80% of the increase. This increase can be attributed to climate-related factors including higher temperatures, increased precipitation, as well as increased rates of urbanization, and environmental degradation (Leaning, M.D. and Guha-Sapir, Ph.D. 2013).

Leaning and Guha-Sapir (2013) also state that the world has seen a decrease in the number of armed conflicts, although many remain entrenched with internal violence lasting for years. Typically civilians experience the most violence and are forced to flee

their homes becoming either refugees abroad, or internally displaced people (IDPs) in their own countries. Because refugees are often able to receive shelter and care in UN operated camps, they are more likely to be protected from health threats such as disease and malnutrition (Leaning, M.D. and Guha-Sapir, Ph.D. 2013).

A major component of international relief is public health, which deals with disease control, maternal health and maternal care, psychosocial treatment, and medical and/or surgical care. Challenges arise during relief efforts in areas of armed conflict because often civilians are also targets of violence and human rights abuses. These factors can inhibit relief workers from providing healthcare and security (Leaning, M.D. and Guha-Sapir, Ph.D. 2013). Additionally, the most common contributors to mortality rates in armed conflict areas are malnutrition and diseases (Salama, et al. 2004). As violence is prolonged, institutions such as healthcare facilities crumble, leaving people without access to vaccination programs, maternal care, therapeutic feeding, as well as other vital services (Leaning, M.D. and Guha-Sapir, Ph.D. 2013).

According to the 2015 report by the Centre for Research on the Epidemiology of Disasters CRED, development and population growth are the main factors contributing the rising costs of natural disasters. People are more likely to live in areas that are more high risk zones making them more susceptible to events such as floods and storms. From 1994-2013, flooding caused the most damage, impacting 2.5 billion people, and accounting for 43% of all recorded events. The second most frequent disasters were storms which claimed the lives of over 244,000 million people and cost \$936 billion in

damage. Storms are the most expensive disaster, and second most costly in terms of deaths (Centre for Research on the Epidemiology of Disasters 2015).

The report also states that the most costly disasters in terms of lives lost are earthquakes and tsunamis, which account for more deaths than all other types of disasters combined. From 1994-2013 this type of disaster killed approximately 750 million people. Tsunamis were more deadly than earthquakes costing 79 lives for every 1000 people. Over 1 billion people were affected by droughts from 1994-2013, equaling 25% of the global population, even though they only account for 5% of the disaster events during this period. Despite drought warnings in place, 41% occurred in Africa, leading researchers to believe that developing countries are not equipped to manage prevention strategies (Centre for Research on the Epidemiology of Disasters 2015).

China and the United States experienced the most natural disasters from 1994-2013, due to their size, population densities, and varied land masses. Asia experienced the most natural disasters compared to other continents, impacting 3.3 billion people in China and India combined. If you adjust the data in terms of people affected per 100,000, then Eritrea and Mongolia were the most impacted countries (Centre for Research on the Epidemiology of Disasters 2015).

Although the number of disasters has increased over the last 20 years, the number of people affected has dropped from 1 in 23 from 1994-2003, to 1 in 39 from 2004-2013. However, death rates have increased to 99,700 deaths per year from 2004-2013. While large events including the 2004 tsunami in Asia, Typhoon Nargis in 2008, and the 2010 earthquake in Haiti to contribute to this rise in deaths, the trend still shows an increase

when these numbers are taken out (Centre for Research on the Epidemiology of Disasters 2015). The reduction in the number of people impacted by natural disasters and in the increase in the number of deaths may be an indicator for the need for improved development and pre-disaster environmental security. As stated previously in this thesis, countries and organizations tend to spend more on post disaster recovery, and less on investing in development including environmental security.

Income levels and poverty also contribute to the loss of life in natural disasters. On the whole, about three times as many people have died in developing countries (332) than in developed countries (105) impacted by natural disasters. Wealthier countries experience 56% of the natural disasters with 32% of lives lost, while lower income countries experienced 44% of disasters and saw 68% of deaths. This data suggests that development is a greater indicator of mortality rates than the number of natural disasters a country experiences (Centre for Research on the Epidemiology of Disasters 2015).

The United Nations Department of Economic Affairs published The World's Women 2015 Trends and Statistics to address various issues related to women and men including population patterns and families, health, education, work, poverty, violence against women, environmental risks, and decision-making abilities. This report is produced every 5 years to monitor progress and challenges faced in the work towards gender equality since the adoption of the Beijing Doctrine in 1995 at the Fourth World Conference on Women (United Nations Department of Economic and Social Affairs 2015). Each of the following issues are summarized below: population and families,

health, education, work, power and decision-making, violence against women, the environment, and poverty.

Population and families:

Men outnumber women by 62 million worldwide, but due to higher male mortality rates, women outnumber men in older age groups. Women over the age of 60 represent 54% of the population, and women over the age of 80 represent 60% of the population. This means that women are more likely to be widowed and living alone in later stages of life. Both men and women are marrying later in life due to increased education, later entry into the workforce, increased economic independence, and greater acceptance of nontraditional unions. While the rate of child marriage has declined, we still see nearly half of women aged 20-24 in South Asia, and 2/5 of women in Sub-Saharan Africa married before the age of 18. Globally, the child rate per woman dropped from 3 (1990-1995) to 2.5 children per woman from 2010-2015. Having children outside of marriage is becoming more acceptable and when considering the rise in divorce rates, one parent households are becoming more common, with single mothers accounting for ¾ of single parent households in developed and developing regions (United Nations Department of Economic and Social Affairs 2015).

According to the UN Department of Economic and Social Affairs 2015 report, marriage is still the most common tradition for people beginning families, there has been a rise in nontraditional unions. This may include people who are unmarried and living together, who may identify as single on census questionnaires because the forms lack other options to describe their relationship. Many women in these nontraditional unions

may lack the legal rights given to married women. Their communities may recognize their relationships, but civil unions do not formalize them. The number of women living in consensual unions has increased continuously in the Caribbean and Latin America. One example is Uruguay where 16% of women aged 25-29 identified themselves as living in consensual unions in the 1996 census, and in 2011 the number increased to 42%. Consensual unions are less common in sub-Saharan Africa, but they are also seeing an increase in countries such as Burundi, Cabo Verde and Uganda. It is estimated the 30% of women aged 25-29 are living in consensual unions in Botswana, Cabo Verde, Gabon and Uganda. Consensual unions are less common in Asia, reaching only 10% for women aged 25-29 (United Nations Department of Economic and Social Affairs 2015).

The 2015 UN Department of Economic and Social Affairs report also states that widowhood is three times more common for women than men among all persons aged 60-64. This is due to the fact that women have higher survival rates than men, and women are less likely to remarry after the death of their spouse. Sub-Saharan Africa has the highest percentage of widowed women aged 60-64. This is due to conflicts in countries such as Burundi, Rwanda, and Sierra Leone, and high HIV prevalence in countries such as, Lesotho, Malawi, and Zimbabwe. This region also has high levels of polygyny, meaning that when a man passes away, he leaves behind two or more widows. HIV epidemics in developing countries in this region have also left many women widowed at much younger ages. In the early 2000s, many women found themselves widowed at much younger ages than in the early 1990s. The proportion of widows aged 30-34 tripled from 1992-2002 in Zimbabwe. Because of the civil war and genocide in

Rwanda in the early 1990s, the proportion of women aged 30-34 widowed increased six times. In Asia the prevalence of widowhood for women aged 60-64 is approximately 40%. In developed countries the prevalence of widowhood is lower and declining, as well as in Latin America and the Caribbean. However, countries in Eastern Europe, including Ukraine, The Russian Federation, Belarus, and Moldova, widowhood among women did not decline, but increased (United Nations Department of Economic and Social Affairs 2015). The report does not mention extended families of widowed women. It is possible that the devastation from conflicts and the HIV/AIDS epidemics have also taken away their children and relatives.

The World's Women 2015 Report also finds that traditional marriage and fertility are becoming uncoupled. More people are getting married after having children, or have children without getting married in countries where this is acceptable. In other countries where traditional unions are more common, it is becoming more acceptable for women to have children without getting married. The countries with the highest levels of extra-marital fertility are in Latin America and the Caribbean. Meanwhile in reporting countries from Asia, the occurrence is far less common. Globally, the percentage of children born outside of marriage has tripled from 11% in 1980 to almost 33% in 2007. The prevalence of extra-marital children is most common in countries belonging to the Convention on the Organization for Economic Co-operation and Development (OECD), and Nordic countries including Iceland, Norway, and Sweden. In contrast, extra-marital children are less common in countries like Greece, Japan, and the Republic of Korea (United Nations Department of Economic and Social Affairs 2015).

Health:

Medical and technological improvements have extended the average lifespan of men to 68 years and women to 72 years. Men and women also tend to die from different causes, and these data are consistent across groups and regions. In the developing world, adolescent girls and young women are more likely to have health problems than young boys due to complications from childbirth, and sexually transmitted infections, especially HIV. This is caused by gender and development issues including early marriage, underdeveloped health systems, poor access to information, and lack of decision-making abilities. The health of men and boys is also impacted by expectations and gender roles. Leading causes of death in young men and boys in developed and developing regions include road injuries, self-harm, and interpersonal violence. Reproductive and maternal health has improved over the past 20 years with more women having access to contraception, and worldwide maternal deaths declined by 45% from 1990-2013. Non-communicable diseases such as cancer, heart disease, and diabetes are the leading causes of death for older ages. Both sexes are seeing increases in obesity, but women are affected more than men. Due to their greater longevity, women are more likely to suffer from dementia than men, and women are more likely to be caregivers for people suffering from dementia in their roles as daughters, daughters-in-law, and partners (United Nations Department of Economic and Social Affairs 2015).

Education:

Significant progress has been made as we see almost universal enrollment in primary school. The gender gap has narrowed and in some regions girls outperform boys and complete education in a timelier manner. There are still challenges in developing

countries when it comes to education for girls. Worldwide, nearly 58 million children are not attending school, and more than half of these children are girls with $\frac{3}{4}$ of them living in Sub-Saharan Africa. Enrollment in secondary schools has increased, but it is still lower than primary school, and here we start to see some gender disparities rise with boys having a slight advantage in as mathematics, scoring an average of 499 points, whereas girls averaged 489 points. In reading comprehension girls scored an average of 515 points, while the boys scored an average of 478 points. The reading comprehension disparity is significant because it shows a gender gap of 38 points which is equivalent to about one year of schooling. At the tertiary level, female participation has increased globally and surpasses male participation in almost all developed countries. Yet women remain underrepresented in the fields of science, engineering, manufacturing, and construction. This underrepresentation of women extends to advanced degree programs in science related fields with fewer women involved in scientific research. Women make up 30% of researchers, which is an increase from previous years. Illiteracy rates have declined worldwide, but it is estimated that 781 million people over the age of 15 cannot read or write. Women account for almost $\frac{2}{3}$ of this group, and this number that has not changed significantly in 20 years. When we look at people 65 and older, 30% of women and 19% of men remain illiterate, and they live predominantly in Northern Africa, Sub-Saharan Africa, and South Asia. Literacy becomes even more important for aging populations in order to remain self-sufficient (United Nations Department of Economic and Social Affairs 2015).

Work:

When both paid and unpaid labor is taken into consideration, women work more hours than men. In developed countries women work an average of 30 minutes longer each day, and in developing countries women work approximately 50 minutes longer than men each day. The gender differences in domestic hours worked have decreased due in large part to less time spent on chores by women, and a small increase in time spent on child care by men. While 77% of men are part of the labor force, only 50% of women are included. The overall participation in the labor force in 2015 is slightly lower than in 1995. Young people ages 15-24 are more likely to have access to secondary and tertiary education, and therefore slightly less represented in the labor force. There has been a rise in women ages 25-54 in the work force, while the number of men has remained the same. Rises in retirement ages and pensions has brought an increase of women ages 55-64 remaining in the work force. Because women are more likely than men to be unemployed or to be contributing family members, it is likely that they will not have access to income. Women are more likely to work part time jobs in an effort to balance childcare and household responsibilities, but this also means they are paid less, less likely to receive job training and promotions, less access to benefits and have less job security. Women are less likely to be in decision-making positions such as legislatures, managers, and senior officials. Men out earn women by 10%-30% across all sectors, worldwide. There have been trends of a narrowing gender pay gap in more developed countries, but it has been mixed. Governments have been passing legislation guaranteeing paid maternity and paternity leave over the past 20 years. More than 50% of all countries offer 14 weeks of paid maternity leave and 48% offer paternity leave. However, many sectors are excluded

from this benefit such as domestic workers, temporary workers, and agriculture workers (United Nations Department of Economic and Social Affairs 2015).

Power and Decision Making:

Women make up only 1/5 of members of lower or single houses of parliament worldwide. This is due to many factors, including few female leaders of political parties, and gender norms and expectations placed on women produce added obstacles and barriers. In some countries, gender quotas have increased the number of women in office, but few manage to reach the upper levels of government. Over the past 20 years the number of female heads of state has increased slightly from 12 to 19, but women make up only 18% of appointed ministers, and those are typically assigned to social issue positions. Women are less likely to be senior level civil servants and to represent governments internationally. Women remain poorly represented among corporate managers, legislators, senior officials, and on executive boards (United Nations Department of Economic and Social Affairs 2015).

Violence Against Women:

Regardless of their age, income, or education, women are subjected to physical, sexual, psychological, and economic violence worldwide. Approximately 1/3 of women worldwide have experienced physical and/or sexual violence by an intimate partner, or sexual violence by a non-partner. In both developed and developing countries intimate partner violence is the most common form of violence experienced by women during their reproductive years. In most countries, less than 40% of women who experienced violence sought any help, and those that did were more likely to reach out to family

members and friends rather than the police. According to countries with data, less than 10% of women sought help from the police. This may be due to the long time acceptance of domestic violence around the world, but this is starting to change. More information is becoming available and opinions of men and women are beginning to change. Today, over 125 million women and girls have experience genital mutilation in countries in the Middle East and North Africa. While the age of women experiencing this is becoming younger, indicating a decline, it is estimated that it remains a common practice affecting over 80% of women and girls (United Nations Department of Economic and Social Affairs 2015).

Environment:

Around the world, access to energy services and clean water has improved significantly, with slower progress in South Asia, Oceania, and Sub-Saharan Africa. Without adequate access to both of these services, men and women will experience impacts on their health, survival, and increased workloads. In developing regions approximately half of the population lack modern water resources on their premises, while the responsibility of collecting water belongs to women. The combination of unavailable clean water resources and health care facilities, women are more likely to die from poor sanitation and hygiene. Women's roles in the household mean that they are more likely to breathe in harmful indoor pollutants while they cook with wood stoves. Data are still limited, but recent events have shown that age and sex are contributing factors to survival. Women are more likely to die in heatwaves and tsunamis. During post-disaster recovery, gender roles can inhibit women as they are blocked from certain

types of work and denied decision-making power. For sustainable development and environmental security, men and women must both take part in daily tasks and decision-making at all levels. Environmental protection activities such as recycling and reducing driving are becoming more common, and we see women participating more, partly due to the divisions of household labor. But in the areas of environmental policy making and decision-making for environmental management and regarding natural resources, women's participation remains limited (United Nations Department of Economic and Social Affairs 2015).

Poverty:

At this time there is no agreed upon set of indicators for measuring poverty in relation to gender. The new methodological approach relies on not treating the household as an economic unit, but rather, assessing women and men by their capacity to make choices and take actions, while also considering personal constraints, needs and preferences. Gendered economic disparities continue because inequalities in access to resources continue. In many countries, women remain economically dependent on their spouses and are less likely than men to have their own income from work due to continued unequal divisions in paid and unpaid work. In many developing countries women's ownership of and access to land, inheritances, and other assets, and their control over household economic resources still remains limited and impaired by old statutory laws. Approximately 1/3 of married women from developing countries are not allowed to control household spending. The increase in one parent families and households also contribute to economic disparities. Working age mothers are more likely to live in

poverty than working age fathers. Women at older ages in developed countries are more likely than men to be poor if they live in one-person settings. These economic disparities are decreasing in some countries, but continue in others. Southern and Southeast Asia had the greatest reductions in poverty, but progress has been slower in other developing countries such as those in sub-Saharan Africa. This region saw a decline from 57% in 1990 to 47% in 2011. The data, combined with the changing family models, indicate the need for systems of protection focused on women (United Nations Department of Economic and Social Affairs 2015).

