A Matter of Survival: Women, Subsistence Farming, and Environmental Degradation in Rural Guatemala

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Abstract

This study uses a socialist ecofeminist framework to explore the historical and material links between environmental degradation and women's roles as subsistence farmers in rural Guatemala. Data from a 2002 survey with 99 men and women farmers reveals gender differences in attitudes towards farming and the environment. Follow-up data was gathered in 2006 from interviews with 20 women farmers, as well as observational research designed to explore how women's work is specifically affected by processes and policies of development in Guatemala. Results reveal that development processes have led to greater deforestation and soil erosion in the areas where poor women farm for themselves and their families. Despite the difficulties that the women face, they are more than victims of their situation; rather they have begun mobilizing both locally and transnationally to combat the environmental problems confronting their families and communities. The study concludes by calling for policy makers to take into account the roles that women farmers play in preserving the environment in places like rural Guatemala. Ideas for future research are also discussed.

Introduction

Over the past few decades, the world has witnessed alarming rates of deforestation, ozone depletion, soil and water pollution, and other forms of environmental degradation, leading many to conclude that the present period is one of "ecological crisis" (Eaton and Lorentzen 2003: 8). These various drastic changes in environmental quality have also led many to question the nature of people's relationship with the environment. Increasingly, both scholars and activists alike are examining not only biological and technological causes of environmental degradation, but social ones as well. As sociologist Carolyn Sachs notes, feminist scholars in particular have focused on how gender affects women and men's relationships with their local environments. For these scholars, "[u]nderstanding the gendered nature of human relationships with the environment [is] particularly critical for resolving environmental problems" (1997: 1).

One theoretical framework that has been used to address both the conceptual and empirical links between women and the environment is ecofeminism. Broadly defined, ecofeminism refers to "a convergence of the ecological and feminist analyses and movements," and represents "varieties of theoretical, practical, and critical efforts to understand and resist the interrelated dominations of women and nature" (Eaton and Lorentzen 2003: 11). In this article, I use one "variety" of ecofeminism—socialist ecofeminism—to explore both the conceptual and material connections between women and the environment in the context of rural Guatemala.

Since the institution of neoliberal development policies in the early 1980s, Guatemala, along with other countries in Central America, has experienced increasingly rapid rates of environmental degradation, most notably in the form of deforestation. In fact, recent studies have shown that although the Amazon basin receives far greater attention, Central America has lost the greatest percentage of forest cover in recent years of *any world region* (Carr 2003). What are the reasons behind this sudden increase in deforestation in Guatemala? What are the consequences for rural populations, and how might women and men experience these consequences differently? How are women and men in rural areas coping with environmental degradation in their communities? In this article, I seek to explore these questions, relying on interview and observational research conducted with the help of the Alliance for International Reforestation (AIR), an environmental non-governmental organization (NGO) based in the department of Chimaltenango, Guatemala. Using a socialist ecofeminist framework will allow me to draw the connections between processes of development and environmental degradation, and to explore how these processes affect individuals differentially according to intersections of gender, race, and nationality.

Varieties of Ecofeminism

Within the broad, overarching framework of ecofeminism, there exists a plurality of positions that seek to explain the connection between women and the environment in different ways. In her book *Radical Ecology*, Carolyn Merchant distinguishes between liberal, cultural, social, and socialist ecofeminism (1992), while in *Ecofeminist Philosophy*, Karen Warren identifies as many as ten distinct ecofeminist "typologies," including historical, conceptual, empirical, socioeconomic or socialist, linguistic, symbolic and literary, spiritual and religious, epistemological, political, and ethical (2000). Not all of these positions/varieties/typologies have been highly regarded by the academic community. Spiritual, symbolic, and cultural ecofeminism(s) in particular have been subject to critiques of essentialism, homogenization of women as a group, romanticism, and political naivety (Agarwal 1992; Sydee and Beder 2001).

The tendency of some types of ecofeminism—particularly those developed in more affluent nations in the West and North—to essentialize and homogenize women is highly problematic, for several reasons. First, to posit all women as a unitary, unified category ignores important differences of class, culture, and race between women, and also ignores "the plight of impoverished women from less affluent nations" (Mohanty 1986; Eaton and Lorentzen 2003: 5). To consider all women as being equally subordinated under patriarchy, and as experiencing the consequences of environmental degradation equally is misleading and uncritical, and socially unliberatory. It also does not take into account how forces of globalization impact women and the environment in different ways in different regions of the globe.

Second, the essentializing of the women-Nature connection does not take into account important empirical evidence of the interconnections between the domination of women and nature around the globe. In ignoring such evidence, these essentialist views do not sufficiently address the "material exclusions resulting from economic forces" that result from capitalist patriarchy's devaluation of both women and the environment. As ecofeminist Heather Eaton notes, "the insistence upon the primacy of a women-nature connection, while illuminating

symbolic and cultural constructs, doesn't help us adequately analyze globalization as an extension of capitalist patriarchy" (2005: 5).

Socialist Ecofeminism

One ecofeminist typology that *does* address issues of globalization and capitalist patriarchy is socialist ecofeminism. Rooted in a Marxist critique of capitalism, socialist ecofeminism also incorporates an analysis of patriarchy, nationality, historical processes of colonization, and global processes of agricultural and economic development (Mies 1986; Mies and Shiva 1993; Shiva 2000). For socialist ecofeminists, the global spread of capitalism is but the latest development in a long history of patriarchy (Mies 1986; Mies and Shiva 1993). In her seminal work *Patriarchy and Accumulation on a World Scale* (1986), ecofeminist Maria Mies contends that capitalism and patriarchy are in fact "one intrinsically interconnected system," and that "capitalism cannot function without patriarchy." Mies argues that "the goal of this [capitalist patriarchal] system, namely the never-ending process of capital accumulation, cannot be achieved unless patriarchal man-woman relations are maintained or newly created" (38). For Mies and other ecofeminists, the gendered division of labor and women's subsistence work constitute necessary preconditions for the existence and continuation of the capitalist system. Thus,

this general production of life, or subsistence production—mainly performed through the non-wage labour of women and other non-wage labourers as slaves, contract workers, and peasants in the colonies constitutes the perennial basis upon which 'capitalist productive labour' can be built up and exploited. Without the ongoing subsistence production of non-wage labourers (mainly women), wage labour would not be 'productive' (1986: 48).

