

FEMINIST GEOGRAPHIES OF GENDER AND CLIMATE CHANGE: FROM  
INTERNATIONAL NEGOTIATIONS TO WOMEN IN MEXICO

by

Miriam Gay-Antaki

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As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Miriam Gay-Antaki, titled Feminist Geographies of Gender and Climate Change: From International Negotiations to Women in Mexico and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

\_\_\_\_\_ Date: (8/10/2017)  
Diana Liverman

\_\_\_\_\_ Date: (8/10/2017)  
Tracey Osborne

\_\_\_\_\_ Date: (8/10/2017)  
Jeff Banister

\_\_\_\_\_ Date: (8/10/2017)  
Sallie Marston

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

\_\_\_\_\_ Date: (8/10/2017)  
Dissertation Director: Diana Liverman

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SIGNED: Miriam Gay-Antaki

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## DEDICATION

To Vivian, Carlos and Carlos

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## **Abstract to Dissertation**

The gender and climate change literature has set out to underscore the differential impacts of climate change within populations. Much of this literature has conflated gender to equate to women, and has focused mostly on women in the developing world, mainly in rural areas where women are usually assigned reproductive social roles and seen as victims of climate change. This overlooks the intersecting and multiple identities of women, their role and voice as agents of change in all regions, and does not use the full range of feminist theory and methods. This dissertation uses feminist geography to challenge the dominant scales and sites of climate change governance and draws attention to the micropolitical, situated, and relational practices through which power relations surrounding climate change are (re)produced. The overarching research question is: How can we include gender and intersectional voices in the study and practice of climate governance? More specifically, I examine how gender and climate policies were and are created; I expose how discourses of gender and climate change are perpetuated and by whom; and I make clear the relationship between these discourses and social inequality and vulnerability to climate change. Paper A examines the experiences of women who are authors of Intergovernmental Panel on Climate Change reports and finds that while some women experience active forms of gender discrimination such as silencing or being dismissed, others have a more positive experience, but encounter barriers such as lacking childcare or support from their employers. Paper B shows how feminist geography can investigate the micropolitical and everyday interactions in important geopolitical spaces. It finds that the simple formulation around gender in international climate debate erases important differences amongst women and their struggles; creating an identity politics that excludes people with similar goals, weakening potential for positive change.

Paper C contests the mainstream climate change and gender discourse that constructs the ‘third world women’, showing women in rural Mexico as agents of change instead of vulnerable and passive victims and including self-reflection on my own fieldwork. The appended paper shows that, in most cases, carbon offset projects have consolidated gendered regimes of differential access to markets and economic opportunities while also reifying property tenure structures that may further exacerbate gendered distinctions.

## Introduction to Dissertation: A Feminist Geography of Gender and Climate Change

### GETTING THERE

*I took a van to Miahuatlán, Oaxaca, Mexico.*

*When I got off, I had no idea how to get to the community I hoped to study. They told me that they would take me to the bus station where I hopped on another van whose driver told me he'd take me closer. He soon stopped and without pointing, said right there. There was nothing. I was very lost, and kept asking different people. Either they would not know or they would tell me, right over here, over there.*

*Finally, a man in his early thirties approached and asked: "where are you going senora?" I replied "San Francisco Coatlán". "I am headed over there, but at 12" he replied. "I am taking those people as well". "Okay, I'll go with you" I said, wondering how we'd all fit in the back of his truck. It was 11.*

*I didn't know what I would do for an hour in this small town. I was in Miahuatlán - a city in Oaxaca of over 35 thousand people - yet I stood out like a sore thumb. Everyone was staring at me (probably thinking I was a tourist), I saw an older lady in indigenous clothing doing some embroidery, I saw a man, then another, I sat down on the ground next to the lady.*

*I looked at her, she looked at me.*

*An ice-cream vendor approached and stood next to me, "do you want a paleta (popsicle)?" "No thanks" I said, hoping that would set him on his way, but then he asked the dreaded question: "Where do you come from?" And I thought, oh boy, here we go... "Mexico" I replied. "No way" he exclaimed, "there's no way you are from here, where are your grandparents from?" As I was wondering how to go about answering this, in a way that wouldn't make me seem more weird and foreign, but also in a way that would end the conversation all I could think in reply was: "Spain and Egypt". This did the trick, I got a blank stare in reply. After a couple of seconds, he said: "You see!" meaning that he was right that I couldn't possibly be Mexican. "Are you sure you don't you want a paleta?" the man asked. I heard the voice of my parents pleading for me to stay away from street food, especially any consisting of suspect water. Ignoring their warning, I replied. "Okay, which is your favorite?" "Well up to you, I have coconut, strawberry..." "I'll take strawberry".*

*Just as I thought that perhaps I would get some peace and tranquility, another young man approached and asked: "What do you do?" Oh boy, I thought, here goes nothing. I cleared my throat, put on my academic hat and said: "I am conducting a study on climate change and how it affects people. Are you guys worried about climate change?" "No, not at all". And this was where they both left me. "Well I have to get back to work" said one of the men. "Me too" said the paletero as he pushed his cart away down the narrow sidewalk.*

## GENDER AND CLIMATE CHANGE

Climate change has become an important global issue with many implications for local lives and landscapes. Responses to the risks of climate change include international, national and community policies and projects to reduce greenhouse gas emissions (mitigation) and to adjust to the impacts of a changing climate (adaptation). Climate change will have disproportionately negative impacts on women, and others who are geographically or economically disadvantaged, and the responses to climate risks need to take account of the vulnerable and otherwise marginalized. Unless we focus on the intersections of existing structural inequalities and climate-related pressures, our understanding of the human dimensions of climate change will remain incomplete. The responses to climate change may end up exacerbating social inequalities that expose those already vulnerable to climate impacts, including women. Although women and gender issues have been included in policies and projects at global, national and local levels, many of the commitments are discursive rather than offering material benefits, and construct women as victims or actors without representing their diversity or voices.

This dissertation explores the material and discursive processes by which some voices are heard in the climate debate, while others are silenced. The overarching research question is: How can we include gender and intersectional voices in the study and practice of climate governance? It asks what are the gendered, racial, ethnic, and class disparities within climate change knowledge and policy? How have they been, and are created? How are discourses of gender and climate change perpetuated, and by whom? What are the relationships between these discourses and social inequality?

The gender and climate change literature has underscored the differential impacts of climate change on populations but has focused less on the interaction of climate responses and policies

with gender. Most of the literature conflates gender to mean women through three main frames: women as victims, women as the problem, or women as saviors (Arora-Jonsson, 2011; Buechler & Hanson, 2015; MacGregor, 2010; Skinner, 2011). While the term ‘woman’ references intrinsic sex differences between men and women and naturalizes gender roles that are perceived as natural and unquestionable, the concept of ‘gender’ highlights the social construction of gender roles that disadvantage women, and asks why women perform the roles that they do (Leach, 2007). Climate research has focused on women in the developing world, mostly in rural areas where women are usually assigned social reproductive roles. Such studies explain why women are vulnerable because they are responsible for the collection of forest products, water and food for daily household subsistence; and how they will have to spend more time seeking alternate and increasingly scarce sources of food, fuel, and water in the face of climate change and environmental degradation (Cannon, 2002; Goldsworthy, 2010). Some of this work recognizes that women are already responding and adapting to climate change and that it is important to recognize their actions (Brody, Demetriades, & Esplen, 2008; Ongoro & Ogara, 2012; Sultana, 2013).

Feminist scholarship on the topic of climate change is beginning to question and theorize the role of gender in climate change beyond gendered climate impacts. For example, the feminist philosophical journal, *Hypatia*, published a special issue in 2014 on climate change, which included papers on how climate change is perceived, communicated, and narrated; asking key questions about values, environmental politics, scientific practice, ontology, collective responsibility, and culture (Tuana & Cuomo, 2014). The issue covered themes of intersectionality, north/south relations, climate change imaginaries, narratives and discourses, and critiques of neoliberal approaches that distract us from questions of power. More recent

work on gender and climate change seeks to understand climate change through gender relations (Buckingham & Le Masson, 2017), challenges the discourse that frames women as vulnerable victims (Andersen, Verner, & Wiebelt, 2016), explores the role of the gender constituency in the COPs (Morrow, 2017), as well as using explicitly use feminist methods such as intersectionality (Thompson-Hall, Carr, & Pascual, 2016) and postcolonial science studies (Carey, Jackson, Antonello, & Rushing, 2016) to explore the gender dimensions of climate change.

Gaps in feminist geography include understanding gender and climate related efforts as a series of networked connections ranging from knowledge production, to policy creation, to the implementation of these projects, and seeing how these are received in targeted households and communities. Both globalization and climate change challenge climate change scholars to understand human agency over multiple and disparate sites at once (Chakrabarty et al., 2012).

Work on climate and gender could also benefit from a postcolonial lens using ethnography and reflexive research methodology to underscore colonial and imperial processes in climate change approaches (including those in academia) that perpetuate western notions of modernity and gender equality in non-western spaces. The aim of this dissertation is to fill these gaps by critically examining the dominant scales and sites of climate change governance to draw attention to the micropolitical, situated, and relational practices through which power relations surrounding climate change and gender are (re)produced.

#### TROUBLING GENDER

My understanding of gender is informed by the works of Judith Butler and Joan Scott. Alongside Scott (1986), I stress that gender does not equate to women; rather, it introduces a relational concept into our analytic vocabulary. Understanding gender relationally asks that we not only look at power differentials between men and women but also understand how some bodies come

to be marked as sexed and gendered. In this line, gender becomes a social signifier of power relations with bearings on race, class and sexuality. Scott's formulation of gender provides a useful analytical framework by which gender can signify the social relations in the climate debate that maintain those in power while (re)producing inequalities.