These data collected by the UN Department of Economic and Social Affairs on gender trends, and by the Centre for Research on the Epidemiology of Disasters (CRED) on natural disasters support the analysis of human, gender, and environmental security (HUGE) described by Oswald Spring (2008), and these variables play out in post disaster settings. Mortality rates caused by natural disasters are directly linked to the level of development in a country. Countries that tolerate gender discrimination will see higher death rates among women and girls during natural disasters, and they will also experience gender-based violence in the form of rape, human trafficking, and domestic abuse during the recovery phase (Bureau for Crisis Prevention and Recovery 2010). Disaster relief work must operate within the framework of human and gender security components if they are to provide appropriate security for women and girls so that communities can rebuild, and to progress human development in order to prevent future disasters from claiming so many lives.

Intersectional Foundations

This chapter has tracked the progression of the human development reports that recognize the relationships between security, gender, the environment, and development. By examining the distinctions between human rights and human security in the context of climate change, sustainability, and development, we can see that human security is a component of human development. By applying a gendered lens to these components of human development we can understand the unique risks that make women vulnerable during natural disasters such as earthquakes, storms, droughts, and floods, and in rural areas experiencing environmental degradation caused by climate change, development, and population growth.

Dr. Ursula Oswald Spring's HUGE approach is a valuable tool for conflict analysis and resolution practitioners and researchers. It enables NGOs and policymakers to better understand the context of conflicts, and can work well with other tools such as Cheldelin and Lucas' framework of analysis mentioned in chapter 1. When analyzing gender conflicts, evaluating program results, applying gender mainstreaming in policy or programs, or during disaster recovery, these tools can help identify the best level(s) for intervention, while acknowledging and addressing the intersections of gender, identity, poverty, security, and the environment.

CHAPTER THREE: CASE STUDIES

This thesis examines four case studies of recent natural disasters and their impacts on gender and security. It includes two geophysical disasters, and two hydrometeorological disasters. It is important to consider both types because while both are increasing, hydrometeorological events are increasing at a higher rate than geophysical events, and geophysical disasters may include tsunamis, or impact areas already affected by droughts or floods. Rising temperatures and sea levels caused by climate change can make geophysical events more destructive and impact more people.

The first case examined is the 2004 Indian Ocean tsunami. This case is significant both because of its size and scope, and because of the large disparities between men and women when taking lives lost into account. The second case is the 2010 earthquake in Haiti. This case received attention in the media for the mishandling of the recovery process by the UN, including bringing a cholera epidemic to the island, as well as the violence against women reported in the camps. The third case is the 2010 floods in Pakistan, which destroyed homes and crops, and killed thousands of people and livestock. It also brought attention to challenges faced by women during the recovery process, such as food security, healthcare, and gender-based violence. The fourth case is Typhoon Haiyan that struck the Philippines in 2013. This case is important because it shows how

disaster relief organizations neglected the security needs of women based on the gender equity data they had available.

2004 Indian Ocean Tsunami

On December 26, 2004 there was a magnitude 9.2 earthquake in the Indian Ocean. It was the third largest earthquake recorded in recent history (US Geological Survey 2016), with estimated energy released equivalent to 23,000 Hiroshima sized atomic bombs (Pickrell 2005). The epicenter of the earthquake was 250 km south-south-east of Banda Aceh, Indonesia and 1600 km north-west of Jakarta. Figure 2 locates the greater Indonesian area.



Figure 2 Map of 2004 Indian Ocean tsunami impact area, Source: Oxfam 2014, 8

In the open sea, the height of the waves was only about 50 centimeters (Pickrell 2005), but they traveled at speeds up to 500 kilometers/hour (Tedford and Cosgrave

2006). As the waves grew, their speed slowed, and oceans began to recede from coastlines. Close to the epicenter of the quake, waves crashing in Sumatra were up to 10 meters high, waves as high as 4 meters were seen in Sri Lanka (Pickrell 2005), and some waves in Aceh were recorded as 20 meters high (Tedford and Cosgrave 2006). The waves struck 14 countries including India, Indonesia, Malaysia, the Maldives, Burma (Myanmar), Somalia, Sri Lanka, Thailand, Bangladesh, South Africa, Madagascar, Kenya, Tanzania and the Seychelles, travelled as far as 3 km inland, carried debris and salt water, and retreating waters destroyed entire shorelines (Tedford and Cosgrave 2006).

Because the epicenter was located so close to several densely populated communities, the casualty rate was extraordinary. Approximately 1.7 million people were displaced from their homes and 227,000 people died (Tedford and Cosgrave 2006). Indonesia, Sri Lanka, and Thailand suffered the greatest losses, with Indonesia losing 167,540 lives (Tedford and Cosgrave 2006). These are all developing countries dealing with high levels of poverty and inequality, making them more susceptible to natural disasters. In the first days after the tsunami, there were 5 million people in need of humanitarian aid including safe water, food, and shelter (Oxfam 2014).

People living in poverty are commonly more impacted by natural disasters because they lack the resources to survive and rebuild, such as insurance, savings, and other forms of safety nets. So, while everyone experienced a decline in standards of living, the poor were most impacted by the loss of their land (Oxfam 2014), and it is

estimated that 1 million people were left without the means to earn a living (Pickrell 2005).

According to the Oxfam report (2014), adult males under the age of 50 had the highest survival rates, while women, children, and older people were impacted disproportionately. It is estimated that women were between 1.2 and 2.1 times more likely to be killed than men across all of the countries impacted by the tsunami. Children under the age of 14 and adults over the age of 50 were twice as likely to be killed as adults between the ages of 15-50. At the time of the tsunami, many men were on their boats out at sea, while the women, children, and older adults remained on land waiting for the men to return with their catches. The inability to swim may have been one factor, but it also seems that many women lost their lives trying to save their children and elderly relatives (Oxfam 2014).

The economic impacts were enormous. A coalition of 45 bilateral donors, multilateral organizations, and NGOs came together to evaluate the cost of the damage caused. The Tsunami Evaluation Coalition (TEC) estimated the total damages at \$9.9 billion, with half belonging to Indonesia (Tedford and Cosgrave 2006). Many fishing industries were severely impacted because their boats and communities were destroyed. The Sri Lankan fishing industry was greatly harmed because this event occurred on a Buddhist holiday, and most fisherman remained home, rather than taking their boats out to sea. The Maldives and Thailand saw their tourism industry damaged as well. While the loss of life was much lower in the Maldives, the economic damages were close to 80% of their gross national income (GNI) (Oxfam 2014).

TEC also identified inequalities in disaster relief aid. Certain communities received more aid than others such as conflict regions versus non-conflicts regions (nationally), there were disparities in different NGO camps in the same area, fishing communities received more compared to others, and poor or marginalized groups received less than others who had lost more property (Tedford and Cosgrave 2006). In Sri Lanka there was a brief pause in their civil war after the tsunami, but shortly after the relief effort began, there were complaints that less aid was reaching Tamil areas. This incited doubt in international relief organizations and civil society organizations (Oxfam 2014). If a family owned a house and a fishing boat, those possessions would be replaced, while people who had less wealth and possessions received less aid. Additionally, some communities were better organized, and therefore were more able to access assistance (Tedford and Cosgrave 2006).

The women who survive natural disasters are often put at risk again during relief work because they have less access to resources and greater burdens are placed on them in relief camps, making them more likely to experience domestic and sexual violence (Pan American Health Organization n.d.). TEC conducted a survey in Sri Lanka and learned that women were less satisfied with the disaster relief efforts than men. They felt that they were not provided with enough security and opportunity as men. Not enough was done to protect women living in the camps, and the services provided for rebuilding livelihoods and independence were more focused on male dominated industries such as fishing, while women were only offered assistance for projects like mat-weaving, which is not sufficient for earning a decent income (Tedford and Cosgrave 2006).

Hines (2007) explains that because their communities excluded women from fishing, many widows and other women did not receive any relief from programs for fishermen. They had trouble proving that they were heads of their households, and most relief funds were given to male relatives or male members of the household. Widows were required to give the names of male relatives and any checks were issued to them instead of the women. Fisherwomen in the community clean, dry, and sell the fish catch. Unfortunately, while the relief programs provided funding to boat owners, these widows were not able to receive these funds because they did not own the boats (Hines, *Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of Gender* 2007).

Hines describes the lack of security and sanitation in the camps set up by relief organizations. In the camps women were not provided with adequate bathing and toilet facilities. Most of these facilities were not private, or they had to walk very far to find adequate and private facilities, which were often located in the public domain. The camps in the Tamil Nadu area had shelters that were made with tar sheeting which created rooms that were too hot to sleep. Many women had to choose between sleeping outside and risking sexual abuse, or suffering from heat exhaustion inside the shelter. Additionally, many women felt it was not socially acceptable to see a male doctor, especially for lactating mothers, or for any other pregnancy or obstetrical reasons (Hines, *Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of India* 2007).

Hines states that many women from the fishing areas suddenly found themselves as the head of their households and boat owners. Women had to learn new skills that

were forbidden to them while taking care of their normal responsibilities as mothers. Being a single parent is already challenging, but more difficult for women in such a strong patriarchal society. In order to cope, many men and women turned to alcohol. Young girls who lost fathers or both parents were forced into early marriages by extended family members, and reports of domestic violence increased (Hines, *Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of Gender* 2007).

Hines describes the mental health challenges women faced after the tsunami. Women's physical and mental health needs are often overlooked during disaster relief. Most NGOs focused on providing food, supplies, and medical equipment. Many women who were displaced did not have access to a doctor, undergarments, sanitary products, or contraception. In addition to losing their families, these women also lost their neighbors and friends, and many suffered from post-traumatic stress. Some mothers who lost their children in the tsunami were being abused and pressured by their husbands and/or other family members, and there were reports of some husbands threatening to find new wives if they did not have more children. Without adequate psychological care provided by the relief organizations, or their original social groups, many women were forced to develop their own coping skills. Some joined other women in the camps to talk and share, while others turned to alcohol. Some women could not cope with the stress of living in the camps, facing sexual abuse, rape, or early marriages and committed suicide (Hines, *Natural Disasters and Gender Inequalities: The 2004 Tsunami and the Case of Gender* 2007).

2010 Haiti Earthquake

An earthquake of a 7.0 magnitude struck Haiti on January 12, 2010 leaving over 230,000-316,000 killed, 300,000 people injured, 1.5 million initially displaced, and 85,432 remained displaced by September 2014. Following the earthquake, the people of Haiti suffered from a cholera outbreak, which killed 85,592, by August 30, 2014, and there were 706,089 confirmed cases of cholera since the original outbreak in October 2010 (CNN 2015).

In October 2010, Refugees International released a report describing the situation and relief efforts in Haiti. Despite efforts by the UN and other NGOs, people in Haiti were still living in a state-of-emergency ten months after the earthquake in January. People living in camps were fearful of eviction by land-owners and violence from gangs. Camp managers were nonexistent and people had no hope of transitioning back to a productive life outside of the camps (Teff 2010, 1).

Response was mainly focused in Port-au-Prince, although the center of the quake was in Leogane. Figure 3 is a map of the greater Haiti region identifying the location of the quake and the efforts that took place in the aftermath.

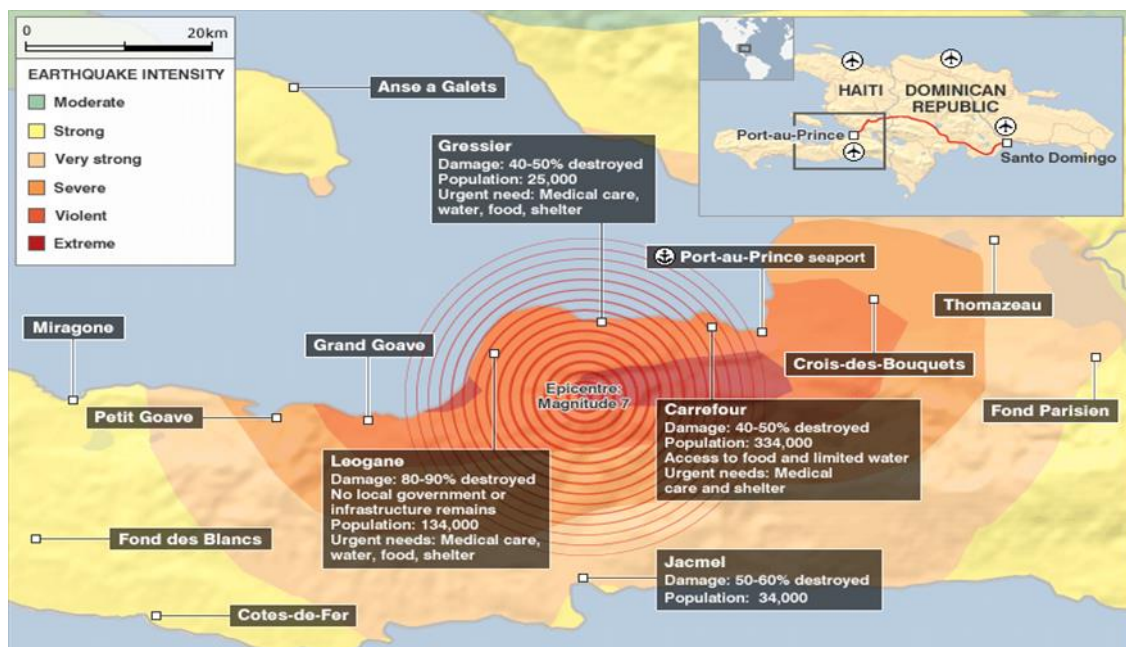


Figure 3 Map of 2010 Haiti earthquake impact area, Source: BBC News 2010

People displaced by the quake were not central to one location, but spread across the country. The UN and NGOs failed to coordinate an effective decentralized disaster response, which might have had an impact on Haiti's previously existing core structural centralization issues (Teff 2010).

The 2010 Refugees International Report states that similar to the 2004 Asian tsunami disaster, women and girls were uniquely affected by this situation. The Gender Based Violence and Child Protection portions of the disaster relief efforts received inadequate resources to provide protection and response to gender violence, and there were increased reports of sexual and domestic violence following the earthquake. Much of the domestic violence following a natural disaster can be attributed to the extremely stressful environment for people living in the camps. Within the camps in Haiti there

were high amounts of teenage pregnancies reported along with cases of failed “street abortions,” with some cases reporting girls as young as ten years old being pregnant. After the general food distribution ended in April 2010, there were also reports of women and girls being forced to exchange sex for food (Teff 2010).

Refugees International recommended more effective camp management and increased security patrols to reduce incidences of violent acts committed against women and girls. While some camp residents created their own security patrols and committees, they did not have access to basic equipment, training, and funds. They also proposed better access to activities designed to create income-generation to prevent future abuse and sexual exploitation of displaced women and girls (Teff 2010).

In 2011 Human Rights Watch issued a report stating that relief efforts were still failing women and girls. People in camps were living in dirt and damaged tents that let in rain and wind, and they did not have enough to eat, did not have access to clean water or sanitation, and faced high unemployment. People were living in fear of eviction from public and private landlords, many children were sick and not attending school. The camps continued to lack basic security services (Human Rights Watch 2011).

Human Rights Watch reported that women and girls faced additional challenges while living in the camps. They were still engaging in sexual activity for food for themselves and their children. They lacked access to family planning, obstetric and pre-natal care, and experienced on-going sexual violence. In the camps the maternal mortality rates were among the worst in the world, and pregnancy rates were 3 times as high as they were in urban areas before the earthquake. Women living in poverty in Haiti were

already experiencing many of these problems, but following the earthquake, living in the camps made them far more vulnerable (Human Rights Watch 2011).