This gendered division of labor that places many women in the role of subsistence producers is more than theory; worldwide, women account for well over 50 percent of all agricultural producers. In developing countries, this figure rises to anywhere from 60 to 80 percent (FAO 1995). In households in these countries, women are often expected to do the subsistence farmwork necessary to feed their families, thereby allowing their husbands or partners to work outside of the home for wages. The subsistence work that women do in turn places them in direct, immediate contact with their local environments. Ecofeminists contend that as a result of this, it is very often women in developing countries who are first and most severely impacted by environmental degradation (Mies 1986; Shiva 1989; Mies and Shiva 1993; Ruether 1996; Gebara 1999; Eaton and Lorentzen 2003; Eaton 2005). As Eaton (2005) notes, the global gendered division of labor, in placing women in the position of primary care givers for their families, means that "women are responsible for the food and health of family members." She goes on to say that that due to environmentally harmful development policies in many poor countries, "it is becoming increasingly difficult to provide food, fuel, and water for many families" (24). The reality of this close connection between women and the environment has also been acknowledged by a number of international organizations, including the United Nations when it reported in 1989 that "it is now a universally established fact that it is the woman who is the worst victim of environmental destruction. The poorer she is, the greater her burden" (quoted in Philiopose 1989: 67).

However, despite the growing amount of data that provides empirical evidence of the womenenvironment connection, ecofeminism continues to remain a largely theoretical discourse. While socialist ecofeminism's critiques of capitalist-patriarchy have helped to illuminate how the worldwide development agenda is linked to the spread of global poverty and the exploitation of women and the environment, these critiques have failed to make concrete how these processes play out in the everyday lives of women in different contexts around the globe. In *Ecofeminism and Globalization*, Eaton and Lorentzen nicely sum up the critical weaknesses of ecofeminism to date:

First, the largely theoretical discourses linking women and nature, as developed thus far, do not sufficiently address material exclusions resulting from economic forces...[this theorizing] doesn't help us adequately analyze globalization as an extension of patriarchal capitalism. Second, while there are many grassroots activist women's organizations resisting the negative effects of globalization, these activities do not provide the primary data for ecofeminist discourse. Third, an adequate discussion of globalization must include not only an analysis of the economic agenda, its hegemonic impact, and implicit value system, but also the consequences of the erosion of nation-states and the rise of international civic movements (2003: 5).

In this article, I hope to address these gaps in ecofeminist research, and examine not only the theoretical but empirical connections between development policies and how they impact diverse communities of women and their local environments. I will focus the analysis on indigenous and ladina women in rural Guatemala, where the increasing deforestation and pollution of the environment affect their day-to-day lives. Thus, this is an ecofeminist project that seeks to situate the local within the global, as advocated by Chandra Talpade Mohanty, being attentive to "the micropolitics of context...as well as to the macropolitics of global economic and political systems and processes" (2003: 223). In focusing our analysis on the local, and in showing how it is linked to the global, we can draw conclusions about the harmful ways in which neoliberal development policies play out in the everyday lives of individuals within different contexts. Such a contextual analysis will in turn help to reveal "how the particular is often universally significant...without using the universal to erase the particular," as many types of ecofeminism have tended to do in the past (Mohanty 2003: 223). In redirecting ecofeminism to connect everyday, local struggles to larger macrosocial processes, I hope to contribute to a body of literature that links feminist struggles across borders, finding solidarity in a shared fight for social justice that occurs on a daily basis under different circumstances and conditions. In order to accomplish this, however, it is first necessary to understand the history behind neoliberal development in Guatemala.

Neoliberalism and Environmental Degradation in Modern Guatemala

The decade of the 1980s represented a period of political and economic turmoil for Guatemala. During this time, the country was experiencing the height of its civil war, a 36 year long ordeal that began in 1960 and represented one of the most violent chapters in a long history of struggle over land rights. Essentially, the war was fought between the government and military of Guatemala, who supported the interests of wealthy landowners (who in turn supported government and military leaders both politically and financially), and various guerilla armies such as the Guatemalan Labor Party (PGT) and the Guerrilla Army of the Poor (EGP), who were fighting for land reform policies purportedly on behalf of the rural poor of Guatemala. The short period between 1980 and 1982 was particularly brutal, as the government and military of Generals Lucas García and Ríos Montt implemented a vicious and widespread campaign of warfare against rural (mostly indigenous Maya) populations, on the grounds that they were aiding guerilla communist armies (La Feber 1993; Sanford 2003). The statistics from the war are grim; by the time the peace treaties were signed in 1996, an estimated 626 villages had been completely destroyed, over 200,000 people had been killed, and nearly 1.5 million had been displaced (CEH 1999). Indigenous populations suffered heavily, as all of the villages that were destroyed had been Maya settlements, and an estimated 83 percent of those killed were also Maya. It has been estimated that the Guatemalan government and military were responsible for over 90 percent of all casualties (Falla 1993; CEH 1999; Sanford 2003).

The 1980s also represented a period of economic upheaval, as the country made the transition from an import-substitution industrialized (ISI) economy to a neoliberal one. This economic restructuring has been linked with the increase in violence in the early 1980s, as the government and military of Guatemala stepped up their politics of repressing any opposition to their political or economic rule of the country. As Guatemalan historian W. George Lovell notes, the level and degree of violence perpetuated by the Guatemalan military "clearly reveal that the Guatemalan state was determined to prevent community initiatives from obstructing a certain kind of capitalist development...." Lovell goes on to say that in seeking to reassert its hegemony, the Guatemalan state "resort[ed] to premeditated acts of terror... declar[ing] war on its own citizenry, especially indigenous peoples" (1988: 45).