I use Butler's work to trouble the gender categories that support gender hierarchies and compulsory heterosexuality around gender and climate work. Gender and climate change initiatives employ a discourse of protective paternalism aimed at women. This framing is reminiscent of the formulation of what Butler calls "female trouble", a historical configuration that thinly veils the notion that being female is a natural indisposition (Butler, 1990). Butler's work is useful to highlight the problematic nature of projects aimed at assisting women and classifying them as a unified category. Climate projects that are gendered should be troubled because they reproduce the notion of 'women' as a specific group in need of assistance. The act of assisting has been used to subjugate gendered, racialized and sexualized bodies as we have seen via the medicalization of women's bodies. I use Butler's work to push away from thinking of gender as a binary (male/female) category, instead focusing on how power operates to produce the binary, and to trouble the category of women as the subject for 'gender work'. In her words: "it is not enough to inquire into how women might become more fully represented in language and politics. Feminist critique ought also to understand how the category of "women," the subject of feminism, is produced and restrained by the very structures of power through which emancipation is sought" (Butler, 1990, p. 4).

Power is clearly central to feminist theory, while there are many working definitions of power, this dissertation conceptualizes power in two main ways: in terms of power-over relations (Foucault, 1982), and in terms of its actual exercise (Arendt, 2013). In addition, by paying

attention to the micropolitical and everyday, this dissertation explores power relations in action, and thus power is understood dynamically, as existing in ongoing processes or interactions (Foucault & Gordon, 1980).

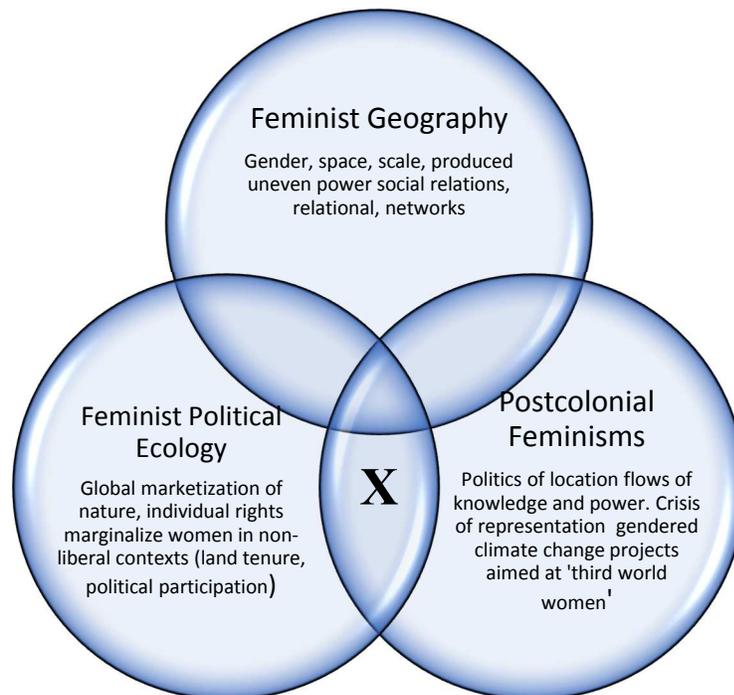


Figure 1. The intersection marked by X represents the theoretical framework of my dissertation

My theoretical framework ( Figure 1) provides analytical tools to underscore how formulations of gender and climate change are actively resisted and transformed by those they target.

#### CLIMATE GOVERNANCE

The critical climate governance literature covers themes ranging from reconfigurations of climate governance (Bulkeley, 2005; Slocum, 2004) to studies of international climate negotiations such as the Conference of the Parties COPs or Reducing Emissions from Deforestation and Forest Degradation (REDD) (Karlsson, Hjerpe, Parker, & Linnér, 2012; Rowe, 2015; Schroeder & Lovell, 2012a) to the production of climate knowledge in the IPCC (Corbera, Calvet-Mir, Hughes, & Paterson, 2015; Hulme & Mahony, 2010) to analyses of national policies (Bailey & Rupp, 2005; Delgado, De Luca, & Vazquez, 2015), to discussions of

governance at local sites including forests, offsets, adaptation, mitigation or food security (Klooster & Masera, 2000; Lipper, Thornton, Campbell, Baedeker, & Braimoh, 2014; Osborne, 2011; Secco, Da Re, Pettenella, & Gatto, 2014). These studies include analyses of government positions, the role of NGOs and other non-state actors, how power is attained and operates at these sites, and what groups of people or individuals do to claim voice, recognition and legitimacy in these multi-level climate debates.

While these studies are important in that they underscore the inequality and power differentials at these sites, they do not explicitly look at gender. Omitting gender dynamics in explorations around participation, power, legitimacy, knowledge creation, management of the commons or access to resources, in climate governance, misses a central component in understanding why and how social inequalities are produced with negative consequences on our environment.

Incorporating a feminist dimension to climate governance will force us to move beyond recognizing the differential impacts of climate change on different groups of people – men and women, rich and poor, North and South, towards understanding how the science, the policy and conceptualizations around gender and climate change that inform existing solutions may be perpetuating differences because these are built on systems that draw power from differentiation and marginalization (Carey et al., 2016).

#### FEMINIST POLITICAL ECOLOGY

Feminist Political Ecology (FPE), is a popular approach to study gender and the environment in geography (See appended paper for further elaboration). FPE uses gender as a critical analytical variable to explore power relations that shape access and control over resources (Elmhirst, 2011; Rocheleau, Thomas-Slayter, & Wangari, 1996). Much of FPE work does not explicitly discuss power, but mostly conceptualizes it as power-over, rather than as the exercise of power. FPE

work investigates four core aspects of environmental conflict: access, control, distribution, and knowledge. A crucial contribution of FPE in the environment and gender debate has been to call attention to the ways that each of these processes are structured by social relations within households, communities, and across scales to the global (Nightingale, 2017). Many FPE studies explore the consequences of neoliberal commodification of nature in communities and households. For example, Mollet's work links development projects to neoliberal, colonial and patriarchal systems of oppression and has sought to destabilize gender as the central category of analysis in gender and development work gender analyzing the intersections between sexism and other forms of subordination such as racism, heterosexism, and class oppression (Mollett, 2017; Mollett & Faria, 2013). While there is a large gender and environment literature (Nightingale, 2017), there are fewer studies around gender and climate change, and still, relatively fewer that use feminist approaches. Most gender and climate change studies consist of how REDD, offsets and adaptation work at local level exploring different aspects of vulnerability, adaptation, or mitigation (e.g. wind farms, carbon offsets) (see Appended paper for further elaboration) investigating questions around distributional impacts, access, and participation. For example, Bee's (2016) work in north-central Mexico investigated how gender relations within rural communities affect women's perceptions of and responses to environmental and social risks. By paying special attention to knowledge production as a power-laden process around social and environmental risks she proposed that addressing people's underlying vulnerabilities will only be successful when local knowledge is incorporated into scholarship about risk reduction and adaptive capacities, since what people will understand as 'risk' will only be relevant if it is meaningful to their everyday lives (B. A. Bee, 2016). Bee's work is important in understanding why global or national climate policies fail 'locally' but we are left wondering about how and

why these global and national policies are decided. Other work in Latin America has explored differential vulnerability between men and women in four countries (Andersen et al., 2016).

Andersen sets out to challenge the notion that women are more vulnerable to the negative impacts of climate change as they found when looking at both income and diversification, female headed households were less vulnerable than male-headed households, despite women having a lower educational level. Whereas these findings challenge the a priori assumptions of men as less vulnerable and women as more vulnerable, they still conflate gender to mean ‘men versus women’. While female-headed households might be less vulnerable to some of the impacts of climate change, the paper shows that they are still socially disadvantaged in comparison to men when it comes to accessing education, but this is not explored further in the paper.

Additionally, conceptualizations of gender to mean ‘men vs women’ reduces an incredibly diverse dimension of identity into a uniform box-ticking opportunity (Thompson-Hall et al., 2016).

There are a few studies that explore gender and climate change beyond women’s access to resources in the Global South. For example Morrow (2017) provides a detailed account of the gender constituency of the UNFCCC through an ecofeminist lens. She finds that despite adversity and resistance in the negotiations, the women in the constituency have managed to consistently gain voice in the climate negotiations. However, she conflates gender to mean woman, where power relations amongst constituency members are overlooked, depicting all women in the constituency and beyond to have the same issues, interests and goals. And, finally, while there are studies that explore issues around the legitimacy and representation around climate knowledge production such as the IPCC (Corbera et al., 2015) – with the exception of Carey et al (2016) who challenge patriarchal and colonial knowledge production around glaciers

– there are no other studies at the time of writing this dissertation that look at gender relations in climate knowledge production.

#### FEMINIST GEOGRAPHY AND CLIMATE GOVERNANCE

Relatively fewer studies explore gender and climate change through a feminist geographical perspective. However, feminist geographical perspectives and approaches are useful to think about constructions of space and gender as a series of networked connections in the climate change debate. Feminist geographical studies have aimed at disrupting the gender binary, through engagement with feminist scholarship that fosters exploration of multiple intersections of identities, knowledge, power, and agency, around environmental governance, gender justice, climate adaptation. Tools from feminist geographers that can be adopted and adapted to a climate-change analysis include: disrupting the gender binary by asking why women perform the roles that they do; analyzing how and why policies take advantage of the simple formulation around gender to mean ‘men vs women’; how a diversity of voices can be silenced without an intersectional approach; and looking for what other social identifiers, beyond but including those of gender, might be more relevant in understanding people’s struggles or motivations (Sultana, 2013; Tschakert, Coomes, & Potvin, 2007; Tschakert & Machado, 2012).