Despite being an integral part of the Haitian economy, women were still excluded from much of the recovery process 18 months after the earthquake. Plans to rebuild Haiti to create conditions that were better than they were before the earthquake seemed to be fading as women and girls in camps still did not have access to reproductive healthcare. Even though there was a large amount of international support and several NGOs promising to remove geographic and economic barriers that once prevented women from accessing healthcare very little seemed to improve (Human Rights Watch 2011).

In relation to reproductive healthcare, Human Rights Watch identified three delays that contributed to maternal mortality rates: (1) delay in deciding to seek appropriate medical care; (2) delay in reaching an obstetric facility; and (3) delay in receiving care once they reached a facility. There were several causes for these delays. Many women and girls reported that they did not know the signs of early labor, they were unfamiliar with new areas that new facilities were located in, and previously used facilities had been destroyed in the earthquake. Also, they had security concerns, they could not afford travel costs, facilities were too far away, and there was inadequate care at facilities (Human Rights Watch 2011).

The 2011 Human Rights Watch report explains that poverty and education were key drivers of this situation. Women and girls reported that they didn't know which organizations worked around their camps, or whom they should have reported problems to. They did not have easy access to information about family planning, obstetric care, or

prenatal care, all of which could have helped them plan how many children they wanted to have, and helped them to space their pregnancies. Because of this, many sought illegal and unsafe abortions which threatened their health and safety. Even though people who were poor could receive free healthcare, many could not afford the costs of transportation to and from the facilities, or the prescriptions and medical tests such as sonograms. Additionally, many gave birth at home because they incorrectly believed that they could not return to the hospital if they did not have a sonogram. Women stated that they would have preferred to give birth at a hospital, but Human Rights Watch estimates that more than half of the births that had taken place after the earthquake occurred outside of hospitals. Birthing happened in the tents, or even in the streets while women were trying to reach hospitals. Most of these births happened without the assistance of a skilled birth attendant. One woman reported that she gave birth in the street while trying to get to the hospital. She was able to see a doctor 3 days later, and he gave her three pills for pain relief (Human Rights Watch 2011).

Human Rights Watch reported that pregnant women and girls, and lactating mothers also faced hard choices due to food insecurities in the camps. Women and girls reported feeling weak from hunger, and one woman reported feeding her baby cornstarch and water because she could not produce enough breast milk. Food distribution ended two months after the earthquake, and unemployment remained high, leaving many women forced to enter into relationships with men for economic security, or to engage in transactional or survival sex for food. These women become more vulnerable because they lacked access to contraception, and because they engaged in these acts in secret, they

became more vulnerable to violence without any security from social networks or their community (Human Rights Watch 2011).

At this time the Haitian government was unable to collect and report the data on maternal healthcare for the women and girls living in the camps who did reach facilities for care. It also did not have data on women and girls who discontinued care. There were 5 infant deaths that were reported to Human Rights Watch that were not reported to any of the government officials or any NGOs in the area. It was also reported that deaths in the camps were generally not recorded. This indicated that there were no reliable data on maternal deaths happening inside the camps. Without this information, it was not possible to develop or implement programs or services to correct systematic failures, redress grievances, or to replicate or improve upon services that were working (Human Rights Watch 2011).

In 2015 Human Rights Watch published another report on Haiti's recovery, looking at the events of 2014. The international community and the Haitian government made some progress in the ongoing natural disaster recovery process and the cholera outbreak. By June 2014, 103,565 internally displaced people (IDPs) were residing in the camps set up after the 2010 earthquake, which is a 90% decrease since the immediate aftermath of the quake in 2010. It is estimated that 70,000 of these IDPs did not have any prospect of returning to or finding a home outside of the camp (Human Rights Watch 2015).

The 2015 Human Rights Watch report states that Haiti did see improvement in a declining number of cholera cases. In 2010 there were 4,100 reported deaths in the first

three months, but by September 2014 there were only 51 reported deaths. This is a significant drop from an epidemic that claimed 8,500 lives and infected 700,000 people (Human Rights Watch 2015).

There appears to have been some small movement in the government to bring reforms to the legal system in Haiti to address gender-based violence, which is still a significant problem in Haiti. Some members of Parliament discussed a draft of a law designed to address gender-based violence against women, but it has not been introduced for debate. Revisions to Haiti's criminal code that would include acts of gender-based violence such as rape and sexual assault is being reviewed by a Council of Advisers to the government. However, security is still a problem. The UN Office of Internal Oversight has documented 93 reports of sexual abuse or exploitation made against the United Nations Stabilization Unit in Haiti (MINUSTAH) over the past eight years. As of September 2014, 11 allegations were reported for that year (Human Rights Watch 2015).

The 2015 Human Rights Watch report also addresses the issue of restavek children. Restavek children are still being used as domestic labor in Haiti, and most of them are girls. They are sent from low-income families to live and work in the homes of wealthy people. Some of these children are relatives of the homeowners. The hope is that they will be able to attend school and live in a nice home in exchange for performing light chores. Because Haiti does not have minimum age requirements for domestic labor, many restavek children are physically or sexually abused, unpaid, and uneducated. It is estimated that 225,000 children work as restaveks (Human Rights Watch 2015).

The co-founders of a Haitian women's rights organization, Komisyon Fanm Viktim Pou Viktim (KOFAVIV), have experienced violent threats. Malya Vilard Apolon left Haiti after harassment, threats, and the poisoning of her dogs. Marie Eramithe Delva also left Haiti after she reported to police that she received death threats via text message from a woman who was in police custody. She was able to provide a screenshot of the threat and the phone number to police, but to her knowledge, nothing was investigated, and the police did not provide her with any protection (Human Rights Watch 2015).

2010 Pakistan Floods

In 2010 Pakistan experienced unprecedented monsoon rains that flooded the Indus River affecting the regions of Khyber Pakhtunkhwa, Punjab, Baluchistan and Sindh. At one point 1/5 of Pakistan's land was covered in water, affecting 18 million people (Pakistan Floods Facts and Figures n.d.). Within 3 weeks the flood waters spread a path of destruction that was 1,000 km long (Oxfam International 2012). The homes of 12 million people were destroyed, 2.2 million hectares of crops were destroyed, 10,000 schools were damaged or destroyed, 450,000 livestock were lost, and 1,985 people were killed (Pakistan Floods Facts and Figures n.d.). Figure 4 is a map of the regional flood of 2010.

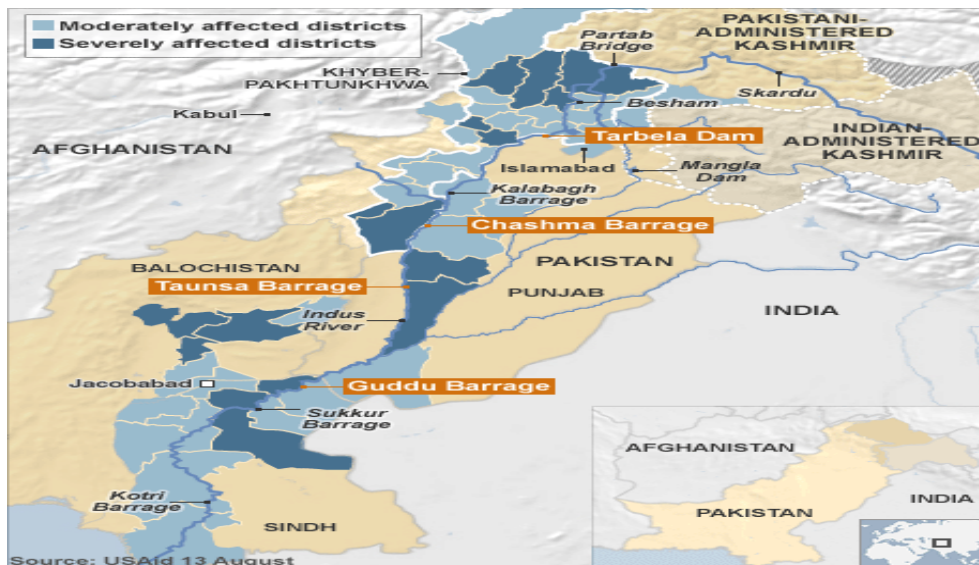


Figure 4 Map of 2010 Pakistan flood impact area, Source: BBC News 2010

In 2012 Oxfam International published the report, Restoring Livelihoods After Floods Gender-sensitive response and community owned recovery in Pakistan. The report states that the heavy monsoon rains caused flooding in late July 2010, and many people could not return to their homes, as they were still underwater, until as late as January 2011. While the northern part of Pakistan experienced natural disasters more frequently than the south, they were more prepared with a strong presence of humanitarian aid organizations. The southern regions impacted by the floods also had higher malnutrition rates, lower literacy rates, and women had limited ownership of lands (Oxfam International 2012). People found themselves cut off from the rest of the country as roads and bridges were swept away, and surrounded by too much water, but none of it was safe to drink. People lost what little they had, including their abilities to earn livings,

and they were forced into debt to escape the rising waters. Isolated, thirsty, and desperate, many took dirty water from the rivers to drink. People reported flood-waters rising so quickly that they only had time to save themselves, their children, and a few items of clothing (Oxfam International n.d.).

In 2010, Pakistan was ranked 125 out of 169 countries in the Human Development Index, and also ranked 125 out of 169 countries in the Gender Inequality Index (United Nations Development Program 2010). According to the UN Development Fund for Women 2010 report, Rapid Gender Needs Assessment, one of the first barriers women faced was the break down in communications. Many people did not know of flood warnings, disaster risk reduction, or what steps to take in case of emergencies. Most men reported that their primary source of communication came from face-to-face interactions with other men. After direct person exchanges, men also reported having access to radios and telecommunications. Men and women reported that women relied primarily on male relatives for communication outside of the home. Men and women also interpreted the flood warning differently. Women believed the word-of-mouth warnings to be valid and that the floods were impending, however many men felt that the news of the floods did not constitute a warning and that an evacuation must be ordered through official channels for it to be considered an actual warning. Some women reported that healthcare providers were a good source of communication, but that more traditional communication tools such as banners were not a good source for women (United Nations Development Fund for Women 2010).

The 2010 UN report states that people who received flood warnings and still did not evacuate gave different reasons. Some simply did not believe the warnings, and others feared they might lose their land to theft or occupation, as many did not possess paperwork to prove ownership. Many did not feel they would be safe in camps, and that women and children would be safer in their homes (United Nations Development Fund for Women 2010).

The 2010 UN report found that evacuation was also more difficult for women because they were not accustomed to negotiating transportation in a public sphere. Evacuations were handled by the state while national and international humanitarian organizations stayed back. The process was managed unevenly in different areas and people were not organized, resulting in camps with people from different communities, which created segregation and other complications. Local truck transporters and ferries were charging rates many times higher than normal rates to evacuate people. One woman reported spending her entire life's savings to hire a tractor trolley to evacuate her family. People who did manage to evacuate with their livestock did not settle in camps, but instead set up spontaneous settlements near roads (United Nations Development Fund for Women 2010). Without orderly and free evacuations, families were separated and women and girls became more vulnerable.

According to the 2010 UN report, shelter was another unique concern for women. There was little conformity as people took shelter in camps, schools, damaged houses, with host families, and in spontaneous settlements. Families were burdened because humanitarian organizations did not have a strategy for accommodating livestock. The

location people decided to settle in impacted their access to aid, and men made most of the decisions about relocation. Women's needs and concerns varied based upon their location. Women in camps and schools feared sexual threats or harassment by men from other communities, while women in damaged homes did not have access to latrines, sewage facilities, or food. One family reported offering their daughter as a bride to repay a host family. Because tents were the slowest type of aid distributed, women and girls felt threatened from exposure and often did not sleep at night which they reported was a conditioned response, and it did not matter whether the threat of harassment was real or perceived (United Nations Development Fund for Women 2010).

The 2010 report found that women faced challenges in accessing relief aid as well. Women reported that there were no female relief workers distributing food, and that men had greater access to food as they were more aggressive and pushed and jostled their way through lines. Women felt they had to physically compete with men at distribution centers. Men reported that because of their gender, they felt obligated to provide food and shelter for their families and became aggressive in order to fulfill this obligation (United Nations Development Fund for Women 2010).

The lack of consistency in the sheltering of internally displaced people (IDPs) made it more difficult for relief organizations to distribute food and be visible. There was also a discrepancy between men and women over food distribution. Many men reported that women had equal access to food, but women living in diffuse groups reported difficulties in reaching food distribution centers and being recognized in the crowds (United Nations Development Fund for Women 2010).

It is also important to note that these disparities were not only impacting the poorest people in the region. Many owned land and had homes with 2-4 room homes before the floods. Both men and women who were economically secure reported that they felt demeaned waiting for handouts at distribution centers where they witnessed food being flung out into crowds where people wrestled for what they could get (United Nations Development Fund for Women 2010).

According the 2010 UN report, water and sanitation were major concerns for people in camps. There were not enough latrines and one location reported 5 latrines for over 300 women and children. Women and girls reported uncovered excrements, flies, and they were without any soap. About half reported having access to latrines and privacy for bathing, and a possible explanation for discrepancies may be the difference between living in camps and off camp-sites. Without access to latrines people were defecating on open fields even within the camps (United Nations Development Fund for Women 2010).

Many people were forced to flee their homes with only the clothes on their backs. Men and children were able to remove their clothes for bathing and washing, but women were not able to do so because of modesty traditions. Some women and girls would simply submerge themselves in a nearby river and wash themselves and their clothes, then dry themselves, all while wearing the same clothes. Modesty traditions also pressured women to wait until nightfall to use latrines (United Nations Development Fund for Women 2010).

Traditional gender roles also meant that the burden of collecting water for cooking and cleaning falls mostly upon the shoulders of women and girls. Most reported that they were not treating the water collected either by boiling or by disinfecting it with chemicals. Women were also responsible for garbage disposal, but in many areas, there was no system in place for disposal (United Nations Development Fund for Women 2010).

Women faced many general health problems that are common in areas with stagnant water, poor access to drinking water, latrines, and hygiene practices. Conditions such as diarrhea, fever, conjunctivitis, scabies, and other skin conditions were most common. Many women who had access to healthcare were diagnosed with anemia and it was learned that they also had poor health records. It was also discovered that many women had pre-existing health conditions that were unrelated to the floods such as hypertension, angina, and epilepsy. This identified the way poverty impacted women in terms of access to preventative healthcare before the floods. Another barrier women reported facing was lack of free or affordable transportation to medical facilities such as ambulances (United Nations Development Fund for Women 2010).

The 2010 UN report also found that in terms of reproductive health, it was estimated that 10% of the women in camps gave birth after the floods and 30% were lactating. Of the lactating women, 30% reported that they had reduced breastfeeding, and 15% stated that they discontinued breast feeding completely. Most stated that this was due to a lack of privacy and space. Reproductive healthcare workers also found that 80% of the women they saw were not using any form of birth control and that overall birth

rates were very high, which put them at a much higher risk for maternal mortality (United Nations Development Fund for Women 2010).

Approximately 25% of women reported that they made their own healthcare decisions, and slightly less reported that their husbands made those decisions for them. Researchers concluded that other factors impacted women's reproductive health decisions. These factors include the level of education of either or both spouses, access to information about birth control, availability of health workers, and influence from mothers-in-law, and distance from medical facilities (United Nations Development Fund for Women 2010).

These data from the 2010 UN report indicate that reproductive healthcare awareness programs need to be directed at men, women, and decision-making elders. They should focus on controlling the number of children women have for the health of women, children, and families. The discoveries made about women and reproductive health in this disaster area created the opportunity for healthcare workers to begin educating people they were already treating (United Nations Development Fund for Women 2010).