In Guatemala and other Latin American nations the implementation of neoliberal policies has been linked to not only a history of violence, but to an increase in poverty and environmental degradation as well. According to officials of the World Trade Organization (WTO), the World Bank, the International Monetary Fund (IMF), and various Latin American governments, the main objectives of the new policies were to reduce government corruption, provide greater economic stability to the region, reduce inflation, boost competitiveness and exports, and reduce poverty through "trickle-down" benefits. However, the tools used to implement these policies seem far-removed from the goals. In order to comply with demands of both the WTO and the World Bank, many Latin American governments instituted draconian cuts in spending on social programs; privatized public utilities; eliminated government regulations in order to attract foreign investments; liberalized trade policies; and promoted free markets at virtually every level of the economy (Robinson 2000). The financial institutions and governments warned the public that the short-term effects would be painful for the sake of long-term benefits; and indeed, these painful effects were so dire that the 1980s are labeled "the lost decade" for Latin America. Since then, while some countries economies have been bolstered, there has been little improvement in the situation of Latin America's poorest citizens, who have experienced higher rates of unemployment at the very time social support programs have disappeared (Weyland 2004: 144-46).

In addition to these various social and economic problems, neoliberalism in Latin America has also been linked to an increase in environmental degradation. The reason for this can be found in the fairly recent, dramatic increase in value for many types of non-traditional agricultural export (NTAX) crops. For example, export data from the last 30 years shows that traditional exports such as sugar, coffee, cotton, cacao, tea and spices have lost in export value since 1979, ranging from a -25.3 percent loss in the value of sugar to a -50.4 percent loss for coffee. These losses have been replaced by huge increases in the export value of milk and dairy products (817 percent); forest products (435 percent); and a 387 percent increase in the export value of NTAX crops such as fruits, vegetables, and flowers (an industry most advanced in Mexico and Chile and strong in Guatemala). The size and timing of this shift from traditional exports to dairy, forest products, and non-traditional crops links it clearly to neoliberal "structural adjustments" and the easing of trade restrictions (Deere 2005: 6, 27).

Over the years, as the value of NTAX crops in Guatemala has increased, so has their production. More and more fertile valley land is now being used for growing crops for profit. This, in turn, has pushed the subsistence farming of Guatemala's rural poor to mountainsides, where trees are slashed and burned to make way for corn and beans. The consequences of this destruction are also local because it is well-documented that deforestation causes soil erosion, reduced rainfall, and sediment-clogged waterways. The absence of established forests on mountainsides also intensifies the devastation of hurricanes and flooding (Carr 2003).

The increased agricultural production also results in increased pesticide and chemical fertilizer use, both of which have a harmful impact not only on Guatemala's environment, but on rural populations as well. Many large scale growers admit to using up to twenty applications per growing cycle (Hamilton and Fischer 2003: 95). The pesticide use in turn affects local environmental quality as it destroys various forms of plant and animal life. Agricultural run-off containing pesticide residue also results in the contamination of water sources, affecting the health of rural populations. The Guatemalan government sponsored research on pesticide use in 1997 through the Pesticides and Health Project (Plagsalud). The project reported that while agrochemical poisoning is rarely reported by farmers, nearly 2 million people living in rural areas come into direct contact with chemical pesticides on a daily basis. The project also indicated that while some pesticides were used by small-scale landowners and subsistence farmers, the vast majority were used on crops intended for export to the United States and Europe (PAHO 1998). Thus, as noted by socialist ecofeminists Maria Mies and Vandana Shiva, "the economic, social, and ecological costs of constant growth in the industrialized countries have been and are shifted to the colonized countries of the South, to those countries' environment and their peoples" (1993: 58).

Clearly, the neoliberal policies of Guatemala have not affected everyone equally or in the same ways in the years since their implementation. While large-scale landowners and other capitalists have benefited, others have suffered; namely, the rural poor, the majority of whom are indigenous Maya. However, even within the indigenous community, not everyone has been affected in the same ways. An ecofeminist analysis requires that we view environmental degradation through the lens of gender. When we do so, we note that environmental degradation disproportionately affects women in many nations, due in large part to a gendered division of labor that considers family sustenance to be a woman's work. The same is true in Guatemala,

where, in rural areas, it is very often *women* who are primarily responsible for cultivating their families' *milpa*, or subsistence crops (Deere and Leon 2001: 102).

However, historically, it has been difficult to measure women's participation in farming in Guatemala. Some ecofeminist scholars argue that such difficulty is due to capitalist patriarchy's devaluation of women's work as being "non-productive," so that even when women work outside the home, their work is often seen as merely an extension of their "natural" role as caretakers (Mies 1986: 45). Thus, in capitalism, the concept of labor is usually used to refer to men's work outside of the home, "under capitalist conditions, which means work for the production of surplus value" (46).

This same type of devaluation is a great problem in Guatemala, where women's subsistence work has traditionally been ignored and/or discounted, even by official surveys. In Guatemala and other Latin American countries, it is simply the case that all productive work—including farming—is seen as *men's* work. Agricultural economists Carmen Diana Deere and Magdalena Leon write that:

Irrespective of the amount of labor that rural women dedicate to agriculture—whether as unpaid family workers or as wage workers agriculture in Latin America has been socially constructed as a male occupation. As a result, women's work in agriculture is largely invisible. If considered at all, it is usually seen as supplementary assistance to the principal male farmer. . . even in the agricultural censuses, the agriculturalist of the household unit is assumed to be the male household head (2001: 102).

The devaluation of women's work in farming, evidence of a capitalist patriarchal ideology, has in turn led to a gross underestimation of women's work in the agricultural sector. The extent of such underestimation was recently made evident by the combined research efforts of the Inter-American Institute for Cooperation on Agriculture (IICA) and the Inter-American Development Bank (IDB) from 1991 through 1995. The aim of the IICA/IDB research was to gather employment data for Latin American nations that would be more accurate than official, national employment data. In this project, researchers undertook time-use studies, and found that a large majority of rural women work 14 to18 hours a day in a variety of tasks: cultivating their own land; tending livestock; caring for children; gardening; and making products for sale. This study's findings contrasted sharply with those of government surveys, which oftentimes have not even recognized women as laborers. Of the 18 nations included in the IICA/IDB study, Guatemala was found to have the most severe undercount; researchers concluded that the government had underestimated the percentage of economically active rural women by nearly 500 percent (Kleysen and Campillo 1996: 17).