A recent edited volume around work that studies climate change via the exploration of gendered relations, uses more explicit feminist approaches. For example, MacGregor stresses that to answer the question about why gender is relevant to climate change we must go beyond simply listing negative impacts on women because this misses central questions that explain why are women at a disadvantage. Assuming women’s vulnerability to be natural and unquestionable may end up reifying gender roles to the detriment of women and other marginalized groups. And in terms of mitigation, proposed solutions such as population control, will do nothing to

address root causes of climate change such as the burning of fossil fuels, but infringes upon basic rights of women, mostly poor women in the global south (Buckingham & Le Masson, 2017).

Thompson-Hall et al. (2016) propose the use of the feminist concept of intersectionality to foster exploration of multiple intersections of identities, knowledge, power, and agency around adaptation in agrarian settings. They maintain that conceptualizing gender to mean ‘men vs women’ in the context of climate change remains an attractive option for those who look for a superficial incorporation of women. This diverts from important debates about power in climate change. Tuana’s (2016) uses insights from feminist philosophy to remind us about the social constructions of gendered conceptualizations in climate change knowledge, and how these influence what we value and do not value, know and do not know, and what actions we take or do not take in the face of a changing climate. While these studies engage important discursive debates, they are not ethnographical or empirical. As such we do not know about what particular effects people experience around gender and climate change. Thus, the effects of both globalization and global warming on different populations continue to be a challenge for climate governance scholars interested in conceptualizing human agency over multiple and divergent scales.

#### TOWARD A FEMINIST GEOGRAPHICAL FRAMEWORK TO STUDY GENDER AND CLIMATE CHANGE

Geographical insights on climate governance have problematized mainstream understandings of the spatial and scalar as presented as a single chain of events made up from discreet one-directional categories. For example, when global change is seen to impact the local, or a physical change in linearly climate affects crop yields and then food security (Bulkeley, 2005). While power relations are central in the social construction of scale in climate governance literature, few studies take a feminist perspective.

I use feminist geography as an analytical lens to study the ways in which gender and space are theorized in daily and political life (Massey, 1994). Through feminist geography, I explore how conceptualizations around space and gender are produced through hierarchical social relations that are dynamic and always contested. Feminist geography then, is useful to situate gender and climate change projects while examining their role in a global socio-environmental framework. This lens highlights the complex interconnections and flows of power that arise from global networks that have profound effects on the lives of women everywhere.

Feminist geography can underscore how knowledges around global environmental change, produced by world leaders, the media, scientists and resistance groups are circulated around the world. A constant restructuring of these understandings, and a consequent different articulation of environmental governance, can underwrite political understandings of local, national, regional and global networks and processes (Bulkeley, 2005; Sharp & Dowler, 2010).

Feminist geography also underscores the problematic nature of solutions pushed through regional or national agendas to resolve climate change, and highlights the importance of recognizing that socio-environmental change is local and that “most people do not have problems of a global nature” (Slocum, 2004 citing Taylor, 1997:151). Through feminist geography we come to understand how environmental governance involves both political processes of scaling and rescaling the objects and agents of governance, that then create new, networked, arenas of governance (Bulkeley, 2005). Environmental issues are created, constructed, regulated and contested between, across and among scales. Recognizing the relational nature of the sites that we study points towards the fact that all localities are produced by the intersection of both global and local processes. Whether in the home or in the workplace, at the level of the city or the nation-state, global flows are all affected by and reflected in

embodied practices and lived social relations (McDowell, 1999). What this implies for my study is that our thinking of the global impacting the local unidirectionally must be unsettled. Through feminist geography I underscore that there is agency everywhere and power flows in many directions. You do not have to go only to sites such as the UNFCCC Conference of the Parties (COPs) which are seen as central sites of power, to understand geopolitical events around gender and climate change. One can see power relations even at very local levels where women are simultaneously responding to their changing material circumstances and resisting policies and discourses from national and international sites.

#### INTERSECTIONAL AND POSTCOLONIAL FEMINISMS

Understanding gender relationally asks that we not only look at power differentials between men and women but rather understand the mechanisms by which bodies come to be marked as sexed and gendered. The goal of intersectional approaches is to develop a framework for conceptualizing power and agency that encompasses sexism, racism, class oppression, heterosexism, and other axes of oppression in their complex interconnections (Crenshaw, 1989). Gender becomes a social signifier of power relations with bearings on race, class and sexuality.

The project of intersectional feminism grew out of black feminism where scholars recognized how women of color identify as both women and black, or other identities. Intersectionality, coined by Crenshaw (1989), is useful in gender and climate change research as it destabilizes gender as the central analytical category, and highlights how people experience several layers of oppression beyond those around gender. A truly intersectional approach does not stop here, it also underscores that this difference is not a byproduct, but rather is produced and maintained by colonial and imperial processes with negative consequences on raced, gendered, classed bodies.

Intersectional feminisms have long-challenged the notion of women as a unitary category, stressing that women in different contexts engage in disparate issues with different debates and agendas. These multiple sites of struggle are not necessarily limited to gender as the primary factor of oppression. Postcolonial theory emphasizes the local and cultural specificity of other women's lives, recognizing a politics of location, deconstructing the hegemonic use of gender as a universal category, encouraging interest and receptivity to other cultures (Rich, 1984).

Early work of feminist geographers using a postcolonial approach recognizes politics of knowledge and place, and relative privilege amongst white women, and thus difference amongst women (Blunt & Rose, 1994). Geographers have used postcolonial approaches to critique gender, environment and sustainable development practices (Mollett, 2017; Power, Mohan, & Mercer, 2006). The work of postcolonial historian Chakrabarty (2012) argues that in the face of climate change, postcolonial scholarship has to view the human simultaneously on contradictory registers: in the face of a changing climate people have to be conceptualized both as geophysical forces and as political agents, as bearers of rights and authors of actions, and as subjects to the forces of nature while allowing the individual human experience (Chakrabarty et al., 2012).

Geographical work that uses both feminist and postcolonial approaches to examine climate and global change is even rarer with the exception of that by Carey and colleagues (Carey et al., 2016). In their work, they explore science and knowledge production around glaciers, and reiterate the need not only to appreciate the differential impacts of environmental change on different groups of people – men and women, rich and poor, North and South – but also to understand how the science that guides attempted solutions may in fact perpetuate differences because they are, essentially, built on and draw their epistemic power from differentiation and marginalization. Their work stresses that productions of gender and colonialism are co-

constituted, and the ways that both women and indigenous peoples have been marginalized historically impacting what we know and do around climate change. While these critiques are crucial in understanding the colonial and patriarchal processes around the production of climate science, their work is not ethnographical, and as such does not adequately explore the material realities of global inequalities or give voice to a diversity of voices (McEwan, 2003). They also fail to explicitly deal with issues around representation and knowledge production across different sites and bodies.

Inspired by intersectional and Postcolonial feminisms, I critique Western feminism's tendency to homogenize gender in climate governance that then constructs the rubric for identifying and solving the problems of women in the Global South. I also critique knowledge production about climate change by calling attention to the politics of gender and location to highlight the inevitable violence that occurs in academic research practices, including the writing process, when representing others (Besio, 2005; Staeheli & Nagar, 2002; Tobergte et al., 2012).

Using feminist geography this dissertation explores the socio-political constructions of boundaries and differences around gender and climate change, and their power over individuals and communities. I elucidate the mechanisms of power as an exercise, and provides analytical tools to register the ways that women either reject, accept or change these efforts to fit their needs. I seek to destabilize gender as a central analytical category, and emphasizes how gender is constituted through other axes of power and difference such as race, sexuality, class, and place (Crenshaw, 1989; Mollett & Faria, 2013; Nightingale, 2006).

The dissertation consists of three core unpublished articles and one article already published in the *Journal of Latin American Geography (JLAG)*. The JLAG article is based on my Masters dissertation but was reframed for publication during my PhD work using a more explicitly

feminist approach and contributes to my overall understanding of gender and climate governance.

## PAPER A

Paper A is co-authored with Diana Liverman with the title *The Climate for Women in Climate Science: Women's Scientists Perceptions of their Participation in the Intergovernmental Panel on Climate Change*. It is currently under revise and resubmit for the *Proceedings of the National Academy of Science*. The paper set out to investigate women's perceptions of their participation in the Intergovernmental Panel on Climate Change (IPCC). While there exists research around women in science, women scientists as an interest group, and different roles in the IPCC process, there is little research focusing on women in climate science, using a feminist intersectional approach or looking at women as authors of IPCC and research papers. For paper A, I identified as many female IPCC authors as possible from the five main reports and their working groups from 1990 to 2014. This was not an easy task because the first two reports only identified authors with their initials and did not clearly identify lead authorship. Our analysis focused on lead and coordinating authors (rather than reviewers) as the most active contributors to IPCC reports and meetings. We designed and sent a web based survey, including both closed and open questions, to all women we could identify as coordinating lead or lead authors of one of the five IPCC assessment reports. After undertaking a pilot survey, and removing duplicates of women who served in multiple roles and reports, we contacted 223 individuals by email of whom 98 fully completed the survey – a response rate of 44%. We identified 392 women authors of IPCC reports. These individuals were contacted by email, and asked to fill out an electronic survey designed and distributed through Qualtrics. Out of 223 surveys, 126 were partially completed and 98 were fully completed (44% response rate). The survey consisted of 33 questions with sub-

questions that were close ended, multiple choice, scaled, matrices and open-ended formats allowing ample opportunity of detail and expression.

Data was analyzed to understand 1) basic demography 2) views of the IPCC author experience and impact on their professional career 3) perception of barriers to their participation and voice, and those of other women, and 4) recommendations to improve women's participation in IPCC.