The floods caused significant damage to women's livelihoods as well. This was true for women working in agriculture, cottage industries, and home based work. Because women are traditionally responsible for livestock management, the loss of their cotton crop left women who were anticipating income further in debt. Women also reported having less information than men about the damage to crops and the function of the markets. Women's agricultural work was considered to be secondary income for many

households, and was not officially recognized, which meant that they were not eligible for microfinance programs, or to be livelihood beneficiaries (United Nations Development Fund for Women 2010).

As previously stated, many schools were damaged and those that were not, were used as shelters by displaced people. The stress of the situation made people feel like school restarting was indeterminate, making people more likely to have their children enter into the labor force. Prior to the floods many schools lacked proper latrines and boundary walls, and people felt more inclined to rebuild other infrastructures first. All of these factors contribute to girls receiving less preference than boys for education (United Nations Development Fund for Women 2010).

The camps did not have formal security mechanisms in place and people formed their own watch groups. Both men and women reported that they felt unsafe, but women felt more insecure than men. Women were also more vulnerable in camps mixed with people from different groups. Conflicts arose over food and supplies, but also over identities including ethnicity, religion, marriage, and language. Women's bodies are often where conflicts are directed, whether it be through attacks, harassment, or forced marriage (United Nations Development Fund for Women 2010).

The floods in Pakistan demonstrated the need for investment in development with a focus on gender and environmental security. Communications need to be improved so that evacuation plans are clear, understood, and accessible to men and women. The floods also brought attention to the lack of healthcare received by women as well as the need to provide reproductive healthcare education focusing on birth control and limiting the

number of children families have. Family elders play an important role in families and communities, and they must be included in any programs aimed at improving gender equality. The 2014 Human Development Index shows that Pakistan's rank has fallen to 147 out of 188 countries and from 2010-2014 their average annual HDI growth dropped from 1.62 to 0.79. It is possible that the floods impacted development, but more research is needed (United Nations Development Program 2015).

2013 Philippines Typhoon Haiyan

Typhoon Haiyan, locally referred to as Yolanda, hit the Philippines eastern Samar Island on November 8, 2013 and caused a storm surge as high as 25 feet in some areas. The Philippine Atmospheric Geophysical and Astronomical Services Administration reported winds up to 147 mph and gusts up to 171 mph when it hit land. The Philippines have about 20 tropical storms each year, as well as volcanic eruptions and earthquakes. Typhoon Haiyan was not the strongest storm to hit this area, but it was the deadliest, affecting 14 million people in 46 provinces. Over 220,000 people living in the city of Tacloban were the hardest hit. The homes of 5 million people were either severely damaged or destroyed, and there were 6,021 reported deaths with 1,785 people reported missing (Disasters Emergency Committee 2014). Figure 4 is a map of the region of the Philippines affected by Typhoon Haiyan.

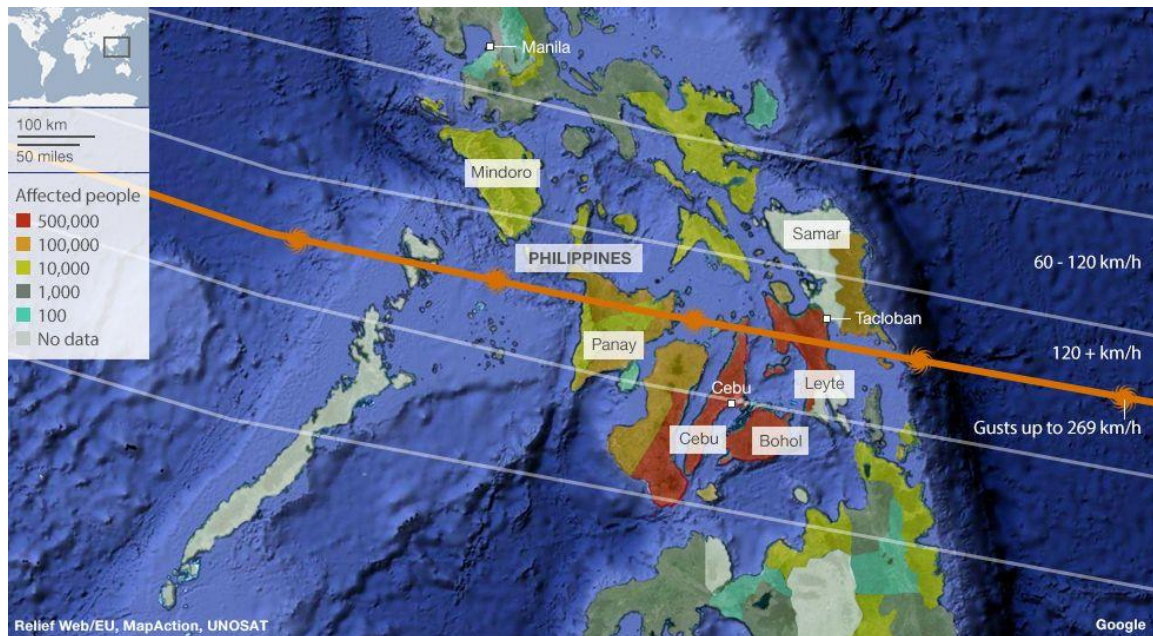


Figure 5 Map of 2013 Philippines Typhoon Haiyan impact area, Source: BBC News 2013

Disaster response teams and equipment were deployed, and nearly 800,000 people were evacuated before Haiyan reached the Philippines. The immediate action of the authorities, aid agencies, and local responders helped to save many lives and to facilitate the disaster recovery process. However, many people were not prepared for the storm surge that sent a wave up to 5 meters high into coastal communities (Oxfam International 2014).

According to a 2014 report from Oxfam, approximately three million people were still relying on some form of food assistance in 2014. In some regions this was the only food available. Food distribution was not equitable and people in rural areas had to walk to get whatever food was left for them. The communication of food distribution was poor in these areas. About 1 million farmers and fishermen were impacted by the storm. Tens

of thousands of poor rice farmers lost their crops, and tools, while storage and irrigation facilities were damaged or destroyed. It was important to help these farmers recover in time for their next season's harvest so that people would be less reliant on food assistance and to prevent potential rising debts (Oxfam International 2014).

The 2014 Oxfam report states that fishing communities reported losing about 2/3 of their fishing equipment, and 2.8 million people in service-related jobs, many of whom were women were without work. Typically, women do not have equal access to land ownerships, jobs in rural areas, and other assets, yet they still make up a significant portion of a skilled labor force in the Philippines. They are well educated and participate in trade, as well as small and medium sized enterprises. Their presence and participation are vital for recovery efforts (Oxfam International 2014).

The 2014 Oxfam report explains that the restoration of clean water supplies and sanitation continued to be a problem in 2014. Overcrowding at evacuation facilities meant that sanitation facilities were also overwhelmed. In Tecloban, 22 evacuation facilities reported drainage problems, inadequate waste facilities, and the loss of electricity 2 weeks after the storm. Damaged and contaminated water supplies, and a lack of sanitation facilities in northwest Leyte caused an increase in reports of diarrhea (Oxfam International 2014).

Levels of assistance varied greatly across different regions. In order to receive aid, people in evacuation centers had to be registered, but the registration relied on voter registration, which meant that people in evacuation centers outside of their communities might not receive aid. And relief operations began in urban areas, but were slow to reach

rural areas due to a lack of warehouse facilities and heavy vehicles (Oxfam International 2014).

Women and children were also placed at greater risk because of displacement overcrowding. There was a lack of female police officers and female only spaces available in the evacuations centers making women and girls more susceptible to gender-based violence. And strains on health centers meant that there were also gaps in maternal healthcare (Oxfam International 2014).

According to a Refugees International 2014 field report, Philippines: New Approach to Emergency Response Fails Women and Girls, following the 2010 earthquake in Haiti and the floods in Pakistan, the Inter-Agency Standing Committee (IASC) developed a strategy for handling natural disasters called the Transformative Agenda (TA). The TA was designed as a way to improve the way humanitarian organizations coordinate to address the needs of people affected by conflict and/or natural disasters. It attempted to redefine the way international organizations communicate and engage with each other, local authorities, and national governments. They hoped to achieve more transparent, predictable, and efficient outcomes by: (1) being prepared before an emergency occurs; (2) developing a sound information base to inform planning; (3) setting objectives early and ensuring that they drive the humanitarian response; (4) locating decision-making in the field, as close to the affected communities as possible; and (5) monitoring the impact of humanitarian programming. Typhoon Haiyan was the first large-scale natural disaster to implement the TA (Hersh 2014).

Refugees International (RI) conducted an assessment mission to the Philippines in February 2014 to assess the response to women and girls. RI found that many humanitarian workers felt that the TA increased mechanisms and bureaucratic processes to the detriment of operations. Because the disaster relief efforts in the Philippines failed to recognize the risks of gender-based violence during the early phases of response, it impacted each cluster's ability to effectively assist their target populations (Hersh 2014).

Gender-based violence occurs in every conflict zone or disaster area, because they damage the institutions and community support systems that protect women from violence. Because of this, the IASC advises humanitarian workers to assume that gender-based violence will occur in every emergency, and to be prepared to offer needed services. However, many international aid workers arrived in the Philippines under the assumption that gender-based violence would not be an issue of concern. Many referred to the 2013 Global Gender Gap Report that ranked the Philippines the fifth highest in gender equality, performing better than the United States. But even before Typhoon Haiyan, gender-based violence was already a major concern because many women and girls had experienced physical violence, sexual violence, and incest. Samar and Leyte were two of the heaviest hit regions, and they also had the highest rates of human trafficking in the Philippines before the storm hit. The 2008 National Demographic Health Survey estimated that one in five Filipino women between the ages of 15-49 had experienced physical violence, and husbands committed 14.4% of the violence (Hersh 2014).

Women and girls became more vulnerable to gender-based violence when the storm hit because it left so many without homes, families, and livelihoods. In areas where gender-based violence services were available, women came seeking refuge from sexual violence, physical violence, and trafficking from areas impacted by the disaster. Some reports state that they saw as many as 5 new gender-based violence survivors every day (Hersh 2014).

The first part of any disaster response must include being prepared for cases of gender-based violence. Prevention of and response to gender-based violence requires understanding and reducing the vulnerabilities that exist. During and after a natural disaster, there is a breakdown of social services and community supports, making women and girls more vulnerable because they already had limited access to services before the disaster, and the psychological and emotional impacts of the disaster, combined with the loss of family, livelihoods, and homes can lead to increased violence (Hersh 2014).

According to this report, the United Nations agencies that responded to Typhoon Haiyan did not factor in gender-based violence in their disaster response strategies. These assumptions and oversights made by humanitarian responders demonstrate the need for stronger gender-based violence strategies to be built into emergency and disaster relief strategies and overall operations. Disaster relief efforts must include strong linkages between disaster risk reduction (DRR) and gender-based violence (GBV) so that humanitarian aid workers trained in GBV prevention and assistance can act more quickly. Since the lessons learned from Typhoon Haiyan, the GBV Area of Responsibility (GBV AoR) has begun the process of creating an Emergency Preparedness Toolkit that will

provide GBV guidance that will hopefully connect GBV and DRR more directly (Hersh 2014).

The report also suggests that UN agencies including UNICEF, UNFPA, UN Women, and UNDP should develop strong risk profiling to include women and girls' vulnerabilities and protection needs. This should also include lists of indicators and triggers that can be identified and assessed with early warning mechanisms. Information about populations and groups that are most vulnerable to GBV will also be useful for humanitarian workers and relief agencies (Hersh 2014).

Despite these problems, the RI team did find GBV support services available on the islands, including the Department of Social Welfare and Development, the Philippine women's civil society movement, national anti-trafficking measures, and several female police officers deployed to evacuation centers. It is important to recognize that other countries that will experience these types of disasters may not have the capacity, infrastructure, or resources that were available in the Philippines. The humanitarian community is already stretched across the globe in Syria, the Central African Republic, and South Sudan. This may mean that fewer GBV experts will be available when new crises occur. This means that it is critical to learn these lessons from the Philippines and improve GBV and DRR linkages for more effective recovery efforts (Hersh 2014).

Findings

Although each of these cases occurred in different regions with different cultures and histories of conflict, they all demonstrate how impactful the environment and

development are on the security of women and girls. The need for gender mainstreaming expands beyond recovery phases and development programs. It must become part of the discussion at local, national, and international levels. The intersections of gender security, climate security, and development can motivate and enable individuals, governments, businesses, and NGOs. This gendered approach would be multi-leveled, and require a great deal of collaboration and negotiation.

Oswald Spring's Human Gender, and Environmental Security (HUGE) approach addresses broader understanding of gender that includes the intersections of age, race, caste, ethnicity, religion, and other groups. This enables NGOs and policymakers to address environmental security in a more human-centered and inclusive manner. HUGE can benefit peace-building, and human equality movements with a bottom up approach as well (Oswald Spring 2008). HUGE may be a tool for conflict resolution practitioners to employ when trying to work with parties at different levels of the same conflict, such as a natural disaster or environmental degradation. It can be enhanced when used in conjunction with other conflict resolution tools, including Cheldelin and Lucas' framework, as previously stated in this thesis.

Chapter 4 examines the need for a gendered analysis of security in relation to the environment and climate change and identifies four categories of vulnerability. The first category of vulnerability is created by institutions and patriarchal hierarchies that shape policies and fail to recognize the connections between security, gender, and the environment. The second category of vulnerability it considers is the importance of empowering women by connecting environmental justice with gender justice through

grassroots movements. Third, it discusses the harm caused by the feminization of poverty in the context of climate change. Finally, it addresses the tools used by NGOs, policymakers, and those in the field of conflict resolution, and in what ways it may contribute to vulnerabilities

CHAPTER FOUR: ANALYSIS

Each of these four cases presented in chapter 3 reveals vulnerabilities faced by women before, during, and after natural disasters. These vulnerabilities are based on disparities between men and women not nature and, these disparities come from institutions, policies, hierarchies, as well as research and data collection. Allison M. Jaggard (2009) states, “The status of women vis-à-vis men varies widely both among and within different regions of the world. The variations in women's status provide evidence that women’s subordination is not natural or inevitable and they also supply data about the kinds of social arrangements that tend to promote sex equality. In addition to the variations, however, it is also possible to discern patterns of gendered disparities that reveal systematic differences between the lives of men and women whose circumstances are otherwise similar” (p. 34). She explains that this can be seen in the feminization of the labor force, fewer women participating in politics, and the risk of gendered-based violence (p. 35). In the context of environmental security, there are patterns of gendered vulnerabilities as well.

The International Red Cross and Red Crescent Societies define vulnerability as “the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard” (International Federation of Red Cross and Red Crescent Societies n.d. paragraph 1), and exposure risks vary based

on the social group, gender, ethnicity, race, religion, age, and other identity factors. Types of vulnerability can vary also. Poverty may mean that a home is unable to withstand the impacts of an earthquake or a hurricane, or it might mean there is a lack of disaster preparedness in a particular region, causing delays in disaster response (International Federation of Red Cross and Red Crescent Societies n.d.). This chapter provides analyses of four types of vulnerabilities women experienced in the case studies of the 2004 Indian Ocean tsunami, the 2010 earthquake in Haiti, and the 2010 floods in Pakistan, and Typhoon Haiyan that struck the Philippines in 2013. The first type of vulnerability that is examined is patriarchal hierarchies and their influence on security and the environment. The second type of vulnerability is the lack of women in decision-making positions of power and the need for women's environmental grassroots movements to be able to collaborate with people in positions of power at higher levels. The third type of vulnerability is the marginalization of women that occurs because of the tendency to feminize poverty and the environment based on stereotypes. Finally, the fourth type of vulnerability is the strengths and weaknesses of some of the tools, methodologies and indicators used by conflict resolution practitioners and researchers.

Women are not inherently or biologically vulnerable, but rather made so by disparities created by societal structures and gender norms that support patriarchal hierarchies. In a traditional framework, security is limited to property ownership that often excludes women through cultural norms, as well as government laws and policies. When property ownership and responsibilities become defined by gender roles and

patriarchal hierarchies, women are often excluded from disaster recovery aid that would enable them to provide for their families.