Both Deere and the IICA/IDB's study conclude that women in rural Guatemala have daily, close contact with their land and environment. These studies also raise important questions, however, particularly with regards to the nature of the relationship between rural women, the land, and environmental problems that their communities face. Such questions prompted me to undertake the research that forms the basis for this article.

Methods and Sample

Since 1992, I have been involved with the environmental NGO, the Alliance for International Reforestation (AIR), which is based in the central highlands of Guatemala. This NGO works with rural farmers to establish methods of agroforestry in their subsistence milpa crops. The purpose of AIR is to combat the deleterious effects of deforestation by working with local farmers in Guatemala to establish agroforestry programs in their communities. The farmers work with AIR on a voluntary basis; the organization simply advertises its services in community centers, and then farmers contact AIR's staff if they are interested in receiving assistance. Participation in AIR's agroforestry programs is free for the farmers; the organization provides the technical knowledge, basic tools, and seeds necessary to implement the programs. Significantly, most of the farmers who seek out the assistance of AIR—nearly 70 percent—are women.

In 2002, in an effort to better understand why more women than men chose to work with the organization, AIR staff members conducted short interviews with 99 farmers who were working with AIR at the time. While nearly 70 percent of the farmers that choose to work with AIR are women, men were oversampled for these interviews, so that comparisons between genders could be made. The final sample consisted of both indigenous Maya and ladina/o farmers, with 42 men and 57 women participating. The questions they were asked pertained to their farm characteristics, farming techniques, and reasons why they chose to work with AIR. In May and June of 2006, I conducted follow-up interviews with 20 women farmers in an effort to further explore the experiences of women farmers and their involvement with AIR. Some of these farmers had participated in the 2002 survey, but most had not.¹

At the time of the 2006 interviews, AIR was working intensively with groups of women farmers in three different communities in the department of Chimaltenango, in the central highlands of Guatemala. The communities are all located near one another, and are within 25 miles of the large city of Chimaltenango. In order to protect the identity of the women and the communities where they live, none of the actual towns where they live and farm will be named. All the names of the women have also been changed in this paper.

Within their various communities, numbers of women farmers have formed groups to assist each other with farming. These groups then make a collective decision to seek out AIR's assistance in implementing methods of agroforestry in the individual farmers' fields. It was from these groups that the interview sample was obtained. The groups ranged in size from 20 to 40 members, and women who were comfortable being interviewed volunteered to participate in this research. See Table 1 for a descriptive summary of the characteristics of the 2006 interview sample.

¹ The majority of this article will be based on data obtained from the Summer 2006 interviews and observations. For a more thorough analysis of the 2002 data, see

Hallum, Anne and Rachel Hallum. 2007. "Women and Sustainable Agriculture in Guatemala." *SECOLAS Annals* 38.

Sample size	n=20
ladina	n=7
indigenous (Kaqchikel)	n=13
Age range	20-80

Table 1. Descriptive statistics for Summer 2006 interviews

In addition to the interviews, I also conducted observational studies of the communities where the women lived and worked, in an effort to better understand the nature and extent of environmental problems in the communities. Throughout May and June of 2006, I accompanied the women to their milpa fields to assist them with farming and planting trees. This period of intensive observational research, in addition to nearly fifteen years of working with AIR in Guatemala, helped to supplement the data I gathered from the interviews.

After gathering the data and translating the interviews, I reviewed each interview and set of fieldnotes several times, and utilized the grounded theory method as outlined by Strauss and Corbin (1998) in order to analyze the data. Upon my initial reviews of the data, during the "open coding" phase of analysis, I identified and tentatively labeled similarities that became apparent across interviews. At this phase of analysis, I was able to group similar items according to defined properties, and thereby develop concepts (121). My familiarity with feminist and ecofeminist literature was helpful in identifying common themes that emerged from the data during this phase. For example, as many ecofeminists have pointed out, in many parts of the world women are responsible for subsistence farming, and are therefore affected as farmers by environmental degradation in their communities. As noted by Gebrara (1999), Shiva (1989), and others, many tasks relating to women's farm work-including gathering firewood and water, planting and harvesting—have been adversely impacted by processes of deforestation and soil, air, and water pollution. This theme in ecofeminist literature served to "enhance [my] sensitivity" to this theme in the data, as I was more readily able to identify the various, subtle ways in which the women farmers' work in Guatemala has been affected by deforestation in their communities (Strauss and Corbin 1998: 49).

Following this open coding phase of analysis, I then attempted to link these discrete concepts at the level of their properties and dimensions to form larger conceptual categories in the process of axial coding (123). Thus, tasks relating specifically to women's farmwork, including gathering firewood, cultivating crops, and cooking, were linked and grouped within the larger, more general category of "gendered division of labor." Finally, I again referred to the ecofeminist literature to assist me in both checking the validity of the data, as well as refining the conceptual framework used to explain the data.

Women, Farming, and Environmental Degradation in Chimaltenango

In reviewing data from the 2002 interviews, it became evident that there were clear gender differences relating to women and men farmers' farming techniques and reasons for deciding to work with AIR. See Table 2 for a summary of these results.

	Women	M_{ep} $(p, 40)$
	(n=57)	Men (n=42)
Farm characteristics		
	0.49	0.59
	hectare	hectare
	(range .05	(range .01
Average farm size	to 1.0)	to 1.5)
Use chemical fertilizer and	42% (24	50% (21
pesticides	women)	men)
Only organic	24% (14)	0% (0)
Both chemical and organic	38% (16)	45% (19)
Work with AIR		· · · ·
Average number of years		
worked with AIR	2.2 years	1.5 years
Motivation to work with AIR		
(open ended question;		
responses mentioned the		
following):		
To plant trees to improve the		
environment (soil, air, water)	60% (34)	43% (18)
	000((4.0)	00((4)
For a better future for children	28% (16)	9% (4)
To improve crop yields	3% (2)	24% (10)
- · · · · ·		
To reduce use of chemicals and	59/ (2)	149/ (6)
improve health	5% (3)	14% (6)
Religious/spiritual reasons	7% (4)	5% (2)
To learn new things	10% (6)	5% (2)
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To improve the community	3% (2)	12% (5)
Other	9% (5)	7% (3)

Table 2. Summary of results from 99 interviews conducted in Summer 2002.