## PAPER B

Paper B is called "*Women at the Heart of Climate Justice*": *Constructions of Space and Gender at International Climate Negotiations* and is currently under review for the *Journal of Political Geography*. It is based on research conducted at the Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC); the most important international meeting surrounding climate change, that has convened annually since 1994. I set out to investigate the material and discursive processes by which some voices are heard in the gender and climate negotiations, while others are silenced. While there is recent research around gender in the climate debate, it has usually grouped women as a unitary category having similar needs and goals. Data collected for paper B came mostly from interviews, participant observation and field notes taken during three different Conference of the Parties (COPs) in Cancun 2010, Peru 2014, and Paris 2015. Participant observation took place during gender and constituent meetings, workshops, working groups as well as during closed and open meetings around gender and climate change. I recorded over 20 hours of interviews which were then transcribed and analyzed to investigate material and discursive constructions of gender during the climate change negotiations. Using Feminist Geography as an analytical lens – one that understands space and gender as social constructs imbued in power relations – I investigated the material and discursive processes by which some voices are heard in climate negotiations, while

others are silenced. More specifically, this paper investigates gender and intersectional disparities within climate change policy initiatives, and seeks to explain how these were and are created; what discourses of gender and climate change arise at this site and who perpetuates them; and how these are enacted through climate law, policy, and action.

#### CONTEXT FOR PAPER C AND APPENDIX PAPER: MEXICO AND CLIMATE CHANGE

The country of Mexico is a fascinating and significant site to study gender and climate governance. It is one of the hotspots for global warming, has deep pockets of climate vulnerability, and has taken initiative in responding to climate change including a major role in the UNFCCC climate negotiations (Gay-Antaki paper B).

The growth of neoliberal approaches to environmental management, especially the commodification of resources such as wind and forests, has become the preferred technique for sustainable development. Mexico has been an experimental ground for these projects: in fact, according to McAfee and Shapiro “the world’s largest and most complex” (2010). Mexico has managed to attract international attention because at least, legislatively and discursively, it appears to be at the cutting edge of thinking both about climate change and gender. The Mexican Inter-Ministerial Climate Change Commission (CICC in Spanish), created in 2005, developed the first National Climate Change Strategy (ENCC in Spanish) ENCC in 2007 and a Special Climate Change Program (PECC in Spanish). This effort was strengthened by The General Law of Climate Change in June 2012; with Mexico, the second country to create a climate law, after the United Kingdom.

Within this law, Article 71 states that gender must be considered but gives no further instructions on how to achieve this (Delgado et al., 2015; Vazquez Garcia et al., 2015). In 2014, federal funds from the environmental and natural resource secretariat (SEMARNAT in Spanish)

began to be specifically designated for projects focusing on gender, the environment and indigenous communities. The projects generally last around a year, and are targeted at 20-40 community members (of which most are women), and are given around 750 thousand pesos (40,000 USD). Most these projects introduce a simple technology such as water capturing systems or efficient woodstoves plus a gender empowerment component (See appendix for examples).

Oaxaca is the most biodiverse state in Mexico but also the 3<sup>rd</sup> most marginalized (INEGI, 2004, 2007). It is also vulnerable to the negative impacts of climate change and has long been a site to study climate impacts (Dilley, 1997; Velázquez et al., 2003). As such, it presents attractive options for those seeking to conserve the environment while contributing to sustainable development. Oaxaca has attracted the interest of the international community for its potential for mitigating the effects of climate change, while promoting sustainable development with co-benefits for biodiversity, poverty alleviation and development (Emanuel & Greenberg, 2000; Gay-Antaki, 2016; Howe, 2011; Pasqualetti, 2011) Nevertheless, conflicts have occurred not only because Oaxaca has areas with strong common property rights, antithetical to individual rights required by neoliberal projects, but because communities were already mobilized against threats to their livelihoods posed by other neoliberal approaches such as the North American Free Trade Agreement (NAFTA) (see Liverman and Vilas 2006).

Since 1995, Mexico has legally recognized differentiated rights for indigenous communities in Oaxaca in the form of indigenous customary laws called *sistemas normativos internos* (Customs and Traditions) (Velásquez & Cristina, 2004; Wise & Salazar, 2003). In indigenous communities in Oaxaca, municipalities are elected through the process of Customs and Tradition rather than through electoral practices using secret ballots. Although Oaxacan women have always

participated in the maintenance of their households and communities, they have not been allowed to formally participate in *sistemas normativos internos* (Danielson & Eisenstadt, 2009; Worthen, 2015). Gender roles are shifting in many of these communities due to mass migration. Women are filling their husband's roles in collective decision-making; their political participation for community survival is vital as they fill in for the absent male so that he can conserve his status even from afar (Cohen, Everett, Polsky, & Montiel-Ishino, 2009; Heyward, 2007; Maldonado & Artía, 2004; Radel & Schmook, 2008). This shift in gender roles however does not equate to women having more agency. Research has found that women under these circumstances, even if present in assemblies, do not represent themselves; their silent presence legitimizes their absent male counterpart's voice (Vázquez García, Naima, & Neftalí, 2011). Nevertheless, research on Oaxaca also finds strong social movements opposing foreign interventions, especially those requiring individual and clearly defined property rights, and the important role that women have played in this resistance (Stephen, 2005). As such Oaxaca is a site that constantly negotiates global processes, sometimes rejecting international efforts but mostly altering their meaning so that they become relevant to the lives of people that live there.

#### PAPER C

*A Micropolitics of Gendered Climate Governance: Reflexive Research in Oaxaca, Mexico* will be submitted to the journal *Gender Place and Culture*. Whereas gender is usually an add-on to climate adaptation or mitigation projects, and all projects in Mexico by law must have a gender component, paper C calls attention to a project whose sole focus was on gender and climate change. Using reflexive research, the paper asks: what do gender and climate change projects look like in the communities and households where they are implemented? What is the reception

to gender and climate change projects, and how can we avoid perpetuating colonial representations of people we study?

To answer these questions, I conducted interviews and focus groups, as well as homestays and field visits, in San Francisco Coatlán, the community that received the gender and climate project. The paper aims to ground environmental governance around gender and climate change, using feminist geography, by calling attention to the everyday practices of the lives of people in Mexico involved in gender and climate change interventions. Using postcolonial insights and reflexive research methods, this paper highlights the politics of location and representation encountered in gender and climate change work. It also criticizes tendencies in climate and development work that attempt to homogenize gender, via second wave understandings of feminism, that erases agency and autonomy that women have always had outside of western spaces.

#### APPENDED PAPER

This paper called “*Now We Have Equality*”: *A Feminist Political Ecology Analysis of Carbon Markets in Oaxaca Mexico* was published in the *Journal of Latin American Geography* and focuses on the effects of a wind project and a small-scale reforestation project to show the convergence of environment, gender and development as these are introduced into communities in Oaxaca, Mexico. It complements the other dissertation papers by examining the gender dimensions of local mitigation projects. The paper asks: what are the differential impacts of carbon offset technologies on geographies and people, with specific attention to gender?

I collected data over a four-month period in 2010. Because I was interested in exploring the differences between wind and forest carbon projects, I conducted case study research in two sites - Tlahuitoltepec and La Venta (Map 1). To understand carbon markets more broadly, I conducted archival research in Oaxaca City and Mexico City. Throughout the research period I conducted a

series of informal, semi-structured and in-depth interviews (in Spanish) in Mexico City (5) Oaxaca City (11) in Tlahuitoltepec (16) and in La Venta (12). These took place in offices, meeting rooms, homes, coffee shops, and during field visits. In addition, over the course of my fieldwork, I attended meetings, organized focus groups, visited health centers and wind farms, shadowed agrarian authorities, accompanied community members to their reforested plots or to observe their wind towers, conducted house visits, visited both headquarters for wind and forest carbon projects and took field notes. I collected oral histories in both communities. During my visits to Tlahuitoltepec, I stayed in homes of people from the community. Most interviewees spoke Spanish. When interviewees preferred to use their mother tongue (Zapotec in the Isthmus, and Mixe in Tlahuitoltepec) an interpreter facilitated the conversation. I used a snowball sampling technique to expand my network of contacts in the public, private, and civil society sectors. I spoke with a wide range of professionals, public servants, academics, activists, members of civil society more broadly, and residents that were familiar either with carbon markets or gender issues in Mexico. The quotes are my translations of interviewees' opinions expressed in Spanish. The data was classified through thematic coding, in which I looked specifically for: (1) role of gender in carbon markets; (2) gender relations of carbon markets; and (3) resident participation in carbon markets.

#### SUMMARY

The significance of these research papers is further discussed in the conclusion. In sum, these papers seek to build on gender and climate change literature: 1) by using explicitly feminist geography, reflexive and postcolonial approaches to understand social constructions of space and gender across sites as dictated by power relations that reveal underlying structures of power rooted in imperialism and colonial dominance (A Blunt & Rose, 1994; Massaro & Williams,

2013; Mollett & Faria, 2013; Nagar, 2000; Power et al., 2006; Sharp & Dowler, 2010); 2) to question simplistic representations of gender and climate change that take advantage of women's social reproductive role to subsidize development projects (Gay-Antaki, 2016; MacGregor, 2010; Seager, 2009) and 3), and approaching transnational climate governance as site-specific social spaces focused on concrete practices imbued hierarchical social relations (Bulkeley, 2005; Rowe, 2015; Schroeder, 2010). One of the key themes running through all the papers is that of intersectionality - showing the importance of considering multiple identities in our understanding of climate governance.

### **Conclusion to the Dissertation: Towards a feminist understanding of gender and climate change**

This dissertation explored the material and discursive processes by which some voices are heard in the climate debate, while others are silenced. It asked: How can we include gender and intersectional voices in the study and practice of climate governance? What are the gendered, racial, ethnic, and class disparities within climate change knowledge and policy? How have they been, and are created? How are discourses of gender and climate change perpetuated, and by whom? What are the relationships between these discourses and social inequality?