Vulnerability also occurs when women are excluded from decision-making processes and leadership that does not listen to their concerns. Grassroots movements can empower women by building on the knowledge and experience they already possess to improve their communities and contribute to environmental security at higher levels. In certain aspects, grassroots environmental movements led by women have more freedom than politicians or NGOs. More needs to be done to empower these groups before natural disasters strike, and during the recovery phase following a disaster. The conflict resolution field must find ways to help both top-down policymakers and bottom-up movements find opportunities to connect and collaborate.

Poverty is another factor that contributes to the vulnerability of women. However, there is a risk of gender identity overlapping with or becoming linked to poverty, known as the feminization of poverty. Women are often portrayed as guardians of the environment, while men are the polluters. These identities are tied to wealth and culture, especially in the Global North and Global South divisions. This tendency by politicians, NGOs, and grassroots organizations result in the marginalization of women and places added burdens upon them. By limiting the identities of women as poor victims, or praising them as protectors of the environment, time and resources are misdirected, and little progress is made due to a lack of inclusion. More effort and attention is needed to achieve a better understanding of gender power imbalances and relationships, as well as

how systems and institutions need to transform to become less gender exclusive in order to promote better environmental and gender security.

In terms of vulnerability, we as conflict resolution practitioners and researchers must also consider what we may inadvertently create. We need to evaluate the conflict resolution tools and measures used to help us understand gender equity and security. As stated in this thesis, many aid workers in the Philippines were unprepared for the level of gender-based violence that occurred after Typhoon Haiyan, based on assessments of gender equity. Policies and recovery efforts must ensure that their actions and policies do not place undue burdens or additional risks on women and men following natural disasters. We must also help policymakers understand the connections between development and environmental security for the sake of prevention.

A Gender Umbrella for Environmental Security

In order to understand and address concerns about environmental security, a gendered lens or framework is an essential tool. Nicole Detraz (2013) explains that feminism is a broad term covering many different perspectives and theories that overlap and intersect with other social aspects of human societies and cultures. But feminism is unified by the idea that social constructs exist informing men and women how they ought to behave. Rules defining masculinity and femininity shape our behavior and values, vary across and within cultures, and fluctuate based on age, race, ethnicity, and religion. The core concerns across the spectrum of feminism are gender equality and gender emancipation, while they differ on definitions of goals and strategies. However, a

common characteristic across the globe is that of men and women navigating different societal rules that often value men more than women (Detraz 2013).

Detraz states that gender analysis allows researchers to identify trends in different areas of focus by helping us understand power and resource divisions across gender lines. It does not narrow its focus solely on women because this can isolate or further segregate women from the comprehensive social-cultural and socioeconomic systems which they inhabit with men, as well as individuals belonging to other gender identities. It is not enough for researchers to explore the position of women and men in terms of world politics, but they must also try to understand the gendered frameworks and systems that can create conflict and their effects on all members of society (Detraz 2013).

As a critical theory, feminism brings a broader approach to analysis and encourages diverse perspectives for consideration and research. In terms of environmental security, a gendered lens reveals the unique experiences of men and women when the environment is damaged. While both men and women experience negative impacts from natural disasters and climate change, we recognize that these impacts are gendered, and often leave women worse off than their male counterparts. This reflects our gendered relationships with the natural world, and thereby demonstrates that gendered norms have great influence over our life experiences (Detraz 2013).

Most policymaking related to the environment has taken a gender-neutral approach. This traditional approach overlooks the differences and intricacies of masculine and feminine relationships, and overlooks other intersections with gender such as poverty, race, ethnicity, or religion within the environment. An example is how water

privatization has had negative impacts on women (Detraz 2013). In many developing countries, water has been privatized as a way to conserve. This has caused prices to skyrocket, which has serious implications on women living in poverty. Because women are primarily responsible for meeting household needs, they often must sacrifice other activities such as subsistence farming of cash crops requiring irrigation, resulting in the loss of much needed income (Feminist Majority Foundation n.d.). Water is a basic human need, and as this example demonstrates, it is important to understand the gendered impacts of water governance and privatization, as well as the hydrometeorological impacts from climate change causing floods, droughts, and more severe storms. The same can be said about healthcare. In each of the four cases, access to healthcare was a challenge for women during the recovery phase, as well as before.

Detraz (2013) explains that feminist security studies have helped to broaden the definition of security as well as identified different levels of security. It has raised questions over the language used to describe types of security, as well as the unique experiences of men and women in terms of conflict, terrorism, and peacekeeping. It has had an overall impact by expanding and further developing the field of security studies to address ideas about threats, vulnerabilities, and what they mean at different levels. Like feminism, security studies also have differing views and no single definition. Feminism enhances this by seeking to expand the focus from militarized state security to include other vulnerabilities at other levels such as the ways traditional state security and politics contribute to insecurity experienced by individuals.

While feminist theories do address the marginalization of individuals and groups, this is not their sole contribution to the field. Detraz warns that misunderstanding of this can lead to further generalizations about experiences and may cause some to interpret women as always victims during times of conflict or instability, and less as agents of change providing solutions and leadership. This is counterproductive and can do more harm to women by influencing policy that will further marginalize them in society. Gender research seeks to identify patterns of experiences that are connected to masculine and feminine attitudes and behaviors. It is just as detrimental to adhere to the notion that men are well-suited for war and women are more harmonious with peace.

As the case of Typhoon Haiyan in the Philippines demonstrates, women can be part of a society with a high gender equity rating, and still experience gender-based violence. Humanitarian aid workers overlooked this security threat by assuming that this pattern or status would protect women and girls during a natural disaster. Just as gender identity is becoming more understood as fluid, researchers, policymakers, government leaders, aid workers, and NGOs must recognize that gender norms in a society can also have a fluid state and as technology improves, cultures evolve and adapt, and ecosystems change, so too shall relationships, balances, and imbalances of gender equity and gender security. Dr. Ursula Oswald Spring's (2008) HUGE-methodology encourages us to think about human, gender, and environmental security. This tool allows us to evaluate priorities to acknowledge and then address vulnerabilities that are unique to different identities based on gender, race, ethnicity, and caste or class.

In terms of climate change and natural disasters, women have been labeled as victims, saviors, and complicit actors causing environmental degradation for collecting wood. Detraz (2013) points out that it is important for researchers to have a nuanced approach when trying to understand gender, security, and the environment. It is important to understand the part that both men and women play when discussing climate change and environmental damage. It is unrealistic to assume every woman is a nurturer and care giver, or that every man is violent. Like feminism and security theories, environmental conflicts are extremely complex, with many layers and perspectives (Detraz 2013, 162). Gender, security, and the environment all have a history of stereotypical connotations about the roles of men and women. Oversimplifying these conflicts and relationships causes people such as policymakers and aid workers to overlook vulnerabilities, strengths, and opportunities. This complexity demonstrates the urgent need for tools such as Cheldelin and Lucas's framework that helps identify the levels of conflict and "... to consider the conflict sources: the parties' *relationships, needs, interests, values*, and *ideologies* that can serve as constraints in effective communication and collaborative teamwork" (Cheldelin and Lucas 2004, 16).

Detraz warns of another hazard to gender and environmental security research: the narratives that focus on overpopulation as a cause for climate change and environmental damage. This tends to focus on women from the Global South, and identifies them as the cause. Women's fertility is blamed for overpopulation, poverty, environmental scarcities, and violence. This narrative attempts to control women's bodies and can have an adverse influence environmental policy making (Detraz 2013).

Detraz explains the relevance of the differences between ecological and environmental security. Ecological security is ecocentric in nature, meaning that it is the principal piece of security discourse. It has been debated whether it should include non-humans as well as humans, with some believing that including humans is counterproductive. Feminism is linked to these environmental perspectives through the concept of ecofeminism, which critiques assumptions that humans and the environment are not connected. Ecofeminism connects gender conflicts to the environment. French feminist Francoise d'Eaubonne first coined the term in 1974 to refer to the movement by women to save the planet. Later in the 1970's and 1980's, many activists and scholars used the term to refer to their attempts to link feminism with ecology. Some saw parallels of humans having power over the environment and men possessing power over women. Others used this term to bring attention to the relationship and connections between humans and the ecosystem, both positively and negatively (Detraz 2013).

Detraz points out that these concepts also seem to interplay with each other in different ways in the context of security and scarcity. Some scholars have taken the position that security and environmental protection are not compatible. For example, if security is viewed in a narrow sense of state security, then during times of violent conflict, the environment may be damaged or sacrificed in the name of state security. And if scarcity is only applied to the needs of humans and not the ecosystem, then this disparity fails to consider power balances and resource distribution adequately. Feminism and ecocentrism both offer critiques of traditional masculine definitions of security and

scarcity. Understanding relationships and intersections allows these two to collaborate and influence our understanding of security (Detraz 2013).

This also demonstrates researchers need for reflexivity in the field of Conflict Analysis and Resolution when looking at environmental conflicts. A gendered lens can provide new perspectives and nuanced understandings of conflicts related to the environment and security. But researchers, policymakers, and aid workers must be careful not to project gender assumptions or biases in ways that label women as only victims. In researching the recovery efforts in Haiti following the 2010 earthquake and the cholera outbreak, it is easy to generalize and view all women and girls in Haiti as victims. However, their stories are not the only female narratives from Haiti. It is important to recognize that the conditions in the camps worsened their suffering after the earthquake, and yet they still persevered and survived. There are lessons about adaptability and endurance to be learned from their stories, as well as how to provide better security and improve disaster relief programs.

Security and Gender Equity: Institutions and Hierarchies

In 2015 the UN News Centre reported that women are the pillars of global food security to mark International Women's Day. According to the article, there has been a "feminization of agriculture" as more men in developing countries migrate to urban areas for employment. This trend has led to a rise in women working in agriculture, and today women make up approximately half of the global agricultural workforce (UN News Centre 2015). However, according to a 2010-2011 report by the Food and Agriculture Organization of the UN, women do not have the same opportunities as men, especially in

terms of land ownership. Sometimes this is because of laws that prevent women from owning land, family marriage laws, provisions in inheritances, or housing laws. Even when laws are changed, cultural norms still deny women land ownership. Male heads of households may have more influence in rural communities. Additionally, local land officials may not be informed about gender equity laws or new provisions if legislation does not provide specific guidelines for them to follow. There may also be bureaucratic barriers such as having space for two names on land registration forms, rather than only listing wives as dependents (Food And Agriculture Organization of the United Nations 2010-2011).

Elaine Enarson (2014) states that gender is actually the missing piece needed to unite development, security, and climate change. Because gender is a fundamental aspect of every culture and social structure, a gendered analysis of natural disasters and climate change enables researchers, policy makers, and government leaders to understand the importance of gender equity and security in order for the family and the community to recover post disaster, and for development to progress. Gender neutral institutions, governments, policies and social systems become more damaging to recovery efforts, development, and security following natural disasters because they may neglect unique risks that men and boys face compared to women and girls, and they tend to leave women and girls on the sidelines during times of political and environmental change (Enarson, Human security and disasters What a gender lens offers 2014)

Enarson explains that due to the intersectionality principles of gender analysis, we can understand the impacts of class, caste, ethnicity, age, culture, and religion on power

relations and social structures. Traditional approaches to development and security also demonstrate how ingrained gendered perspectives impact daily life and during periods of conflicts or natural disasters. Traditional norms related to masculinity make men feel obligated to provide for and protect their families, and so during and after a natural disaster they may take more risks that contribute to self-harm. Women and girls feel the impacts of natural disasters and climate change more severely because they are more vulnerable than men. Their vulnerability stems from a lack of education, the inability to own property and land, high rates of poverty, frailty of the elderly, home based workers providing care for family members, reproductive health needs, and marginalization of sex workers or trans-women (Enarson, Human security and disasters What a gender lens offers 2014).

Enarson also states that security threats are often identified as the loss of property such as a home. This may occur as a result of conflict, natural disaster, erosion, deforestation, or rising sea levels. Domestic violence occurring after a disaster may also leave women homeless. But traditional security frameworks lacking a gender lens do not address losses that are not material. They do not consider ineffable losses such as loss of trust, identity, cultural history, or sense of place, all of which can be more painful and damaging to individuals, families, and communities trying to rebuild (Enarson, Human security and disasters What a gender lens offers 2014).

Gender roles in labor and gender inequalities also demonstrate that men and women have different security concerns related to the environment. Enarson notes that many disaster relief organizations and governments often miss or ignore these differences

and favor occupations, trades, and skills that favor men's livelihoods over women's. For example, following the 2004 tsunami, men were provided with replacement boats and nets, while women who had become defacto owners of their boats because their husbands had become disabled or chronically ill before the tsunami, were unable to receive ownership of replacement boats after the tsunami. Instead, the government listed sons as the owners of the replacement boats, rather than the mothers (Enarson, Human security and disasters What a gender lens offers 2014).

Women fleeing the floods in Pakistan faced many security challenges, including the loss of income from damaged or destroyed crops and livestock. Economic inequities based on gender roles that limit work and income make women especially vulnerable to the impacts of climate change and natural disasters. This also harms men and women in unique ways in Afghanistan. Because of the droughts, the poppy crop has become the more economically rewarding, and with less land for farming, many men turn to the Taliban for security and stability. This in turn empowers the Taliban to enforce rules or laws that prohibit girls and women from attending school or working outside of the home.

Enarson states that most gender analysis in the field focuses on four primary concerns. The most common area focused on is related to self-evident aspects of sex and gender differences such as women's roles as mothers and care givers in the family versus men's roles in disaster and crisis response and hazardous risk. Later, research began to focus on inequalities as opposed to differences. This approach addresses power dynamics within a particular community or culture such as decision-making, economic patterns,

housing, intimate-partner violence, political participation, as well as other factors that have a profound impact on individuals, families, and communities, thereby creating social vulnerabilities for women and girls. A third area of focus is gender mainstreaming in disaster management which incorporates gender ideologies and principles into the working culture and processes of disaster risk management. Finally, the fourth approach tries to address women's agency through a nuanced analysis that looks at intersections with other power relationships in society (Enarson, Human security and disasters What a gender lens offers 2014).

This intersectional approach to gender and natural disasters builds a better foundation for understanding the relationships between security and the environment, and how they influence gender equality and mainstreaming practices. In the West we tend to understand Afghanistan in terms of how the Taliban has harmed women, but we rarely consider the environmental impacts of climate change that helped to destabilize the region, allowing groups like the Taliban to rise to power. Following Hurricane Katrina, recovery for many lower income communities in New Orleans has been difficult because of gender neutral policies that ignore the needs of women.

The Hyogo Framework for Action recognizes that gender is a cross-cutting factor necessary for disaster risk reduction, but it does not address climate policy (United Nations 2005). Detraz states that this has led to a rise in gender related advocacy for gender-responsive climate policy that is research focused and addresses the four mentioned themes: difference, inequality, capacity, and mainstreaming. Areas such as adaptation, as well as women's traditional skills and knowledge, have been researched

following natural disasters. Gendered climate research related to security analysis has brought three areas of focus. The first is an ecological place-based analysis of security, the second brings a more nuanced analysis of inter-related threats and responses, and third, a shift from science-based knowledge to practical action (Enarson, Human security and disasters What a gender lens offers 2014).

Gender analysis enhances the field of human security through the understanding and recognition of intersections and power relations. Enarson points out that it's principles of interconnections also help to link theory and practice in the fields of disaster, climate and human security. Differences between climate research and disaster research arise based on their premises and can lead to isolation. Climate researchers may see disaster research as too narrow, while disaster researchers often perceive climate research as a single facet amongst numerous hazards. The fields are beginning to approach a more common theory, common research, and common advocacy approach (Enarson, Human security and disasters What a gender lens offers 2014). Gendered security research and analysis is helping to bring fields together, and this is an important shift for human development and security. It also has the potential to connect people from different levels for collaboration to improve environmental security for prevention and disaster recovery.