One main difference that was noted was in the men and women's use of farming techniques; while half of the men surveyed reported using "only pesticides" on their milpa crops, only 42 percent of women reported doing so. Additionally, whereas *no* men reported using "only organic" farming methods on their milpa crops, some 24 percent of the women reported using doing so. With regards to their reasons behind working with AIR, gender differences were also noted. Approximately 60 percent of women reported a desire to work with AIR in order to protect or improve the quality of the environment, while only 43 percent of men desired to work with AIR for similar reasons.

In an earlier analysis of the data, reasons for gender differences were only speculated upon, with the conclusion drawn that men tended to have more of a utilitarian attitude and approach towards farming (Hallum and Hallum 2007). The reasons behind the women's seemingly greater concern with the environment, however, was unclear. In order to better understand their reasons behind seeking out the help of an environmental organization like AIR, it was necessary to talk directly with the women.

Women Farmers

It has been noted repeatedly by various feminist scholars over the years that the gendered division of labor that pervades much of the world defines "productive" wage labor work as men's work, and "non-productive" work inside the home as women's work (Nash and Fernandez-Kelly 1983; Mies 1986; Mies and Shiva 1993; Mohanty 1997). Ecofeminists note that in many countries in the global South, this gendered division of labor has traditionally placed women in rural areas in the role of subsistence farmers for their families (Mies and Shiva 1993; Gebrara 1999; Eaton and Lorentzen 2003). The patriarchal logic that informs this division views women's work as subsistence farmers as a "natural" extension of their roles as primary care givers. Thus, their labor intensive farm work becomes yet another way for women to nurture and care for their families, and allows their husbands to engage in "productive" wage earning labor outside the home (Mies 1986).

The interviews conducted with the Guatemalan women in this study confirm that they do indeed play a prominent role in the cultivation of their families' subsistence plots, or *milpa*, which typically consist of corn and beans. Of the twenty women interviewed, fourteen indicated that cultivating their families' land was primarily their responsibility. Five indicated that they shared this responsibility with their husbands, and only one Maya woman indicated that her husband was the primary farmer. She noted that while she helped him occasionally with the farming, her primary activity involved weaving and selling *huipils*, beautiful and elaborate blouses that are a trademark of traditional Maya dress for women, and that can take up to four months to make.

While some of the women's husbands assist with farming the milpa crops, most of the women in this study say that they do so infrequently, as many of them are employed outside the home and work between 50 and 70 hours each week. Many of the husbands are employed as farmers on nearby plantations that grow crops for export, and where the use of chemical pesticides and fertilizers is encouraged. Indeed, working in agriculture *outside* of the home is a fairly common occupation for many men in rural areas in Guatemala; in the 1995 Guatemalan Survey of Family Health, nearly 68 percent of the husbands of women who were interviewed were reported to work on a farm for income (Pebley and Goldman 1995). Thus, the utilitarian attitudes that the men have towards farming is not surprising, as the land is something to be *worked* as a source of income.

The relationship between the women interviewed for this study and their land is quite different, however. As subsistence farmers, the women do not attach a monetary value to their land *per se*, but rather the value of the health and well-being of themselves and their families. A healthy environment thus equates to ideal farming conditions and a good crop yield for both the women and their families.

Thus, if a woman is the primary farmer for her family, then it is primarily her responsibility to ensure that the milpa crops survive so that she can feed those who depend upon her. Even if a woman is not the main farmer in her household, her involvement with the local group of women means that she is expected to help other women with their farming responsibilities. It is fairly common for as many as ten women to travel once or twice each week to another woman's fields to assist her with planting, tending, or harvesting crops. Thus, the farm work that the women in this study are involved with thus places them in direct and immediate contact with their local environment on a regular basis. As farmers, the women are intimately aware of and concerned about any amount of environmental degradation occurring in and around the areas where they farm. When asked about the major environmental problems facing their communities, the women responded clearly and unequivocally that deforestation and soil erosion constituted the biggest threats.

Deforestation

In each of the communities, the women are long term residents. Many have grown up in the same area together and are life-long friends. The fact that they have lived in the areas so long means that the women are able to see how gradually, more and more trees are being cleared from surrounding areas to make way for farming. Doña Fidelia, a Kaqchikel Maya, is the oldest in a group of 40 women. At over eighty years old, and a lifelong resident of her town, she has seen many changes and upheavals in her community over the years. She notes that the problem of deforestation has gotten worse in recent years:

Now [deforestation] is worse, and it sickens me. I have always planted trees with my *milpa*. It is the way my family has always done it. We have always understood the importance of trees, for the soil, for the water, for our crops, and for firewood. But now, people come in and cut them down, and they do not understand what they are doing. And yes, it has gotten worse, especially because people need trees for firewood, and now there are less and less trees. Last week, at night, people came and cut two of my casuarinas. I have never had that problem before, people stealing trees!

The increasing deforestation in her community means that Doña Fidelia is now having to deal with problems she has never before had to address in over eighty years of living in her community. In addition to distressing her emotionally, the problem of increased deforestation is also directly impacting her livelihood, as people are invading her property to steal her resources. Her concerns are shared by other women who were interviewed. Doña Cecilia, a 43 year old ladina farmer also recognizes that the problem of deforestation in her community has gotten worse in recent years. She notes that,

We [in the women's group] have all grown up together here..... Most of us come from families of farmers, so we have been doing this our whole life. But over the years, more people, more farmers have moved here, and have bought land here. Of course, they have to farm, too, and this means that they cut the trees. We here, my *compañeras* and I realized that something had to be done.

Like Doña Fidelia, Cecilia and the other women with whom she works are concerned about the increasing rates of deforestation in their towns. As the women elaborate, many of their concerns relate to both the emotional and material consequences of deforestation.

Emotional Consequences

The farm work that the women do requires them to be in their fields between one and four days each week, on average, tending to their crops. This work places them in close, intimate contact with their environment, as they clear away brush, till the soil, plant the seeds, and nurture the crops that will be used to feed their families. The direct physical connection with their crops and the surrounding environment in turn fosters an emotional connection to the environment that many women expressed. Doña Patricia, a ladina farmer, describes the fields where she works as her "home," and explains that for her, farming is relaxing and enjoyable. She says,

I work so much inside the house, with three young children, and I am very tired on the days that I spend in the house. On days that I come to farm, I bring my children with me, of course, and I feel better... I feel like the field, like the trees are my home, and my home is actually where I work [laughs]. So yes, it is sad for me to see trees being cut, because when they are cut, I feel like I am losing part of my home.