My dissertation advanced our understanding of gendered climate governance through the insights of feminist geography and intersectional scholarship. By bringing attention to the everyday and relational practices around climate knowledge, policy and practice, I underscored material gendered barriers that women must face in positions of power and the important differences between simply increasing representation of women in climate science and policy vs understanding power relations between actors (including between women). I also highlighted the agency of women in spaces where they are deemed only as vulnerable beneficiaries. Through

feminist geography I explored how conceptualizations around space and gender are produced through hierarchical social relations and situated gender and climate change projects while examining their role in a global socio-environmental framework. Conceptualizing power both as power-over and a type of exercise, highlighted the complex interconnections and flows of power that arose from global networks having profound effects on the lives of people everywhere. Through the concept of intersectional feminisms, I contested Western feminism's tendency to homogenize gender in climate governance by emphasizing women's roles as agents rather than as victims. Through intersectional feminism my aim was to develop a framework within gender and climate change research and scholarship for conceptualizing power, both as power-over and as exercise, that encompasses sexism, racism, class oppression, heterosexism, and other axes of oppression in their complex interconnections (Crenshaw, 1989). In this line, gender becomes a social signifier of power relations with bearings on race, class and sexuality. By calling attention to the politics of location I contested knowledge production around gender and climate change, and through reflexive research I attempted to attenuate the inevitable violence that occurs in academic research practices, including the writing process, when representing others (Besio, 2005; Nagar & Geiger, 2007; Staeheli & Nagar, 2002; Tobergte et al., 2012). A serious engagement with gender in the climate debate will shy away from a narrow formulation of women to question the systemic and relational ways in which so many voices are excluded, increasing the impact of proposed solutions to the complex social effects of climate change.

#### PAPER A

Paper A co-authored with Diana Liverman is titled *The Climate for Women in Climate Science: Women's Scientists Perceptions of their Participation in the Intergovernmental Panel on Climate*

*Change.* We underscore that the literature and discourse around gender and climate change has yet to adequately incorporate the politics of knowledge production of climate change (with exception of Carey 2016). The Intergovernmental Panel on Climate Change (IPCC) has become the authoritative scientific voice on climate change since its first report in 1990 (Hulme & Mahony, 2010). This voice is dominated by specific disciplines, the global north, and men. Attention to gender and climate change is increasing because it has become clear that it places a disproportionate burden on women, especially in the developing world (Arora-Jonsson, 2011; Denton, 2002a; Gay-Antaki, 2016). While attention has grown towards the differential impacts of climate change on women from policy to impacts, the role of women as climate scientists has not been adequately addressed. Paper A aimed to fill this gap through the analysis of women's participation in the IPCC reports and their perceptions of their experience as IPCC authors. We show that even climate scientists participating in the Intergovernmental Panel on Climate Change (IPCC) face barriers to participation. I argue that intersectionality is important and show that different women face barriers associated with their race, nationality, command of English, and even stature. I argue that gender is a useful lens to better understand societal rules and norms that continue to keep gendered and raced bodies at a disadvantage in comparison to men. Many women scientists were reluctant to accept that their own gender could have affected their career as climate scientists. However, they were more comfortable admitting that perhaps gender did impact others, especially those who lacked confidence or did not speak English well. This depiction was in sharp contrast to an overwhelming majority of survey respondents who reported being very confident and having excellent spoken and written English skills. Some women did feel that the IPCC process silenced, discounted and patronized women, especially women of color. Women reported active silencing, incompatible work schedules with family and other

work duties, and disregard of their scientific opinion. We argue that this bias challenges the representativeness, legitimacy and content of the reports when they fail to adequately incorporate the scientific expertise of developing countries, indigenous knowledge, a diversity of disciplines in natural and social sciences and the voice of women (Carey et al., 2016; Corbera et al., 2015; Demeritt, 2001; Ford et al., 2012; Ho-Lem et al., 2011).

While my dissertation is careful to avoid reifying the category of women as unitary category, to deny the material impacts that a gendered body experiences due to social rules and norms would be naïve. Paper A speaks about gendered differences, but underscores the different and intersectional experiences amongst women along axes that include race, nationality, and language.

#### PAPER B

Paper B is called “*Women at the Heart of Climate Justice*”: *Constructions of Space and Gender at International Climate Negotiations* and is currently under review in the *Journal of Political Geography*. It consists of research conducted at the Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC): the most important international meeting surrounding climate change, that has convened annually since 1994. Using Feminist Geography as an analytical lens – one that understands space and gender as social constructs imbued in power relations – I investigated the material and discursive processes by which some voices are heard in climate negotiations, while others are silenced. More specifically, I studied gender and intersectional disparities within climate change policy initiatives and sought to explain how these were and are created; what discourses of gender and climate change arise at this site and who perpetuates them; and how these are enacted through climate law, policy, and action. It is important to highlight that only since 2009 has a Women

and Gender Constituency been formally recognized by the United Nations Framework Convention on Climate Change (UNFCCC) as a provisional constituency that has some formal voice. I find that only since 2010 in the Conference of the Parties (COP)16 in Cancun was a discourse around gender present in the Climate Negotiations, and only since 2015 was gender recognized as a stand-alone item in the Paris Agreement. Thus, efforts to incorporate gender into a global climate change agenda are recent, especially when compared to other efforts within the UN Framework such as the Biodiversity and Desertification Conventions which incorporated gender in 1992 in the Rio Convention.

I found that rather than using gender as a social signifier of power relations; the term was accompanied by a myriad of terms that altered its meaning for specific purposes. For example, terms like gender responsiveness and gender balance dominated over gender equality in negotiations and side discussions. This domination was actively maintained by women in the Global North. Unfortunately, the ‘add women and stir’ method was the preferred approach for incorporating gender into the Conventions. At the Conference of the Parties efforts seemed mostly concerned with increasing representation of women in the negotiations. While this is important, efforts were mostly aimed to increase women’s participation from the Global North. Women from the Global South were still depicted as helpless, traditional and lacking the benefits of modern western feminism. This way, a one-dimensional, static definition of gender, focusing too narrowly and separately on women, dominates the meaning of gender at the negotiations. Thus, gender at the COPs was used to advance an agenda of people already in power while failing to challenge the mechanisms that continue disadvantaging women of color and in the Global South, increasing their vulnerability to the negative impacts of climate change and their lack of voice in the response.

## PAPER C

### *A Micropolitics of Gendered Climate Governance: Reflexive Research in Oaxaca, Mexico*

focuses on the effects of gendered environmental governance in a small community in Oaxaca, Mexico. Using the insights of feminist geography, I paid attention to the everyday practices of the lives of people in San Francisco Coatlán, Oaxaca to ground environmental governance around gender and climate change. Using postcolonial insights and reflexive methods, I highlight the politics of location and representation encountered in gender and climate change work and challenge tendencies in climate and development work that homogenize gender via a 2<sup>nd</sup> wave understandings of feminism. Through reflexive research, a methodology that responds to both feminist and postcolonial practices, I illustrate how gender and climate change projects took on new forms of development intervention and environmental governance in Oaxaca, Mexico and how women in the Global South, are far from being vulnerable victims in need of aid. Writing myself into these stories addresses my complicity in the power relations that perpetuate global discourses, and writing about the relationships with my research subjects sheds light on the ways in which they influenced, performed and produced new understandings of global discourses in my presence. Rather than reporting my results as a passive observer, I intended to tell stories as someone who is also negotiating, performing in and transforming meanings in the sites that I study.

I describe how women's lived experiences are already and always implicated in global flows affected by and reflected in embodied practices and lived social relations (McDowell, 1999). By writing women back into geopolitical events I call attention to the manifold ways localities are always interlinked with global processes (McDowell, 1999) and how concepts operating in global contexts do not merely operate on women but are imbricated in the performance of their

every-day lives as they manage and negotiate global discourses around gender and climate change, while transforming them so that they become meaningful to their every-day lives (Massaro & Williams, 2013; Sharp & Dowler, 2010).

#### APPENDED PAPER

This paper called “*Now We Have Equality*”: *A Feminist Political Ecology Analysis of Carbon Markets in Oaxaca Mexico* is published in the *Journal of Latin American Geography* and focuses on the effects of a wind project and a small-scale reforestation project and the convergence of environment, gender and development as these were introduced into communities in Oaxaca, Mexico. This paper expands on carbon offset literature about Mexico by looking at the differential impacts of technologies on geographies and people with specific attention to gender. By providing insight into the gender relations within these projects, I examine their broader community dynamics, particularly as they affected women. I use a Feminist Political Ecology that questions who controls and determines rights over resources and environmental quality and uses gender as a critical variable to explore power relations that shape access and control over resources (Nightingale, 2011). I underscore the gendered nature of carbon markets and highlight differential opportunities to access benefits and reduce negative impacts. The paper critiques the mainstream use of gender in development work, and underscored that gender relations form part of wider relations and webs of power that impose rules and laws over the use of environmental commons.

I maintain that without an FPE, project developers and scholars fall into a gender trap (Leach, 1992) where climate change mitigation or adaptation projects essentialize gender roles that take advantage of women’s reproductive roles to subsidize their projects. The paper stresses the importance of social reproduction for environmental sustainability by showing how development

initiatives explicitly use women's unwaged labor as subsidies, based on the assumption that women are naturally suited for care-taking roles. I find that projects that "sell nature to save it" continue to marginalize women and other vulnerable groups. I explain that this occurred because neoliberal logic fails to understand communal landholding and social organization, and the ways that women have been central to these informally. New liberal regimes that require individual land rights that ignore gendered roles and responsibilities, exclude women further from spaces they previously had access to. As such, I argue that in most cases, carbon projects have consolidated gendered regimes of differential access to markets and economic opportunities while also reifying property tenure structures that may exacerbate gendered distinctions even more. The paper complements the others by providing a grounded analysis of gender in climate projects in Mexico.