The fields of research and advocacy may be making progress in terms of understanding the intersections of gender, security, natural disasters, and climate change, but world leaders and policy makers need to catch up quickly. In 2015 world leaders gathered together in Paris to discuss climate change for the COP21 UN climate change

conference. The Guardian (2015) reported that Mary Robinson, Ireland's first female president and former UN human rights chief, acting as a special UN envoy, stated that the conference was too male dominated. She noted that the majority of the leading panel members were men, which meant that the climate conference would be driven by male priorities. Half-way through the two-week talks, a Tuesday was officially designated as "gender day" (Harvey 2015). Research and experience strongly indicate that designating one day to discuss gender in a two-week conference on climate change is inadequate for real progress in environmental security. This inability of policy makers to incorporate gender mainstreaming into international climate talks demonstrates a lack of understanding and appreciation of the importance of the intersections of gender, security, and climate.

The article states that this failure is likely due to the fact that several countries object to the use of language on gender equality in legal texts, while others want to see it included. Robinson warned that social orders will be disrupted if this practice continues and leaders continue to ignore the impacts on the most vulnerable members of society whether it be in the aftermath of natural disasters or during migrations happening as a result of climate change (Harvey 2015). Oswald Spring's HUGE approach could help leaders overcome barriers and presumptions about gender equality in order to better understand vulnerabilities created by gender disparities that exist in cultures across the globe.

Grassroots Empowerment: Linking Gender Justice and Environmental Justice

A 2014 report from Madre emphasizes the intersections of gender, poverty, security, and climate change in a single paragraph. A young girl named Mercy was living in a rural village in Kenya that was experiencing a drought. Her parents were forced to marry her to a man able to pay a dowry. She became another victim of climate change, losing her rights to health, education, and a way out of poverty. It is acknowledged that people living in poverty are the first and hardest hit by natural disasters and climate change, but it is also important to recognize that 6 out of 10 people living in poverty worldwide are women and girls. Few are able to recognize the connections between young girls being pulled from school to become child brides and the impacts of climate change (Madre 2014).

With an integrated gendered approach to understanding and addressing climate change, researchers and NGOs are finding that many poor, Indigenous women who are especially vulnerable to climate change, are also finding solutions. Their knowledge and skills from a rural background have brought solutions that protect people and ecosystems. Because they are not constrained in the same way government leaders and policy makers are, they can find creative ways to adapt and become stewards of their local environments and resources. Their progress shows the potential for gendered analysis to help larger economies and governments transition and develop new strategies to address climate change and gender equality (Madre 2014).

Despite this potential, world leaders and policy makers continue to ignore the progress Indigenous women have made, especially in rural areas, and create climate

programs that marginalize women and undermine human rights. This fortifies old conventions and attitudes that created the climate crisis we are in today (Madre 2014). This scenario continues to be played out across the globe, as witnessed in the deficient approach disaster relief organizations used to address GBV in the Philippines following Typhoon Haiyan in 2013, and in the COP21 climate change conference in Paris in 2015.

The report from Madre (2014) also calls for the realignment of goals and priorities for NGOs dealing with climate justice, mainstream environmental NGOs, women's rights groups, and human rights organizations. This depends on funders realigning their goals and facilitating programs and movements that are intersectional, and create tools or mechanisms that enable participation, feedback, and consultation between grassroots women activists with knowledge and expertise, and policymakers. Their local knowledge will help policymakers and NGOs, and this collaboration could help to transform development strategies to become more inclusive and rights-based. Climate change contributes to numerous threats to women including gender-based violence, child marriage, and poverty, but it also presents an opportunity to improve the balance of world economies, development, and security. This can be accomplished through a gender analysis that addresses intersections as well as gender equality. Indigenous women working on grassroots campaigns need to be recognized as leaders and experts, rather than as victims (Madre 2014).

Intersectional gender data are important to researchers, as well as policy makers, and this is true for all countries, regardless of their level of development. The report from Madre explains that NGOs and funders often treat women as a uniform group, void of

diversity. When Hurricane Katrina devastated African American communities in New Orleans, African American women were among the most vulnerable in their communities, and shouldered most of the responsibility for caring for children and the elderly, while being stigmatized as “welfare queens,” as well as blamed for overpopulation and poverty in the area. Following the 2010 earthquake and cholera epidemic in Haiti, lesbians and trans women were forced into camps, exposed to sexual violence, and excluded from segregated bathrooms, health services, and food distribution (Madre 2014).

As the 2015 COP21 climate conference demonstrated, gender is often added onto discussions about climate change and policy as a side note, rather than treating gender as diverse, intersectional, and a fundamental component of society . The Madre report states that the UN did not address gender inequality related to climate change until 2009. Most mainstream environmental NGOs, governments, policy makers, and corporations view climate change only in a scientific framework, rather than a social framework. It is more acceptable to use technical approaches such as carbon trading and geo-engineering, rather than discuss research and evidence that call for social change. These market based approaches ignore the need to end our addiction to fossil fuels and transition to clean energy. They continue to justify the unrestrained use of fossil fuels for economic benefit, to the detriment of the most vulnerable members of our global society. This continues to impede international negotiations on climate change as the Global North continues to consume natural resources and gain more wealth, while the Global South receives little or nothing in compensation or aid for development (Madre 2014).

The Madre report noticed a shift in environmental activism. A lack of progress at higher levels has led many environmental activists to return to more grassroots movements, as well as a shift of their attention from reducing carbon footprints to challenging fossil fuel production. They have taken on large corporations including Keystone XL in the U.S. and Canada, and the Shell operations in Nigeria. These movements have been led by young people using nonviolent protests and civil disobedience (Madre 2014). If these groups are going to be successful, they must find solutions to address multiple problems at the same time. This depends on their awareness of the gendered imbalance of power that sustains the fossil fuel industries (Madre 2014).

Historically, many conventional environmental organizations have used poor women of color as global scapegoats for environmental degradation through overpopulation. Their sexist and racist attitudes have cut them off from many women in grassroots environmental movements. These organizations now have the opportunity, and an obligation, to connect gender justice with environmental activism on climate change (Madre 2014).

Furthermore, while many NGOs and environmental nonprofits recognize the importance of gender mainstreaming for their programs, it is not necessarily reflected internally within their organizational structures. According to a recent study by Green 2.0 (2014), gender diversity is also lacking in environmental nonprofits. While all three types of environmental, conservation, and preservation organizations have made great strides for improving gender diversity, most of the women who have benefitted from this progress have been white, and other disparities exist as well. There has been progress in

the number of women in leadership positions, with over half of the 1,714 positions held by women, and 60 % of new hires are women. There are more women than men serving as executive directors for environmental grant making foundations, and women are more likely to become chairs of the board for these foundations. However, over 70% of the presidents and chairs of the board for conservation and preservation organizations are men. Men also account for 90% of the presidents for the largest conservation and preservation organizations with budgets over \$1 million. In government environmental agencies, men are more likely to be presidents (76.2%), and chairs of the board (55%). Additionally, 56% of board members for all three types of environmental organizations are male (Taylor 2014).

A global approach to climate change means that it cannot be only a north-south or top down approach. The report by Madre (2014) explains that world leaders, policy makers, and NGOs must also learn from the people who are most vulnerable to the impacts of climate change and natural disasters. Women all over the world are responsible for obtaining food and water. Moreover, in the Global South, they are also the ones who secure fuel for homes and medicinal plants. These resources are essential for their families and communities, and they are dependent on a stable climate. This balance and the traditional role of women put them in an important position for ensuring balance and sustainability (Madre 2014).

This crucial role has led many Indigenous women to make themselves the first line of defense to protect their lands that are rich with natural resources (Madre 2014, 4). In 2014, Common Dreams reported that Maxima Acuña de Chaupe, an Indigenous

Peruvian farm worker, defeated Yanacocha Mine, of which, 51% is owned by Colorado's Newmont Mining Corporation, which tried to force her and her family off of their land and imprison them. The mine wanted to use the Blue Lagoon of Celendin to build an open-pit Conga gold mining project, which would be an extension of the one at Yanacocha. They tried to buy Acuña de Chaupe's land in 2011, but she refused because she wanted to protect her family's home and the environment. The lake is a vital local natural resource that provides fresh water for her family and their animals. Acuña de Chaupe was not alone in her protest, as many people from the region had protested the mine over resource extraction, exploitation, displacement, and environmental harm. The mining company attempted to intimidate Acuña de Chaupe with help from the Peruvian government and private security. Her family withstood 3 violent eviction attempts by the mining company, who had help from the police and soldiers. One of these attempts left Acuña de Chaupe and her daughter unconscious, and her son in the hospital. Eventually, the Yanacocha mine sued Acuña de Chaupe, accusing her and her family of occupying their own land illegally. The judge found Acuña de Chaupe's family guilty and ordered them to pay close to U.S. \$2,000.00 in fines and penalties, and four of her family members were sentenced "to two years and eight months of suspended imprisonment for not vacating the land" (Lazare 2014). In December 2014 a Peruvian appeals court overturned their conviction, and their case became a rallying cry for others protesting to protect their homes and the environment (Lazare 2014).

Acuña de Chaupe is just one example of Indigenous women protecting their families, homes, communities, and the environment from carbon-polluting extraction

industries. However, many government and NGO programs still treat women like Acuña de Chaupe as victims, rather than leaders and reformers. Working with women grassroots leaders is so much more than “having women at the table.” This is a very limiting strategy in comparison. Inviting a select, elite group of women to attend a meeting, or setting aside one day to consider gender in a two-week global conference is not enough for policymakers to gain real knowledge and understanding of the intersections of gender, climate, and security. The Madre report (2014) explains that recognizing and including women who are grassroots and community leaders provides a more inclusive and holistic understanding of gender, race, class, Indigenous status, sexual orientation, colonial histories, and other identities which influence how people experience climate change. This shared knowledge can lead to more equitable and practical solutions (Madre 2014).

Women all over the world are finding ways to protect their families, communities, and their local environment from the impacts of climate change and natural disasters. The Madre report (2014) states that women in Bangladesh have built homes that are wind resistant. In Sudan, women unionized as a way to share their farming knowledge. After experiencing an increase in the severity of recent hurricanes, women in Nicaragua created a seed bank to conserve the biodiversity of the region. These solutions not only promote women’s livelihoods, but also improve food security, and find alternatives to carbon backed industrialized agriculture. This approach is a model for the kind of climate change response that is needed. One that is democratic, and balances local ecosystems with local cultures (Madre 2014).

The Feminization of Poverty and Climate Change

In 2015 the World Bank identified climate change as a major obstacle in efforts to end poverty. People living in poverty face greater challenges in overcoming and adapting from shocks such as natural disasters. They possess fewer resources and often live in the most vulnerable places, near water sources that flood, hillsides susceptible to landslides, or farmlands without adequate access to water. Damage to homes and businesses caused by natural disasters can keep people trapped in poverty, as well as push them into the poverty trap (The World Bank 2015). A 25-year survey of households in Andhra Pradesh, India found that 12% of households became impoverished, and 14% of households were able to escape poverty. 44% of these households that fell into poverty cited natural disasters, such as droughts, as the primary cause (Moser 2007).

The feminization of poverty is a term that first appeared in the 1970s, but then became more popular in the 1990s. It has taken on different meanings, but more recently has been defined as “a change in poverty levels that is biased against women or female-led households” (Medeiros and Costa 2008, paragraph 1). It brings together the injustices of poverty and gender inequality and recognizes the increase in the poverty gap between men and women, or between the households led by women versus those led by couples or men. Because many poverty indicators do not account for differences between men and women by addressing the household, they do not accurately reflect the realities (Medeiros and Costa 2008).

Jackson (1996) explains that the term has evolved and been critiqued for identifying people living in poverty as mostly women, rather than recognizing the gendered experience of poverty, and that policies addressing poverty are less helpful at

addressing gender issues because poverty does not cause the subordination of women. Studies have shown that men often suffer higher mortality rates than women during famines, and women have better life expectancies, but poorer health. Violence has causes other than poverty, and that there is often more gender equality in poor households than wealthy ones. This analysis demonstrates that poverty and gender are two separate systems of disadvantage (Jackson 1996).

This critique has implications for research on gender and environmental security as well. Arora-Jonsson (2011) explains that the common themes in this field of study are women as vulnerable victims and virtuous saviors of climate change and environmental disasters. This is further divided by the Global North and Global South roles in environmental conflicts and negotiations. Women in the Global South are characterized as the most vulnerable to the impacts of climate change and natural disasters, while women in the Global North contribute less to pollution than their male counterparts. Both the virtuous and victim narratives portray women as more harmonious with and connected to nature than men (Arora-Jonsson 2011).

Mortality rates are typically gendered following natural disasters. The adverse impacts on female versus male mortality rates has been linked to vulnerabilities created by social constructs that place women at a disadvantage and natural disasters exacerbate this gender gap. Gendered vulnerabilities and discrimination is varied based on intersections with ethnicity, class, caste, or type of employment. Researchers need to understand specific types of vulnerability in each region impacted by climate change and natural disasters (Arora-Jonsson 2011).

Arora-Jonsson explains that understanding vulnerabilities in the context of natural disasters and gender is complex. Hurricane Mitch is an example of a natural disaster where more men were killed than women. This has been attributed to a trend of machismo in Latino cultures, encouraging men to take more risks during a natural disaster. In this case, poverty certainly has an important role in vulnerability, but there are other factors to consider when assessing risk, including time and place. While males in Latino cultures may take more risks through their actions, females may put themselves in greater risk through inactions, and in either situation, poverty may have more or less influence on the outcome. If women choose to remain in their homes, then they will be at greater risk if there are rising flood waters. In this scenario, middle-income housewives may be at a greater risk than lower income women who work outside of the home (Arora-Jonsson 2011).

Arora-Jonsson explains that there is also a tendency to connect women with stronger environmental consciousness than men. The European roots of eco-feminism and development are also linked to modern research on gender and climate change. Here women are defined by their virtue and for their roles as protectors and caretakers of the environment. These kinds of assumptions are based on research pertaining to consumption and transportation choices that tend to lump all women together as pro-environmentalists and do not acknowledge their different motivations or perspectives. Like men, women's identities and ideas are shaped by circumstances, so women in northern Vancouver, Canada may support conventional forestry, while other women

living in another region may have an opposing view based on their own experiences (Arora-Jonsson 2011).

Arora-Jonsson also notes that the notion that women have stronger connections to nature influenced policymakers in the 1980s, who were looking for ways to include women in development plans. This strategy enabled them to bring women in to serve in environmental roles for projects such as tree planting or soil conservation, and to validate environmental projects by targeting them towards women. However, the interests of the women targeted by these policies were not considered in the planning phases, and as a result, these projects did not address issues related to power and property ownership. They also placed more burdens on women to perform, while they lacked the resources and capacity to complete these projects (Arora-Jonsson 2011).

Unfortunately, in order to have women included in policymaking related to climate change, it is often necessary to frame this position with women's vulnerability and virtue intertwined with the environment. Arora-Jonsson explains that in the 1970s and 1980s, there was attention given to gender issues, but less in the 1990s when policy was focused more on poverty. The feminization of poverty may have been a way to include women in policy making related to poverty. This trend has continued with research and technical literature on climate change that does not reference gender. Policymakers and government leaders tend to be more likely to include gender in their negotiations and policies when women are depicted as vulnerable (Arora-Jonsson 2011), thus giving NGOs focused on gender an incentive to find research to match the interests of policymakers and funders.

Arora-Jonsson points out that most research and literature written about gender and climate change has been focused on engaging international politics to include women. In order to do so, women's vulnerability to climate change has been defined by poverty and mortality rates, but some research contains statistical data that has been debated. Additionally, there are reports and papers that do not provide references and also cite each other. This has resulted in skepticism and undermining of research related to gender and climate change (Arora-Jonsson 2011).