When asked about what the environment meant to her, Doña Santiaga, a ladina farmer from the same community as Patricia, responded that her feelings were "complicated and profound," and she felt that a poem best expressed how she felt about "God's creation":

Ambiente Sagrado Monumento de la Creación Dios, Dios te ha designado como Ejemplo y Bendicion Caminando, caminando Hoy no pude visitor aquellos Inmensos arboles donde Un dia Sali a jugar Caminando, caminando El aires fresco me abrazo Y el agua se calmo Juntos salvemos El medio Ambiente

In English, the poem reads,

Sacred environment Monument of Creation God, God has designed you as a Model and a Blessing Walking, walking, Today I could not see Those immense trees where I once used to play Walking, walking, The fresh air embraced me And the water calmed me Together, let us save The Environment. Like Patricia, Santiaga feels that the fields are more than a place of work; for her, the connection that she has with the environment is more than physical but emotional and spiritual as well. For Patricia, the fields are like a second "home," while for Santiaga, they are a sacred place, a "Monument of Creation." Santiaga goes on to say that to do harm to the environment is to commit a sin, and that the deforestation that she sees around her causes her grief that she feels "in [her] heart and in [her] spirit."

The sacred quality of the environment was also expressed by many Maya women farmers, and is perhaps not surprising, given the great importance that Maya culture has traditionally placed on farming and on people's connection to the land. In her memoir, Maya activist Rigoberta Menchú repeatedly notes how the earth, the seed, and corn are all recognized as the main sources of sustenance and therefore "sacred" for many Maya (1984). It is also not uncommon for religious ceremonies to be held in rural Maya households when corn is both planted and harvested, and it is considered a sin by many Maya to use land in a wasteful manner (Menchú 1984; Montejo 1999; Fischer and Hendrickson 2003; Fischer 2004). Doña Lourdes, a Kaqchikel farmer in her mid-40s, laments the deforestation in the area, a sadness that she says is shared by the other Kaqchikel women she works with. She notes,

Of course this [deforestation] is a problem, a big problem that concerns us and saddens us. Everytime I walk down the road, and I see more trees cut, more naked land, my heart cries. It cries for what we have lost, what has been wasted, and also for what we will lose, for our future, for our children.

Lourdes' sadness and sense of loss is related to the ways in which the valuable, sacred land around her community has been mistreated and "wasted." Her sadness is also related to the value of trees and the land in sustaining the community. When the land is mistreated, as she notes, the future of the community is placed in jeopardy. Doña Fidelia, the elderly farmer who had some of her trees cut and "stolen," expresses a similar sense of loss and concern for the future when she talks about the deforestation of her area.

> It is especially sad to know that so many Maya are doing this to the land. We are farmers, and we have always been farmers, and people are supposed to know better! But people have forgotten that they are Maya, and they have forgotten how to care properly for the land, and now we have these problems. I try to tell people, to remind them of the importance of caring for the land. I show them my field, how strong the crops are, how great the trees are, and I tell them that the crops are strong because the trees are strong! People must listen, they must understand, because if they do not...our land will forget us the way that we have forgotten it.

For Fidelia, deforestation thus represents more than a loss of trees; it also represents a loss of environmental knowledge and a loss of connection to the land that has traditionally been of great importance to Maya men and women alike for centuries. For women like Fidelia, the deforestation is even more painful when it is perpetuated by other Maya, who are supposed to

"know better," but have, over generations of resettlement and displacement, become disconnected from the land and "forgotten" how to properly care for it.

Material Consequences

The sadness and sense of loss that many women expressed represent only part of the story of environmental degradation in Chimaltenango. As the women also noted, the deforestation has very real, immediate consequences for them as well. Primarily, these consequences relate to concerns of firewood and soil erosion. In areas of rural Guatemala, many families continue to cook over open fires. This cooking requires a tremendous amount of firewood; AIR staff members estimate that nearly two tons of firewood are required to feed a family of four each year. Obtaining firewood does not necessitate felling trees; branches and limbs may be pruned to obtain fuel. However, the increasing deforestation of the areas means that it is becoming increasingly difficult to find trees with branches suitable for use as firewood. This problem has directly impacted many of the women, who indicate that all the tasks relating to meal preparation—including finding firewood for cooking—are often their responsibility. For the women who cannot afford to buy firewood on a regular basis, this means that they have to procure it themselves, usually in the mountains or fields outside of the city. Doña Ivelisse notes that prior to working with AIR, her search for firewood could often turn into an all day, exhausting affair:

Every week, once each week, I would walk nearly two or three hours, out of the city, past the farms, up into the mountains, up, up, just to find some branches for cooking. I would have to walk so far, because I had no trees in my field, and no one else had trees, and I was not going to steal other people's trees or branches! Then, I would carry all this back down, on my head or my back, and it was very difficult if it ever started to rain! Finally, I would get home, almost eight hours after I left. And then I would have to cook for six people!

After working for AIR for more than five years, however, Ivelisse and other women in her community are able to prune branches from trees in their fields in order to cook. While the trees in their fields do not yield enough firewood for the amounts required by open fire cooking, they do reduce the number of times that the women must make long treks to find obtain wood. Ivelisse, for instance, notes that the number of time she must travel outside of town for wood has been reduced from four to two times each month. Doña Elsa, 38, is from the same area as Ivelisse and explains that while she and her family were able to afford to buy firewood at least twice each month, she no longer has to, as she and her husband own two plots of land that have both been re-forested through AIR. These two plots now yield enough firewood for the family to cook with, although it should be noted that Elsa uses a more fuel-efficient stove that only requires one third of the firewood that the traditional open-fire method requires.