#### THEORETICAL CONTRIBUTIONS

This dissertation contributes to climate governance literature through feminist and intersectional approaches. Papers B and C aim to show the mechanisms by which the category of 'women' is produced and restrained in gender and climate change negotiations and interventions and underscores how specific understandings of gender in the climate debate are constructed and operationalized through a series of networked connections ranging from formal scientific spaces, to political spaces, to the towns and communities where they are implemented. Papers B, C and the appended paper point towards the problems with gender and climate change projects that use 'women' as the subject of their work. The insistence of gender and climate change initiatives upon a coherence and unity of the category of women, effectively erases the diverse cultural, social, and political intersections of the diverse bodies that are not only targets experiencing these gendered climate policies but are also central to shaping these. A feminist and

intersectional geography of climate governance highlights how gender relations form part of wider relations and webs of power that impose rules and laws over the use of environmental commons.

Each paper in this dissertation troubles gender as a unified category as showing that gendered bodies engage in a wide array of activities around climate change, from producing knowledge to creating policy to resisting or accepting aid in the form of climate change projects.

This dissertation describes place-specific dynamics that re/produce specific and contingent hierarchical social and gendered relations. By describing the work that gender does in different contexts, I respond to postcolonial feminism's call that constructions of gender emphasize the concrete cultural contexts in which they exist (Blunt & Rose, 1994; Butler, 1990; Curiel, 2007).

Although the strength of Paper A is in its empirics, we introduce the concept of intersectionality to talk about women in science to highlight that not all women experience the same forms of discrimination. Paper B uses feminist geography to investigate the micropolitical and everyday interactions in important geopolitical spaces, such as the international climate negotiations (COPs), that reproduce hierarchical social gendered relations. Paper C uses feminist geography and intersectional and postcolonial insights in a local study in Oaxaca, Mexico to contest the mainstream climate change and gender discourse that creates the Average 3<sup>rd</sup> World Woman, framing women in the Global South as vulnerable and passive victims waiting for the benefits of the modern west.

The appended paper shows how carbon projects explicitly use women's unwaged labor as subsidies, based on the assumption that women are naturally suited for care-taking roles. This finding contradicts those who think that neoliberal regimes will liberate women from their oppressive 'traditional' gender roles. Through feminist geography and postcolonial insights I

attempt to answer the call to conceptualize human agency over multiple and incommensurable levels all at once implicated in both globalization and global warming processes (Chakrabarty et al., 2012).

And even though I challenge identity politics at the climate negotiations, which exclude so many people from coming together to fight toward the same goals, I argue that differences rather than similarities could unite people, not based on regulated identities, but based on similar goals for equitable and just solutions to the negative impacts of climate change.

#### EMPIRICAL CONTRIBUTIONS

Most studies of gender and climate change are about impacts and responses in the Global South. This framing maintains that superior environmental and social knowledge originates in the North, and as such, Northern technology must be diffused outward towards ‘underdeveloped’ countries to aid them in managing their forests or to teach them about the benefits of Western Feminism. In this way gender and climate change projects continue unidirectional transfers of expertise and technology from the Global North to the Global South. These actions effectively undermine existing local environmental and social practices, knowledge and agency in managing the environment, while erasing injustices and hierarchical, gendered relations that continue in the Global North. The results presented in this dissertation were the culmination of research interviews, formal and informal interactions occurring in many different sites from the Conference of the Parties in Peru and France to interviews with government officials, academics and NGOs in Mexico City, and Oaxaca, to the households of people in San Francisco Coatlán in Oaxaca. These data serve as a testament to the ways that knowledge is circulated as part of global networks, assemblages, and flows.

Although women and gender issues have been included in policies and projects at global, national and local levels, many of the commitments are discursive rather than offering material benefits, and construct women as victims or actors without representing their diversity or voices. Paper A shows that gendered barriers are faced by women, even in very powerful and respected positions. Paper B troubles categories perpetuated at the COP such as: women, indigenous and youth that assume problematic yet universal commonalities across gendered bodies, to argue that these categories create an identity politics that is exclusionary, and results in dispersed and divided efforts that are failing to achieve common goals. Paper C uses reflexive research to underscore material processes in climate change approaches (including those in academic research) that perpetuate western notions of modernity and gender equality in non-western spaces. And finally, the appended paper argues that in most cases, carbon projects have consolidated gendered regimes of differential access to markets and economic opportunities while also reifying property tenure structures that may exacerbate gendered distinctions even more.

Through an intersectional approach this dissertation shows the many needs, roles and performances that ‘women’ must undertake in different sites in response to climate debates and policies. It responds to the call that feminist research should go beyond studying the gendered impacts of climate change, towards analyses that focus on the historical forces, hierarchical power relations, and value systems that have caused, and continue to bar, activities that could reduce the negative impacts of climate change (MacGregor, 2010).

#### METHODOLOGICAL CONTRIBUTIONS TO INVESTIGATING CLIMATE GOVERNANCE

By paying attention to women’s lives through reflexive research, a methodology that responds to both feminist and postcolonial practices, I recognize women’s resistance or acquiescence to

hegemonic discourses of feminism and development, and underscore their active role as agents of change. For paper C, I use insights from autoethnography, because it is particularly useful in instances where regular research methods such as interviews and surveys miss the mundane and everyday moments of resistance and or transformation. If I chose to only report results based on the words of my informants I would miss many key information about a gender and climate change project. Reflexivity allowed for multiple modes of meaning beyond the spoken word. This is not to say that research subjects are without voice but rather, I show the multifaceted ways that women in non-western contexts retain tactical and strategic advantages, by paying attention to performative expressions of their wants, needs and opinions that may appear in representations of silence, laughter, or presenting themselves as in need of aid (Besio, 2005). Thus, paper C uses stories as analytical and representational tools for geographic research to aid researchers and their readers to better understand the complex context and process of the research, while attempting to attenuate some of the violence that occurs during representation (Besio, 2005). Through reflexivity, I could tell tales that would otherwise remain untold. The vignettes in paper C describe the context in which gender and climate project are implemented, and what the reception was, not only to the gender and climate change projects, but also to my presence investigating this project.

#### POLICY IMPLICATIONS

While a feminist geographical lens stresses that gender and space are social constructs, to deny the material consequences on gendered bodies in the climate change debate would be naïve. Women are underrepresented or disadvantaged by climate change efforts and actions in most instances, from creating knowledge or policy to experiencing efforts aimed at mitigating or adapting to climate change. Paper A serves as a testament to how even the most recognized

climate scientists, face barriers to their participation in the IPCC because of their gender. Barriers increase depending on the author's race, ethnicity or nationality. The paper has implications for the policies and processes of the IPCC in their efforts to be more representative. Increasing diversity in science in the IPCC will not only promote fairness and increase representation, but might also result in superior climate science (Campbell et al., 2013) having positive implications in the way we address equity issues in the face of climate change.

In policy arenas the gender and climate debate has strived to construct two types of women, and their corresponding needs: those that have some power and want more in the UN process; usually located in the Global North (paper B); and those who have no power and are the most vulnerable to the negative impacts of climate change – because of their lack of modernity – but could be modernized through the teachings of the West (Paper C, D). This simple formulation around gender in the climate debate erases important differences amongst women and their struggles; it paints women in the Global South as mere victims in need of aid; and obscures widespread gendered inequalities in instances we do not generally perceive as sexist: such as in spaces that produce and circulate climate science. My research suggests that the climate negotiations and the women's formal constituency could be much more sensitive to issues of gender and multiple roles and identities.

Calling attention to sites that are commonly overlooked in the climate change debate can point towards processes responsible for re/producing gender hierarchies and to ways of resisting them. The homogenizing tendency of Western feminism of gender that turns women in the Global South into 'the Average Third World Woman', has a similar effect for "women" in the Global North. I argue that Western Feminism also homogenizes women in the West as they are depicted as already modern, and thus do not need gender hierarchies to be addressed. This lack of

recognition of gender injustices in the Global North justifies the continued transfer of knowledge and technology onto the Global South that continue practices that contribute to global warming. Additionally, failing to address the root causes of unequal and gendered socio-economic development, will do very little to enhance people's adaptive capacity and address gender inequalities. We must be careful to ensure that climate projects do not continue to dispossess people from their means of production and appropriate their resources, in line with a sustained neoliberal, capital expansion but instead promote equity and fairness (Nagar, Lawson, Mcdowell, & Hanson, 2002).

#### FUTURE WORK

Although my dissertation makes several contributions to the empirical documentation, theory, and policies of gender and climate change, and suggests changes in knowledge production, policy creation, implementation and evaluations, many gaps remain. For example, while there are many studies that explore the impacts of climate change in the Global South, there are fewer that explore sites where these policies and knowledge are created. There is also a paucity of knowledge around gender and climate change in an urban context and while gender and climate literature is growing in the social sciences there is relatively less in the natural sciences.

Challenges remain in conducting empirical research that grounds climate governance via feminist, intersectional and postcolonial insights that are clearly articulated within a global framework.

My future work will include a more thorough engagement with Postcolonial Feminisms and Feminist Geopolitics. It will benefit from Foucault and Arendt's insights to speak more explicitly about power as an exercise, how it operates, and who operates it. In my dissertation work I

found that power was constantly shifting and being negotiated. While I recognize my privilege and the unequal power dynamics that I brought to the field, I would like to explore in more depth how not only I used this in my favor, but also how my research subjects managed to also exercise power over me. I plan to link my research to the work of environmental governance scholars, who study power and understand if they are writing about it as a resource to be (re)distributed, or as domination, and/or as empowerment? Additionally, my future work will engage more with Latour and Whatmore to talk more explicitly about networks and assemblages. And I will continue to gather and respond to the gender and climate change literature that addresses material inequalities.

My future work will engage with questions of power, postcolonial feminisms and reflexive methods more explicitly. By engaging in reflexive research and autoethnography, I can become the thread that connects seemingly disparate sites.