Arora-Jonsson states that the tendency to refer to women as either virtuous or vulnerable in the context of climate change limits their agency, and fails to adequately address power imbalances. This is also commonly tied to women living in developing countries in the Global south (Arora-Jonsson 2011), but as Hurricane Katrina demonstrated, gendered impacts from natural disasters can also happen to developed countries in the Global North. Arora-Jonsson also points out that another common assumption is that women in poverty are more vulnerable to the impacts of climate change, while men are the primary polluters. Although women are vulnerable for many reasons, it is unrealistic to generalize men and women in this way when addressing environmental conflicts (Arora-Jonsson 2011). Men can also suffer from powerlessness brought on by climate change. A report from Al-Jazeera explains that the high suicide rates among male farmers in India demonstrate the unique stresses men feel from climate change and a changing economy. Many farmers took out loans and borrowed against their land to invest in irrigation and farm equipment, buy seeds, and to pay workers. But long droughts and unseasonable rains have produced poor yields, and the farmers are

unable to repay their debts. Local money-lenders have replaced banks in many areas, and their practices of increasing interest rates every year have left many farmers in debt-traps. The suicide rate among farmers in India was 47% higher than the national average in 2011, and it is estimated that 41 farmers commit suicide every day. They leave behind widows and children. One widow asked, “Who will marry my daughter?” (Umar 2015, paragraph 13).

Arora-Jonsson explains that research has shown that attempts to feminize anti-poverty programs by transferring resources to women can have negative impacts by placing more of the burden on women. During reconstruction following Hurricane Mitch, many assumptions were made about women living in poverty as the heads of their households, which informed the way resources were distributed. But the resources provided failed to address the causes of poverty. Many women surveyed responded that while women were contributing the most to reconstruction, they were receiving very little benefit from the program. Although attention and resources were directed towards women, their impact was to feminize the responsibilities and burdens during recovery (Arora-Jonsson 2011).

Arora-Jonsson also states that as the international discourse on climate change continues, we still see gender perspectives ignored, or given limited attention. When attention is given, it is too narrowly focused on vulnerability, virtue, and poverty. It is common for policymakers, NGOs, and researchers to make poverty a core focus of gender and environmental conflicts rather than addressing gender issues that cut across class, wealth, or caste disparities. This strategy also prevents gendered analysis of the

methods and systems in place used by governments and development agencies. As a result, marginalization and vulnerabilities exist at policymaking levels, down to the grassroots levels of societies, without truly addressing power imbalances that exist (Arora-Jonsson 2011).

According to Arora-Jonsson research has shown that environmental management programs, such as recycling plants and forestry committees, have become more efficient with the inclusion of women, and many have been promoted including more women in decision-making roles for environmental policies. But the systems and structures in place often make women feel restricted or ostracized by male members of the same institutions. An analysis of women from India and Sweden joining forestry organizations in their perspective countries showed that women from both countries experienced marginalization and inequalities compared to male members of the organizations. Women were expected to comply with rules and laws that they believed limited their voices. Women from both countries reported feeling stronger and more confident when they participated in their own groups, separate from the men. This example demonstrates that including women in institutions and organizations is not enough to transform power imbalances. The structures and processes of the institutions themselves must also adapt and transform in order to become more inclusive and flexible so that marginalized groups can have equality in participation (Arora-Jonsson 2011).

These cases illustrate that it is not enough to simply include women in institutions in order to promote gender equity. The processes and systems also need to transform in order to become more inclusive and improve gender equity. This is evident in each case

this thesis has studied. Arora-Jonsson points out the while more democratic and collaborative approaches may be critiqued for having slower processes, the level of response to climate change over the past decades shows that traditional economic methods and approaches have not brought necessary change fast enough

Tools for Gender Analysis

Andy Sumner reported that there was a new “bottom billion” in terms of global poverty. According to his research, in 1990 approximately 90% of the world’s poorest people lived in low-income countries, meaning they lived where the average purchasing power parity (PPP) per capita income was below the \$1.25/\$2.00 per day international income levels. However, by 2008 approximately 70%-80% of the world’s poor people lived in middle income countries, albeit lower middle income countries. Sumner attributes this to many countries moving from a low income status to a lower middle income status, while each country forges their own trajectory path based on population growth, income growth, inequalities, and poverty gap. He identifies two types of growth. In Group 1, countries are experiencing a relatively healthy and equitable growth with a low poverty gap as a percentage of their GDP, and they may possess domestic resources to reduce poverty. In Group 2, countries are seeing a less equitable growth, have larger poverty gaps, and do not possess domestic or fiscal means to reduce poverty. Countries in Group 1 are generally found in Latin America and East Asia, while countries in Group 2 include India and parts of Sub Sahara Africa (Sumner 2012).

As previously stated in this thesis, women account for 6 out of 10 people living in poverty globally (Madre 2014), (United Nations Development Programme 2009), and

although more developed countries experience more natural disasters (56%), they have fewer deaths (32%), while less developed countries experienced fewer disasters (44%), and they have more deaths (68%) (Centre for Research on the Epidemiology of Disasters 2015). This is important to consider as countries in different geographic regions move from low income status to middle income levels. Two important tools for analysis are the Gender Development Index (GDI), and the Gender Empowerment Measure (GEM). The 2007/2008 Human Development Report states that “the income measure used in the GDI and the GEM indicates a person’s capacity to earn income. It is used in the GDI to capture the disparities between men and women in command over resources and in the GEM to capture women’s economic independence” (United Nations Development Program 2004). These indices are needed to bring attention to global gender inequalities, but we must consider the data gathered to produce them.

Milne explains that the indicators are based on an estimate of the female share in earned income. This is calculated from the total female share in the economically active population. However, many women participate in family enterprises and subsistence activities which are not included in this definition. Because they are excluded by this definition, they are not counted, and thus there is an inaccurate reflection of the female labor force, meaning that the estimated female income may be lower than the real income. This may include businesses that are run from homes, street vendors, and other informal arrangements and are not registered with local governments. It was estimated that from 2000-2005 informal laborers accounted for 31%-34% of South Africa’s labor force. However, it is not clear if including this portion of laborers in the overall labor

force would be allow the GDI and GEM to account for any income disparity between men and women part of this group. This is significant not only because of the large proportion of labor that is not counted in the GDI and GEM, but also because South Africa has become a middle income country, and the majority of street vendors are black South African women trading goods such as fruits, vegetables, and clothing (Milne 2014).

According to Milne, the Human Development Index (HDI), and the Gender Development Index (GDI) were designed to address poverty with a more human approach, rather than focusing only on economic growth. The GDI looks at income level, life expectancy, and education to measure poverty, and it gives equal weight to each of these components. However, a higher level of income does not necessarily indicate overall well-being for women and girls. This means that in countries where men and women have more equal levels of education and life expectancy, that their scores will be more impacted by income inequalities. The Middle East and North Africa have small gaps in education and life expectancy, but large gaps in income inequality between males and females. Because the 3 indicators are weighed equally, the one with the largest gap will have the greatest impact on the overall score. It has been calculated that this income inequality gap can account for an average of 85% of the total gender gap (Milne 2014).

Both the GDI and the GEM have difficulty accounting for cultural and social values. The assumption built into their calculations is that higher income for women will lead to female well-being and empowerment. Certain kinds of jobs, like factory work, can provide women with more income, but they may be socially demeaning and place them

in awkward situations. In some cultures women may value modesty and respect more than wealth (Milne 2014). More desirable and empowering roles may be as community leaders, family elders, or as teachers paid a lower salary than factory employees. The GDI and GEM cannot account for the importance these women have in their families and communities, and thus these indices may be disconnected from grassroots levels of analysis.

Another problem is that the GDI and GEM place males and females into broad categories based on sex, not accounting for age, or ethnicity and how different people experience poverty. An elderly indigenous woman living in the same country as a woman from the majority ethnicity living in a wealthier city will have a range of experiences that cannot be accurately captured with the GDI or GEM, as well as most other human development measurements (Milne 2014). This categorization may also not account for people who are part of the LGBT community, or those who have gender identities other than male and female. Milne also points out that there are problems with the data used by the GDI and GEM because they come from the national census. This is known to be unreliable due to many reasons including sporadic collection, poor recording, gender bias, and poor definitions of legal terms (Milne 2014).

According to Milne, the GDI and GEM have many strengths as well. Their measure of access to education through literacy and enrollment are invaluable. It has been shown that higher levels of education for women lead to better employment, higher income, better family planning, and more autonomy for women. Education is one of the best indicators for gender equality. The measure of access to healthcare by assessing life

expectancy at birth is also very important. It reveals cultural ideas about men and women through discrimination in access to healthcare services (Milne 2014).

Milne points out that South Africa highlights the importance of these indices. In 2002 the Department of Health estimated that 5.3 million people were infected with HIV/AIDS, and that mortality rates for women were higher than for men. While this can be tracked in the life expectancy at birth measurement, it also impacts the economy. Women make up 70% of the caregivers responsible for orphaned children and the sick, forcing these women to stay at home, reflected in the estimated income gender gap. Domestic violence is also a major factor in the life expectancy of women. It was estimated an intimate partner kills a woman every eight hours in South Africa, which is double the rate in the U.S. This was also considered to be a very conservative estimate because 20% of murders did not identify the killer. This is despite the fact that South Africa has one of the most progressive constitutions for women's rights in the continent of Africa. It is possible that if gender violence was part of the life expectancy measurement, that the GDI for South Africa would be lower (Milne 2014).

Milne states that another strength of the GEM is the inclusion of the percentage of women in technical, administrative, professional, and management positions. This is not only a good indicator because these are higher paying jobs, but professional and technical jobs provide opportunities for advancement, and administrative and management positions are important decision-making positions. These are important for women's equity in their households and their communities. And, unlike women elected into

government, these positions are less likely to be influenced by political changes (Milne 2014).

The GDI and GEM, as well as other gender indices, are essential tools for conflict analysis researchers, policymakers, and NGOs in the context of development, security, climate change, and natural disasters. However, they must be examined to understand their impacts, and precision, as well as how they can be improved to better reflect the well-being of women globally. More variables are needed for accuracy, and the relationship to ecosystems, security, and disaster preparedness should be included in this measurement. The case of Typhoon Haiyan in the Philippines is an example of gender indices being insufficient indicators, and/or misinterpreted in the occurrence of a natural disaster.

Conclusions: Gendered Tools and Framework Needed for Conflict Analysis

Through a gendered lens, this chapter analyzes four categories of vulnerability derived from gendered disparities that exist in governments, policies, NGOs, cultures, and research, within the context of environmental security. These four types of vulnerability provide insight into the challenges faced by women in different cultures and by different kinds of natural disasters, as well as impacts from climate change, and resource extraction. These challenges appear overwhelming due to their size and scope as they reach around the globe, but there are tools and frameworks available to address these issues.

With Oswald Spring's (2008) Human, Gender, and Environmental Security (HUGE) and Cheldelin and Lucas' (2004) frameworks, conflict resolution practitioners

and researchers have valuable tools for analysis, program development, and program evaluation. They can also be applied to the structures and policies of governments and organizations so that their own organizational cultures and gender disparities do not prevent them from operating in a way that promotes gender equality from within and without.

The final chapter addresses the importance of intersectional feminism related to environmental security and why it is important for the field of conflict analysis and resolution. It considers the strengths and weaknesses of this thesis and suggests future efforts needed.

CHAPTER FIVE: INTERSECTIONS AND CONCLUSIONS

The final chapter of the thesis explains why intersectional feminism is vital for researchers to improve the understanding of and dialogues related to environmental security. First, I discuss how it has progressed to postmodern third wave feminism from Sojourner Truth's famous "Aren't I a Woman?" speech at the 1851 women's suffrage convention in Akron, Ohio. Second, I consider the challenges intersectionality face in terms of methodologies, and scholarly language in journals that promote "whiteness" while curtailing voices from a community of scholars of color. Third, I explain that intersectional feminism needs to catch up to the women who have already been a part of the Environmental Justice Movement through grassroots activism all over the world, and many are from indigenous populations living in rural areas. Fourth, I present the history of the Environmental Justice Movement that began by accepting white women from the upper and middle classes, and also excluded men and women of color, to today where women of color are a large part of this global movement. Finally, I address the intersections of a feminist economy and an eco-economy. I also consider the strengths and weaknesses of this thesis, and discuss the value of this qualitative research based on case studies, which can contribute to the field of conflict analysis by supplementing quantitative data that already exists.

Importance of Intersectional Feminism and the Environment

The intersectionality of feminism has evolved over time, and became more recognized in the progression of third wave feminism (Snyder 2008, 175). Historically, gender and race have divided and entwined movements from as early as the Abolitionist Movement in the nineteenth century in the U.S. One of the earliest and most powerful voices for this cause was Sojourner Truth, when she spoke at the 1851 Akron convention,

That man over there says women need to be helped into carriages, and lifted over ditches, and to have the best place everywhere. Nobody ever helps me into carriages, or over mud-puddles, or gives me any best place! And aren't I a woman? Look at me! Look at my arm! I have ploughed, and planted, and gathered into barns, and no man could head me! And aren't I woman? I could work as much and eat as much as a man—when I could get it—and bear the lash as well! And aren't I a woman? I have borne thirteen children, and seen them most all sold off to slavery, and when I cried out with my mother's grief, none but Jesus heard me! And aren't I a woman? (Stanton, Anthony and Gage 1887, 116)

Her speech was documented in the History of Woman Suffrage, vol. 1 (1887), by Elizabeth Cady Stanton, Susan B. Anthony, and Matilda J. Gage, all of whom were upper and middle class white women leading the women's suffrage movement in the U.S. In their reflection of her speech and its impact on the audience, they praised her for rescuing their women's suffrage cause from opponents, but did not acknowledge their different experiences based on race, "She had taken us up in her strong arms and carried us safely over the slough of difficulty turning the whole tide in our favor" (117).

The Combahee River Collective was a group of black feminist who began meeting in 1974. They issued the Combahee River Collective Statement in 1977, which further developed the foundations of intersectionality in feminism. They recognized the complexity of issues concerning gender and race, and expanded the role of feminism to include other forms of individual and social identity, such as ethnicity, class, and sexual orientation. In their statement they acknowledged that they were "...actively committed to struggling against racial, sexual, heterosexual, and class oppression, and see as our particular task the development of integrated analysis and practice based upon the fact that the major systems of oppression are interlocking" (Combahee River Collective 2001, 292).

In 1989, Kimberle Crenshaw recognized "the tendency to treat race and gender as mutually exclusive categories of experience and analysis" (Crenshaw 1989, 139). She states that this concept of a single axis framework exists in antidiscrimination laws, and is reflected in feminist theories and antiracist politics (Crenshaw 1989). This critique describes the need for intersectionality in feminist theories, as well as in political structures and legal systems.

Leslie McCall (2005) states that the concept of intersectionality has also created the need for its own methodology. In her critique she explains that the requirements of this methodology are as complex as the social life they attempt to analyze, and that many researchers limit themselves to more complex methodologies and reject the simpler ones. This in turn limits the scope of knowledge obtained from their research. She states that there is a need to overcome disciplinary boundaries and to accept that multiple

approaches will be needed to study intersectionality, but that the overall methodology should be feminist and interdisciplinary in its orientation (McCall 2005).

Rebecca Clark Mane (2012) states that third wave feminism is less inclusive than it claims because in reading third wave feminist texts, she discovered a pattern of structuring grammars of whiteness. This pattern, or the way things are said, promotes diversity in the field, while also minimalizing their voices. She identified four syntaxes of whiteness; the post-race historical narrative, the postmodern abstraction of women-of-color theories, the flattening and proliferation of difference through a long list of interchangeable elements, and irreconcilable contradiction. These syntaxes allow for the inclusion of race and diversity among scholars, as well as their articles and theoretical contributions, but also produces a containment or functional absence of their ideas, which prevents feminism from attaining a full epistemological restructuring that is required for addressing the intersectionality of race and gender (Mane 2012)

Rachel Hallum-Montes (2012) attended the UN Permanent Forum on Indigenous Issues (UNPFII) in April 2010. It convened to meet with representatives of indigenous organizations around the world. In their discussion, they offered analysis on cultural rights, indigenous identity, climate change, and sustainable development. The common theme that emerged was the importance of the intersections of indigenous identity, gender, environmental degradation, climate change, and the class impact experienced by indigenous communities (Hallum-Montes 2012).