Despite the improvements in the situations of women like Ivelisse and Elsa, the lack of firewood remains a deep concern for many of the women interviewed. As Doña Fidelia noted, the problem has become so severe that people are literally stealing trees from others' property. Women in all the communities noted that firewood is becoming increasingly scarce, and while

some women are able to buy firewood in town, others reported having to walk between two and six kilometers (one way) at least once each week in order to obtain wood from outside the city limits. While most of the women state that they prune branches for firewood instead of cutting entire trees, many residents will cut trees if cutting branches is insufficient. The high demand for firewood in rural areas, combined with the continued push of subsistence farming to the mountains, thus perpetuates a cycle of deforestation that directly impacts the women and the work they do to feed their families. Finding firewood to cook with is but one concern that the women expressed with regards to deforestation, however. The following section will explore how deforestation is linked to other forms of environmental degradation in the communities.

Storms and Mudslides

The deforestation of mountain slopes and steep hillsides aggravates a greater, more ominous threat of mudslides. While not every woman explicitly mentioned deforestation as an environmental problem in their communities, it is notable that *every woman* mentioned mudslides as a major concern. Many women linked the problem of deforestation with soil erosion and mudslides, as did Doña Clementina, a ladina farmer who says:

We have to farm to eat, of course, but the only places to farm are here, on these mountains that are very steep. This is a problem because people must clear spaces for their crops, and not everyone knows the importance of trees. But then, when the rain is strong, there are many crops that are washed away, and then what do people have to eat?

While mudslides are always a threat during the rainy season, they have been an especially grave problem in the months following Hurricane Stan. In October 2005, Stan made landfall south of Veracruz, Mexico, and brought heavy rains and flooding to much of Central America. In Guatemala, the heavy flooding caused massive landslides, destroying thousands of homes and partially or completely wiping out the water and sanitation systems of entire villages (see Figure 2). Overall, Hurricane Stan is estimated to have caused between 669 and 1,500 deaths, and may have destroyed as many as 200,000 homes. According to Guatemala's Ministry of Agriculture, the immediate damage done to agriculture was assessed at approximately \$46 million, with subsistence farmers in rural areas particularly affected (American Red Cross 2005; Unitarian Universalist Service Committee 2005).



Figure 1. Aftermath of mudslides in Chimaltenango

Even in June, nearly nine months after Stan passed through, the communities are still recovering, and mudslides continue to pose a threat. The torrential rains of Hurricane Stan led to vast amounts of soil erosion here, and saturated the ground. This saturation in turn increases the probability of future mudslides, as any additional amount of rain causes the soil to move. In Guatemala, the rainy season runs from May through August, and in these months after Stan, soil erosion represents a grave problem that threatens the safety of many families in highland communities. Ladina farmer Doña Emelia, 38, identifies mudslides as the biggest environmental problem facing the community where she lives and farms. She notes that,

This was only a small problem before Stan, but after Stan, a big problem. A family in town completely lost their house because of a mudslide, and another friend of mine has much fear because now, during this time of year, there is much rain, and her house is at the bottom of a hill. She has a husband and three small children, and she has fear because there is no place she can go, and every day, it rains more, and more mud slides down. We are trying to find a house for her if she loses hers, but it is difficult, because our houses are so small, and our families are big, so there is not enough room. I don't know what will happen to her.

The immediacy of the threat is evident in Doña Emelia's concern for her friend. While she is anxious about her friend, Emelia is also concerned for herself as well. She goes on to say, "Of course, I am worried about my own family, too. Really, when it rains so hard, no one is completely safe." Thus, Emelia is aware that the problem of mudslides is one that affects the entire community, and is not restricted to one or two families.

Other women also relate their individual problems to the situation of the larger community. Kaqchikel farmer Doña Mona, 42, notes that while she is not overly concerned for her safety, she does have to take "extra care" when farming. She says that "The soil can be loose, and it is easy

to slip on the rocks. I do not like to bring my young children with me, because it can be dangerous, so I ask my older ones to watch them when I am working [in the field]." She extends this danger beyond her own personal experiences, however, noting that "I am only one of many farmers here. I know that others have the same difficulties like I have." Thus, Mona connects her experiences to the experiences of others in situations similar to hers, concluding that the dangers inherent in farming on steep, unstable slopes are dangers that many farmers in her community have to contend with. As women are the primary farmers in these areas, they are also the ones who are placed in the greatest danger.

In addition to affecting farming conditions, the mudslides have affected other aspects of life in the highlands of Chimaltenango, including finding water for bathing and washing clothes, as well as travel. In one community near a large city, some residents have running water, but many do not. In order to wash clothes, many women make weekly trips to a community *pila*, a set of outdoor sinks constructed out of stone where people bring their clothes or dishes to wash. One of the main pilas in this particular community was not equipped with running water, but was built near a river that ran outside of town, so that people could easily fetch water as needed. Unfortunately, the river ran alongside the base of a hillside that had been recently deforested in the summer of 2005. After Hurricane Stan passed through, a tremendous amount of soil and sediment was washed into the river, so that the water source was dried up (see Figure 2). Now, women who used that pila on a daily or weekly basis must go to another part of town, which one woman described with distaste as being "too far away and too crowded."



Figure 2. Near the city of Chimaltenango, this river had been covered over by a mudslide.

Travel has also been affected by deforestation and the resulting soil erosion in and around the communities. Shortly after Hurricane Stan passed through, a mudslide covered one main road in Doña Mona's community. Although few individuals own cars or trucks in this area, it was not uncommon for as many as ten farmers to crowd into a truck on their way to their fields, which can be as far as seven kilometers, or four miles away. Now, the mudslide has made this road inaccessible to vehicles, and farmers must walk to their fields, carrying their tools on their backs. Doña Sofia, 33, and Doña Mona must walk at least five kilometers, or about three miles on steep roads and paths in order to get to their milpa plots, which border each other. In another area, farmers have experienced similar problems with regards to travel, as many paved roads leading outside of the city have collapsed as the ground underneath has given way due to oversaturation. In poor areas on the outskirts of both of these communities, the government has done little to repair damage done to roadways. Lourdes explains that, "This area is very poor, so the government does not care much about us. This road has been covered for almost eight months, and only once did people from the government visit, right after the hurricane. They left and never came back, so you see how much they care about us. We have to take care of ourselves here." While the mudslides have been especially detrimental to the women and the farmwork they do, the women clearly view the mudslides as being a problem for the whole community. Lourdes' skepticism regarding the government is shared by others in the group of women she works with, and is unsurprising given the government's history of neglecting the needs of the poor, particularly indigenous populations (Nelson 1999; Sanford 2003). However, also implicit in Lourdes' comments is a certain tenacity, and a realization that in order to improve the present situation, the residents of some of these poor areas must act to "take care of [themselves]."