At an Association of American Geographers conference in 2016 I gave a talk about my personal experiences navigating the climate negotiations. I explained how, initially, I had been excited to find a gender and women's constituency and was looking forward to becoming involved, but very rapidly, because of the way I look and act, people could not place me, and I was excluded by multiple groups at the gender constituency. After my AAG talk, the discussant encouraged me to continue to 'study evil' rather than to try to fit in. This was great advice and will inform the way that I conduct myself and my research.

When discussing my results, I have found it useful to share things about myself, to illustrate important dynamics around exclusions and inclusions in the climate debate and other spaces I navigate. While I do not pretend to be marginalized (because of my relative privilege and

whiteness), I am from Mexico and know what it feels like to be on the margins, both at ‘home’ and abroad. This permanent feeling of an ‘outsider’ however, has in one way or another, allowed me a ‘pass’ in several spaces that would be off-limits to others. I want to find ways to write about this relative privilege in accessing information in a way that does not feel extractive, exploitative or insincere, but clarifies the issue being studied.

While navigating a site like the climate negotiations was challenging and frustrating, ‘studying evil’ there felt less exploitative and more useful than studying the effects of gender and climate change in a place such as San Francisco Coatlán. Although I know that this is a central challenge that postcolonial scholars face, I continue to struggle regarding whether I have contributed anything of value to the people of Coatlán. And while I insist that their stories must be told, I wonder whether the audience that is interested in hearing their stories is broad enough, whether I am reaching those who have the resources and the power to make a difference, and whether my work is simply bouncing around in an echo chamber.

I want to find ways for these stories are heard and seriously considered outside of feminist circles. It puzzles me that while a feminist researcher conducting field work is compelled to be painfully honest and vulnerable, another from a different perspective will dismiss all of this and simply report their findings as objective truths and facts. And while I have been compelled to ‘push’ back against academic limits, I wonder what impact this resistance can have in the lives of the people in a place such as San Francisco Coatlán.

I do not pretend that there is a simple answer to the questions posed above, yet it will be one that I carry with me as I conduct other academic investigations. It was so important that I had an opportunity to think about producing a paper alongside Diana about the IPCC with potential to reach an audience I normally do not communicate with. The challenge here, (and one of the

reviewers noted it as well) is that without contextualizing the importance of a concept such as intersectionality, the paper loses some of its power as it seems to simply report results rather than engage in how feminist investigations into knowledge production could advance how we do and understand science. A challenge such as this has been posed by one of the PNAS reviewers who asks that we help PNAS readers understand the importance of intersectionality, not as a ‘women’s’ issue but as a tool that will ultimately produce superior science. I also want to explore why a country like Mexico is so invested in the gender and climate debate internationally. What does it gain what does it lose? How does it become a global leader of gender equality and human rights abroad while accepting conflict and discrimination in so many localities within the country, especially for women? Through a more active engagement with power, I want to explore the role of specific actors in the gender and climate debate, and ask how unexpected actors gain and circulate power and recognition. I must consider how can I avoid falling into essentialization and box-ticking in my research and writing and how do I theorize and write about singularities but also about shared material inequalities at the same time? And finally, I want to find ways to consolidate and support the full range of valuable work on gender and climate change to make a powerful argument for the urgency of understanding and acting in the face of climate change more equitably.

While these questions will not be easy to answer, two forthcoming papers will attempt to tackle some of them. For example, I am writing a Feminist Political Ecology of Mexico’s role in the climate change debate and its role as a gender advocate. The paper will be the result of data collected from 2010-2016, at many sites and from many actors. Mexico, a country of contrasts, seems very much occupied with saving face internationally, but sadly, at home, shows a

complete disregard for most its population. I will examine whether Mexico is, as they claim, an important global leader of gender and climate change.

Throughout my interviews with federal officials, activists, NGOs, academics, civil servants, environmentalists, feminists, and others, I found a genuinely concerned sector that cared about gendering our understanding of climate change. However, this sector provided numerous stories about roadblocks and red tape when trying to make a difference. I observed Mexico's important role at the climate negotiation as an advocate for gender and human rights. In the IPCC survey, we had the most responses from Mexico after the United States and the United Kingdom.

Mexico also boasts pioneering policies and laws regarding gender and climate change. I collected data on Mexico City, Oaxaca, Chiapas and Sonora and found interesting and diverse reasons for prioritizing gender (many of these efforts have been attributed to 'sensitive' individuals). And while it might seem that gender or climate change takes an important place in the Mexican agenda, the reality is more complex. For example, laws and policies are nowhere to be seen in a state such as Sonora, because Sonora prioritizes mining and job development over conservation. This is contrary to what occurs in a state like Oaxaca where environmental NGO's are so many that they are beginning to be referred to as the "Green Mafia".

The role of environmental NGO's in Mexico in pushing for a gender and climate agenda is another topic that I want to pursue further. In Oaxaca, it seemed that everyone I met was in one way or another connected with an NGO, either as civilians that worked for an NGO, even though they had no environmental training, or government officials mentioning that the NGOs had taken all the money away for development work. A quick search for some of the environmental NGOs listed in Appendix A shows a troubling reality, they seem to have emerged for the pure purpose of these funds. In terms of the work that they do, many of them only had a Facebook page. I

want to investigate where these funds come from, why they were distributed in this manner and the effect of NGOs on civil society and governmental institutions.

I have also begun work around gender and climate in an urban setting that I would like to pursue further. In a coauthored bilingual chapter about gender, climate change and cities my colleague Ana de Luca and I investigated a gender and environment project in Mexico City, that taught women about home gardens. We only had time to interview the government officials, so interviewing the women who participated in the project will be a future project. The urban setting of this project challenges 'traditional' gender roles, and thus troubles the mainstream framework around gender and climate change, because in a city, women will not have to walk further to get fire wood in the face of climate change. As such the urban context provides a fertile ground for interesting investigations about power, gender and climate change.

In terms of employing different theoretical approaches, I am working with Audra El Vilaly to submit a paper we presented at a session organized for the American Association of Geographers (AAG) in 2017 called *Representing Emotion in Political Feminist Geographies*. The paper proposes a methodology in line with feminist and postcolonial approaches as an attempt to attenuate some of the violence that comes with representing other's emotions. This will inform future work about alternative methodologies that will elucidate hierarchical and social relations around development and climate governance and will insist on the importance of gender to understand geopolitical events.

This dissertation has provided the opportunity to understand issues of gender and climate from a variety of perspectives, and has highlighted the importance of intersectionality, reflexive methodologies, multi-site research and feminist geography and political ecology to adequately and equitably address negative impacts of climate change.

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## **Appendix A: Paper A: The Climate for Women in Climate Science: Women Scientists and the Intergovernmental Panel on Climate Change**

Miriam Gay-Antaki and Diana Liverman<sup>1</sup>

### ABSTRACT

The Intergovernmental Panel on Climate Change (IPCC) is an authoritative and influential source of reports on climate change. The lead authors of IPCC reports include scientists from around the world, but questions have been raised about the dominance of specific disciplines in the report and the disproportionate number of scholars from the global north. In this paper, we examine the gender balance in IPCC authorship and analyze women's views about their experience and barriers to full participation, based on survey responses from more than 100 IPCC female authors. Over time, the proportion of female IPCC authors has seen a modest increase from less than 10% in 1990 to more than 20% in the most recent assessment reports. While we find that many women had a positive experience in terms of the way they were treated and their ability to influence the report, others felt that men controlled the process and that women were poorly represented and heard. Survey respondents identified several ways to improve the IPCC process such as encouraging more nominations of female authors, providing opportunities for remote participation to reduce travel, and requiring gender and cultural sensitivity training for authors and staff.

Keywords: Climate Science, Women in Science, IPCC, Climate Change

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<sup>1</sup> University of Arizona

## SIGNIFICANCE STATEMENT

We analyze women's views about their experience and barriers to full participation, through a survey of 100+ IPCC female authors. While we find that some women reported a positive experience, others felt that men controlled the process and that women were poorly represented and heard. We intend the paper will contribute to understanding the barriers faced by women in science, and to debates over patterns of authorship and representation in the IPCC. Unlike other studies of IPCC authorship, that look only look at statistical data, we surveyed women authors on their experience, perceptions, and recommendations. The research is intended to understand the specific gendered experiences of women in science as well as to give voice to women climate scientists.

## WOMEN AND THE IPCC

The Intergovernmental Panel on Climate Change (IPCC) has become the authoritative scientific voice on climate change since its first report in 1990 (Hulme & Mahony, 2010). Several studies have examined the demographics of authorship of the IPCC reports and have shown that authorship leans towards the natural sciences, the more developed countries, non-indigenous voices, and men. They suggest that this bias could challenge the representativeness, legitimacy and content of the reports if they fail to adequately incorporate the scientific expertise of developing countries, indigenous knowledge, a diversity of disciplines in natural and social sciences and the voice of women (Carey et al., 2016; Corbera et al., 2015; Demeritt, 2001; Ford, Vanderbilt, & Berrang-Ford, 2012; Ho-Lem, Zerriffi, & Kandlikar, 2011). Gender is an emerging research issue for IPCC because climate change places a disproportionate burden on women, especially in the developing world (Arora-Jonsson, 2011; Denton, 2002a; Gay-Antaki, 2016). Attention to gender has arisen around the negotiations associated with the UN Framework

Convention on Climate Change as the Women's Major Group and UN Special Envoy Mary Robinson campaign for better representation of women as negotiators and for greater attention to gender issues (Buckingham, 2010; M. Robinson, 2015; UNFCCC, 2012).