In Hallum-Montes' article, she reflects on her experiences working for the Alliance for International Forestation (AIR), which is a nonprofit organization that works

with indigenous farmers in Central America, by assisting them in setting up community-based reforestation programs. She states that AIR has worked with over 2,000 farmers to plant almost 4 million trees in Guatemala and Nicaragua, and approximately 70% of the farmers who have worked with AIR have been indigenous women. From her experience working with a group of Kaqchikel Maya women who are environmental activists who have work with AIR since 1997, she recognized the importance of their motivations for activism, and the need for intersectional analysis in the field of environmental issues (Hallum-Montes 2012).

Hallum-Montes explains that women have been involved in environmental activism all over the world in local, national, and transnational movements. These women have mobilized for various environmental causes, including nuclear testing, the dumping of toxic waste, deforestation, agricultural development, contamination of the air, soil, and water, and the appropriation of indigenous land and resources. Women from different races and class levels around the globe have participated in environmental movements, and approximately 60-80% of the memberships of environmental organizations around the world are women (Hallum-Montes 2012).

Hallum-Montes also states that gendered studies in the field of environmental justice are lacking. Most focus on singular issues such as class or race connected to environmental degradation. This gap neglects the gendered differences men and women experience during environmental conflicts in their communities, and the fact that the majority of environmental justice activists are women. This also ignores the voices and experiences of women of color who are part of these movements. This gap exists in the

fields of environmental social sciences in relation to environmental justice. From 1980-2005 the terms “gender” and “feminism” were only found in 3.9% of all journal articles in the top five environmental science journals (Hallum-Montes 2012).

A lack of research on environmental issues is also lacking among gender and feminist scholars. Transnational feminist studies have addressed issues related to gender, race, sexuality, class, and nationality focused on their relation to capitalist expansion, labor exploitation, militarism, religious fundamentalism, and violence against women. Very little has been written about environmental degradation and other environmental issues impacting men and women around the world. The exception to this neglect is the field of eco-feminism, which, as this thesis discussed earlier, studies the symbolic and material connections between the environment and women. This area of focus has been marginalized from mainstream feminist discourse because it is “essentialist” in its position on the connections between women and nature. This classification is based on its ahistorical, biological, or homogenizing approaches and definitions. In the 1990s many ecofeminist scholars transitioned to a materialist approach and began to focus on the significance of gender and labor divisions that influenced men and women. Others focused on new frameworks such as feminist environmentalism, or feminist political ecology, which considered gender to be an axis of identity which interacts with race, class, culture, and national identity, in relation to the environment (Hallum-Montes 2012).

Intersections of Environmental Justice and Gender Justice

According to Shirley Rainey and Glenn Johnson (2009), “Environmental Justice (EJ) is defined as the fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies” (147). This means that no one should have to endure a disparate portion of harm caused by environmental issues such as those caused by government, industry, or commercial operations and policies. This is linked to meaningful involvement which requires that; (1) individuals are able to participate in decision-making with regard to activities that may impact the environment, regulatory decisions can be influenced by the public, (3) the public’s concerns will be considered during the decision-making process, and (4) decision-makers reach out to those who would be potentially impacted and facilitate dialogue (Rainey and Johnson 2009).

Rainey and Johnson also state, that the “...Environmental Justice Movement (EJM) is a social movement that attempts to bring about political, social, and environmental equity to at-risk, and disenfranchised communities in the United States and around the world” (145). While men played vital roles in the early stages of the development of the EJM and social activism, women of color have carried the movement forward. Today, women of color (WOC) are finding new approaches and ideas to bring about environmental justice. The EJM received very little international attention for social change until the last twenty years (Rainey and Johnson 2009).

According to Rainey and Johnson, a primary principle of the EJM is that people of color and those living in poverty endure a disproportionate share of the problems caused by climate change, environmental degradation, pollution, and other environmental

issues. This is due to the fact that they often live in areas that expose them to greater threats such as pollution, rising sea levels or areas impacted by drought. A person's level of vulnerability increases if they are a person of color, poor, and female, and there is the risk of being exploited by other more powerful people within their communities (Rainey and Johnson 2009).

Rainey and Johnson state that Reverend Benjamin Chavis was the first to define the term, environmental racism (ER) in 1984. It is defined as:

Racial discrimination in environmental policymaking, in the enforcement of regulations and laws, in targeting of communities of color for toxic waste disposal and siting of polluting industries, in the official sanctioning of the life-threatening presence of poisons and pollutants in communities of color and racial discrimination in the history of excluding people of color from the mainstream environmental groups' decision-making boards, commissions, and regulatory bodies (148-149).

There are many challenges in proving causal relationships between health and pollution, but researchers are beginning to document the types of health risks people of color and low income face, such as asthma, cancer, diabetes, and birth defects. These environmental disparities are another form of racism that denies people of color, indigenous people, and people living in poverty equal protection from the disposal of hazardous waste, and systematically blocks individuals from these populations from decision-making processes that impact their communities (Rainey and Johnson 2009).

Grassroots environmentalism progressed from an emphasis on conservation and preservation to an environmental justice approach that addressed the impacts of pollution

and degradation on the environment and the health of ordinary people. Early grassroots activism was typically led by working class white women concerned about local environmental issues such as pesticide spraying, toxic dumps, air pollution, contaminated water supplies, radioactive wastes, nuclear plants, and proposals to build garbage disposal facilities. Their protests were often belittled and viewed as self-serving, or too narrowly focused. Early grassroots mobilization was made up of community-based groups in regional, state, and national organizations, but typically motivated by not-in-my-backyard syndrome, or NIMBY (Rainey and Johnson 2009).

Racial exclusion is also a part of the history of grassroots organizing. Over the past 30 years the grassroots organizations have started to include people of color and expand their efforts to address the relationship between environmental and social justice issues that are relevant to communities of color. Environmental Justice Groups (EJGs) have embraced a bottom-up strategy, democratic values, include more women than men, and attempt to accomplish their goals as a united group. Many African American EJ activists employ similar tactics used by women during the Civil Rights Movement, including lobbying, attending and holding public meetings, attending regular meetings with representatives, and gathering support from politicians (Rainey and Johnson 2009).

The large traditional environmental organizations, known as the Big Ten, have conventionally focused their efforts on wilderness and wildlife preservation, and resource conservation issues. These organizations have grown in size and influence over the years. Activism from the Big Ten has been concentrated on individuals who are white, with higher levels of income, education, access to economic resources, and a sense of moral

obligation. Many people of color and people living in poverty have viewed environmental organizations as oppressive and elitist (Rainey and Johnson 2009). Morrison and Dunlap (1986) describe three types of environmental elitism: (1) compositional elitism, meaning that environmentalists belong to a privileged class, (2) ideological elitism, meaning environmentalism is a cover for serving their own self-interests at the expense of others, and (3) impact elitism, meaning that environmental reforms have brought benefit to environmentalists and put the cost on those less privileged (581).

Rainey and Johnson explain that women of color have also been part of the EJ movement, even though they have been referred to as a “subaltern group” due to their status as subordinated socially, politically, culturally, economically, and institutionally. Many perceived the environment as a necessity for the poor, and a luxury for the wealthy. However, women of color in rural and urban areas often worked together to improve their communities since the early twentieth century. They worked for better garbage pickup, better sewer lines, water mains, recreational areas, and sanitary privies (Rainey and Johnson 2009).

While the EJM has only slightly acknowledged the early contributions made by white women, it has no documentation of activism taken by people from other races and ethnicities. According to the EJM, African American women did not appear to discover environmental activism in urban areas until the 1980s, but as previously stated, African American women were working to improve the environment in their urban and rural communities decades earlier, without any recognition from the EJM. Since the early days

of the EJM, they have expanded to include and recognize indigenous peoples of the Arctic, Native Americans, immigrants, refugees, individuals with disabilities, and those who are less educated. Women contributed to the Civil Rights Movement and the EJM in many different ways. However, the literature from the early days of the EJM does not provide information about their work or viewpoints (Rainey and Johnson 2009).

According to Geraldine Terry (2009), the gendered dimensions of climate change are being discussed outside of political leadership involved in negotiations. This may be due to the fact that policymakers and leaders want to frame it so that it sets climate change in technical and economic categories, but these are too limiting. This framework is harmful to the poor due to the high cost of carbon trading. Gender inequities have been built into economic markets because women are excluded from access to resources such as land, credit, and information, compared to men. However, women and people in poverty could still benefit in some ways. Because the threats of climate change are so severe, this approach may be pragmatic, if the UN Convention on Climate Change (UNFCCC) could ensure that these steps would actually reduce the level of greenhouse gases. Some gender advocates oppose the commoditization of carbon in favor of other strategies, while others believe it is best to work with the tools already available (Terry 2009).

Hutchinson, Mellor, and Olsen (2002) state that many aid organizations favor shifting away from markets driven by capital, to ones that promote sustainable livelihoods that are beneficial for women and people living in poverty. This approach identifies five types of capital, natural, physical, social, human, and financial.

Approaching sustainable development through the study of capital alone is limiting because it cannot address the intersectional dimensions of complex issues such as social conflict, intra-household inequalities of wealth distribution, gender, and damage to the natural environment. It cannot address the contradictions and tough choices many families are faced with. If a family needs to bring more income into the household, then it makes sense for them to invest in educating their son, because men have the potential to earn more than women based on their level of education. However, if a family wishes to increase their farming assets, then they should invest in educating their daughter in communities where women tend to be stewards of farming. A framework that values financial capital and natural capital as equal in value cannot address these contradictions because their only universal unit of measure is money (Hutchinson, Mellor and Olsen 2002).

Research Strengths and Weaknesses

The purpose of this thesis is to supplement the quantitative data with qualitative analysis of various case studies in order to show the importance of the intersections of gender, security, and environmental security. Quantitative data on climate change show that there is no time to waste in our efforts to reduce carbon emissions, but do not provide instructions on the best way to do so, or how systems in place are making parts of the population more vulnerable to climate change and natural disasters. Qualitative data from case studies, such as these, can help researchers, practitioners, and policymakers make more informed decisions based on an understanding of how gender disparities influence

the ways women and men experience climate change and how environmental policies and post disaster recovery processes can become less gender neutral.

Qualitative data from case studies can provide a gendered lens by using feminist analysis in order to understand complex issues related to climate change and natural disasters. In order to transform gender conflicts, those of us in the field of conflict analysis and resolution must also transform our own perceptions about environmental conflicts as well as their relation to security and development. Qualitative data may also help relief workers avoid making assumptions about gender disparities in regions where quantitative data suggests that the risks for women are less based on gender development indexes (GDI), gender equity measure (GEM), or the overall wealth and level of development of a country impacted by a severe natural disaster, as demonstrated in the cases of Typhoon Haiyan in the Philippines and Hurricane Katrina in the Gulf Coast region of the U.S.

Fortunately, data collection from disaster relief organizations, such as Oxfam, seems to be improving in their inclusion and analysis of gender disparities in disaster recovery. These reports also contain evidence of gender disparities that existed prior to the natural disaster, allowing for more analysis on development and gender equity in relation to environmental security. Their data also reports information that is missed by governments, such as the women reporting the deaths that occurred in the camps, or the large number of births that took place outside of hospitals in Haiti.

This is a cost efficient method of researching complex issues such as the intersections of gender, environment, and security. NGOs like the UN, IPCC, and Oxfam

publish their reports online for all to access. Also, the realities and threats from climate change have become more relevant in the media. More news organizations are reporting on stories related to natural disasters such as storms, floods, and droughts. Their stories also focus on the social impacts from environmental security risks such as lead contaminated water in the U.S., discussions about birth control for women exposed to the Zika virus, and the impacts of climate change on the Arab Spring, the conflict in Syria, and the refugees fleeing to Europe.

This thesis shows that there are common vulnerabilities faced by women before, during, and after natural disasters. However, it does not find that women's experiences are universal. There are other variables that influence women's ability to survive and recover from natural disasters. It is impossible to see the future, but relief organizations must find ways to anticipate the unique risks and needs that women and men face when recovering from natural disasters. Also, very little is written about people with fluid gender identities, people from the LGBT community, or people with different types of disabilities.

There are other likely problems. This type of data collection can be time consuming. There is sometimes confusion over data such as the amount of women living in poverty versus men. Some organizations report six out of ten, and others report seven out of ten, and sometimes it can be difficult to track down original sources or interpret reasons for these variances. Also, there is no universal system for recording data from natural disasters. Different organizations and governments may rely on different measurements, methods, or computer models.

This thesis must also consider bias by the author, as a cis-gender, heterosexual, white female, from the middle class, and raised in a developed western country. I have compensated for this by using analytical conflict resolution tools and methodologies to apply frameworks and analyze the data from these case studies. This thesis also includes examples from different countries, different types of environmental conflicts, and different cultures. Although complete cultural relativism is impossible, all efforts were made to remain cognizant of this bias while researching this topic.

Conclusions and Next Steps

This thesis is designed to be exploratory in order to broaden the understanding of the impacts of natural disasters and climate change on gender inequities across different cultures. It attempts to find commonalities through gendered analysis based on the intersectionality of feminism. While levels of gender disparity vary in different regions, certain types of vulnerabilities consistently appear. This information is valuable because it enables practitioners in the field of conflict resolution to understand and target interventions, and design programs and program evaluations to be more impactful.

Gendered vulnerabilities are not created naturally, such as in the form of biological heredity or in the form of climate change, environmental degradation, and natural disasters. Instead they come from disparities built into systems and institutions through patriarchal hierarchies. Climate change exacerbates these disparities and increases the level of vulnerability women face. Using tools such as Oswald Spring's (2008) HUGE approach in combination with Cheldelin and Lucas' (2004) framework, it

is possible to analyze the data from a gendered lens and thus better understand the intersections of gender, security, and natural disasters.

This research is relevant for the fields of conflict analysis and resolution, policymaking, the Environmental Justice Movement, and organizations that provide disaster relief aid all over the world. It can help to improve bureaucratic processes at the local level by increasing awareness, so that women can be considered the heads of their households and receive funds needed to rebuild and provide for their families after a natural disaster. Women in environmental grassroots organizations need to find ways to connect with political leaders and policymakers, and people at the top levels need to hear the voices of these women. Making connections like these are difficult because all parties must operate within their own social, cultural, and systemic parameters, which often keep them in separate spheres. More research like this could contribute to opening and improving dialogue between these parties, for the sake of long-term environmental security and development.

The intersections of gender, the environment, and security require more research. Although intersectional gender studies are associated with third wave feminism, there are gaps in understanding how it evolved, how to utilize it as a tool for research, how to develop it as a methodology for research, and how to write about it in a manner that is inclusive to different races, ethnicities, and classes. Also, most of the research on the intersections of gender, environment, and security focus primarily on race, culture, and class. In my research I unearthed information about individuals who are part of the LGBT community, and what they experienced in Haiti after the earthquake and along the Gulf

Coast following Hurricane Katrina. However, there was little or no information included in the reports about individuals with disabilities, whether they be physical or developmental.

The intersectional gendered research methodology used in this thesis for data analysis could be replicated in other case studies. More case studies similar to this would provide significant contributions to the fields of conflict resolution, environmental studies, and feminist studies. It could also apply to other areas of study such as organizations promoting women in STEM disciplines, issues regarding how the military handles rape cases, how men and boys are impacted by climate change, gender conflicts in healthcare systems, non-binary gender identities, or how disability policies impact women to name a few.

Finally, more intersectional gendered research on gender, security, and the environment could help bridge the gap between theory and practice. Following natural disasters, gender-based violence tends to be far too frequent. This has been documented repeatedly and relief organizations must become more vigilant in ensuring that all displaced individuals are safe in camps. Despite the number of complaints and reports, this trend continues. Relief workers need to be more aware of security issues and work with the women and men in the camps to find ways of improving security procedures.

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