Conclusion

It has been suggested by historians that the land and people of Guatemala have been subject to at least three "cycles of conquest" from the colonial period through modern times. Broadly, these cycles include the conquest by imperial Spain, the conquest by local and international capitalism, and the conquest by state terror during the civil war of the latter twentieth century. At the heart of these various cycles has been a struggle over land rights (Lovell 1988). In the centuries from colonization to globalization, the conquest of land has left the rural poor of Guatemala, the majority of whom are indigenous, with small plots of land in Guatemala's highlands. Here, poor indigenous and ladina/o farmers must somehow carve out a living, farming to feed themselves in difficult, unforgiving terrain. I would like to suggest that now, poor farmers in rural Guatemala are facing a fourth cycle of conquest of both land and resources, as the increasing globalization of capitalism has led to unprecedented environmental degradation in Third World nations such as Guatemala. The spread of multinational export agribusinesses assisted by neoliberal reforms instituted by the WTO, the IMF, and the World Bank, has continued to force poor farmers off their land, which is then used by the multinationals and their contractors to grow export crops. Forced off their lands, small scale farmers often relocate to the highlands, where they slash and burn trees to make way for their subsistence plots. This process has become so widespread throughout Guatemala as well as Honduras and Nicaragua that studies have found that Central America has lost the greatest percentage of forest cover in recent years of any world region (Carr 2003).

Within this broad global and historical picture, I have tried to situate the stories of various Maya and ladina women in rural Guatemala, using a socialist ecofeminist analysis to show how their role as subsistence farmers has been impacted by the environmental degradation occurring within their communities. Such a review of history and theory is necessary in understanding the progression of environmental degradation, and how this degradation affects individuals

differentially according to intersections of nationality, race, gender, and class. However, it is only through the words and stories of people like Doñas Marta, Santiaga, Lourdes, and others that we are able to see how these global, historical processes are played out in the everyday lives of individuals. Through these stories, we are able to see how deforestation, soil erosion, overuse of pesticides, and other problems have impacted numerous aspects of life for these women and their families and communities. Deforestation has not only emotional but material consequences for these women farmers, as many express a sense of sadness and loss as more and more trees are cut in their communities. Additionally, as more trees are cut to make way for subsistence plots, these women must walk farther for firewood, and must also contend with the dangers of soil erosion and mudslides from deforested hillsides.

In the various stories presented here we find not only a message of urgency but a message of hope and courage as well, as these women have taken it upon themselves to mobilize to fight the environmental degradation that threatens the well-being of their families and communities. As their role as farmers has made them more aware of the environmental problems in their various locales, it has also made them aware of the need to act to address these problems. Within each of their communities, the women have taken it upon themselves to organize to help each other with the demands of farming. As my experience with AIR has shown, many of these women have also taken it upon themselves to seek the outside help of an international NGO. Such mobilization has been instrumental in helping the women to secure the social, financial, and technical resources to stop and reverse environmentally destructive processes in their communities.

It is also in these stories that we find similarities to the stories of other women in various regions around the globe, and we find that these women are not alone in their struggles or their activism. Ecofeminist and feminist scholars like Vandana Shiva (1989) and Bina Agarwal (1992) have documented the mobilization of women in rural parts of India to protect forests there, while Ivone Gebara (1999) and Mary Judith Ress (2006) have worked extensively with grassroots women activists throughout Latin America. While these scholars and activists may work in different contexts under different conditions, they all share a similar struggle against the forces of economic development that threaten their lands and livelihoods. For many of these women, the struggle against environmental degradation is motivated by the need to protect the forests and fields that are a source of sustenance. As Shiva notes, "movements by rural women to protect forests or rivers have always been rooted in protecting their food base" (1989: 97). Thus, for women in Third World nations like Guatemala, mobilizing on behalf of the environment is more than a matter of tepid concern, but a matter of *survival*, motivated in the need to protect a food base that nurtures the women, their families, and the larger community.

Future, more large scale studies of this nature that examine women's relationship with their environment in other regions of the globe could be helpful in developing both theory and policy that takes into account how historical processes of globalization and environmental degradation affect individuals differently according to not only their gender, but their race, class, and nationality as well. Ecofeminist theory in particular can benefit from such studies, as it has often been criticized for being overly theoretical and lacking in empirical evidence; for homogenizing women as a group and failing to take into account issues of difference; and for failing to take into account issues of globalization as an "extension" of capitalist-patriarchy (Agarwal 1992; Sydee and Beder 2001; Eaton and Lorentzen 2003). With regards to policy, studies similar to this have already had an impact, as the United Nations has held conferences and generated policy initiatives that highlight the links between women's roles as farmers and providers for their families and their roles as environmental protectors. One such report by the United Nations Division for the Advancement of Women (UNDAW), entitled "Making Risky Environments Safer," was developed from the 1995 UN Fourth World Conference on Women. From a review of numerous case studies from around the globe, it concludes that "women and women's empowerment are indeed central in the development of an integrated global social movement toward sustainable development..." (UNDAW 2004: 9). Additionally, the United Nations' major document on sustainable development, Agenda 21, has been adopted by more than 178 nations and includes a chapter on the importance of linking women's empowerment to the improvement of local environments (UNEP 1992).

However, scholarly research has only begun to reveal the nature of the complexities and potentialities that characterize the relationship between the environment and women throughout the world. This relationship is complex and dynamic, and varies according to nation, race, class, and a host of other social markers. The more we learn about these connections, however, the better equipped we can be to challenge the system of capitalist-patriarchy that is implicated in both the exploitation of women as well as the natural world. As Doña Marta says, "People must recognize this: that we are all connected, not only to each other, but to the natural world. When we learn to care for each other, to not take advantage of each other, for money or other reasons, only then can there be equality and peace. We women here, in Guatemala, and in many other places, I think, recognize this. Now we just have to teach everyone else."

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