Women in science are underrepresented at all levels, especially in more senior positions. Biases against women begin early (Bian, Leslie, & Cimpian, 2017) and persist throughout their careers as a result of unequal and unfair treatment in education, hiring, peer review, citations, letters of recommendation and salaries (Ahmed, 2016; Blickenstaff, 2005; Hill, Corbett, & St Rose, 2010; Lehr, 2001; McNutt, 2015; Sheltzer & Smith, 2014; Shen, 2013). The proportion of women shrinks in more senior levels of science in universities and research centers. For example, equally or more qualified women in geosciences receive less competitive recommendation letters than their male peers for postdoctoral positions (Dutt, Pfaff, Bernstein, Dillard, & Block, 2016). Peer reviewers often cannot judge scientific merit independent of gender (Bornmann, Mutz, & Daniel, 2007; Holmes, O'Connell, Frey, & Ongley, 2008). Women are significantly less cited for their publications than men (Aksnes, Rorstad, Piro, & Sivertsen, 2011) and are poorly represented on the scientific advisory boards of start-up companies (Nature, 2013). This despite increasing numbers of women with PhD degrees in science and engineering – over 40% of recent graduates in Malaysia, Thailand, Morocco, the US, Canada, Australia, New Zealand and all of Europe (“Women in Science Statistics,” 2017).

While attention has grown towards the differential impacts of climate change on women from policy to impacts, the role of women as climate scientists has not been adequately addressed, although steps were taken to highlight women's participation in climate sciences at the UNFCCC conference of parties in Marrakech in 2016, with the support of IPCC and several other organizations (Driouech, Niang, & Ko Va, 2016). Our study aims to fill this gap through the

analysis of women's participation in the IPCC reports and their perceptions of their experience as IPCC authors.

## RESEARCH APPROACH

Identifying female IPCC authors is challenging because the first two assessments only identified authors with their initials and did not clearly identify lead authorship. Our analysis focused on lead and coordinating lead authors (rather than reviewers) as the most active contributors to IPCC reports and meetings. We sent a web based survey to all women we could identify as coordinating lead or lead authors of one or more of the five IPCC assessment reports. After undertaking a pilot survey and removing duplicates of women who served in multiple roles and reports, we contacted 223 individuals by email of whom 98 fully completed the survey – a response rate of 44%. We asked both closed and open questions to understand 1) the basic demography 2) views of the IPCC author experience and impact on their professional career 3) perception of barriers to their participation and voice, and those of other women and 4) recommendations to improve women's participation in IPCC.

## RESULTS

In terms of trends in IPCC female participation our best estimate is that the first assessment in 1990 had no more than a dozen female authors and contributors, constituting 2% of the total scientists involved. The number and proportion of women authors rose over time from 26 (5% of all lead authors) in 1997 second assessment to almost 100 in the 2001 4<sup>th</sup> report (21%) and 182 (22%) in the 5<sup>th</sup> and most recent report in 2013. The most powerful positions in IPCC are those of chair or vice-chair of a working group. Only three women have ever filled these roles until the most recent election in which 8 women are now in executive roles (out of 32). Women

have had slightly more representation within the technical support units and task forces that sustain IPCC.

The demography of our 111 survey respondents showed a bias to authors from the United States followed by the United Kingdom, Mexico, and Australia (Table 1). 51% of respondents identified as natural scientists, 24% as social scientists and 21% reported to do both. 72% who responded identified as Caucasian/white/European. Most were over 56 years old, 4% were under 40. 11% had served as coordinating lead authors (CLA).

*Table 1. Country Affiliation of Respondents*

<b>Country</b>	<b>US A</b>	<b>U K</b>	<b>Mexic o</b>	<b>Australi a</b>	<b>Argentini a</b>	<b>Franc e</b>	<b>Brazi l</b>	<b>Indi a</b>	<b>South Afric a</b>	<b>Canad a</b>
<b>Number of Participant s</b>	28	11	9	6	5	5	4	4	4	3

2 respondents from each of: Chile, China, Finland, Germany, Netherlands, Norway, Spain

1 respondent from each of: Botswana, Brazil/USA, Denmark, France/Italy, Hungary, Japan, Malaysia, Mexico/Argentina, Morocco, Mozambique, Russia, Slovakia, Sudan/Ivory Coast, Trinidad and Tobago, USA/Germany/Fiji, Venezuela, Zimbabwe

#### EXPERIENCE AS AN IPCC AUTHOR

We asked about women’s most recent experience in the IPCC, including their confidence as to why they were selected, whether they felt were treated with respect, and whether they felt that their voice was heard (Figure 2).

Almost all our respondents were confident in their ability to contribute to the IPCC and most were confident in their ability to resolve conflict or challenge senior researchers when they had a different opinion. 82% of women reported being treated with respect by their chairs and their 87% by their co-authors. While most felt that they were listened to and could influence their own

chapter, many felt they had little impact in influencing the overall report. 60% reported that discussions and writing of the IPCC was controlled by only a few scientists and half reported that the workload was not equally distributed.

The open-ended responses, where people could provide more detail on their experiences, were less positive. For example, several felt that more work was required from them than men, but without appropriate credit. Others reported feeling marginalized and ignored. For example, a respondent wrote: “in general...the leadership ...[was] rather arrogant and not very inclusive. He only seemed to be interested in your opinion if you were an Ivy League-tenured, white male professor. In particular researchers from developing countries felt excluded by him”. Another respondent told us that it seemed as if “some people's views seemed more important than others, making information from some regions more important than others... rendering the whole exercise a big lie... it is a pity”. Some had different experiences over several assessments and received support from fellow authors: “there was one author of my chapter who occasionally did not treat me respectfully. He was arrogant and dismissive, but I prevailed through persistence and taking him on directly both inside meetings and in chapter meetings. My co-authors were also aligned with me, so I had their support”.

Women reporting positive experiences mentioned an overall inclusive, safe and respectful atmosphere where they felt listened to through colleague's validation and could make important contributions: “My chapter team were great people, we had really good discussions and a lot of fun. We all treated each other with respect. Most of us worked very hard. While there was one male in our group who talked a lot, the CLA would always make sure I got to make my point, and he often backed me up in discussions. ...I always felt that my views were considered and I was listened to. We achieved balance across the literature, and distill it, just as the IPCC should.

...there was a pleasant camaraderie and a mutual understanding of the different personalities in the group. In short, one of the best team efforts I have ever known!”

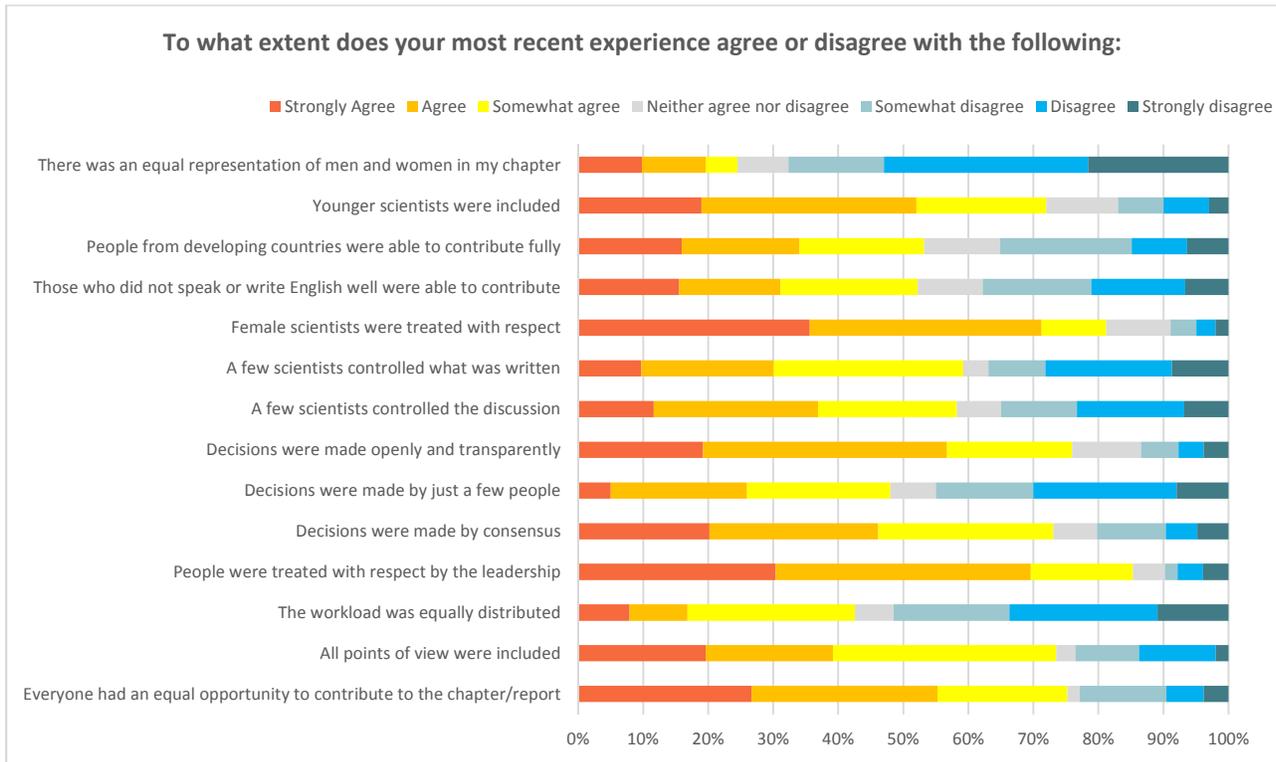


Figure 2. Respondent’s most recent experience participating in the IPCC.

## BARRIERS TO PARTICIPATION AND INFLUENCE

We asked scientists whether gender, race, ethnicity, language and nationality were barriers to their and other women’s full participation in the IPCC. Respondents saw few barriers to their own participation but reported problems for others. 14% saw their gender and their command of English as barriers, 9% reported their race/ethnicity to be barriers. But 75% saw English ability as a barrier for others, 37.5% saw gender as a barrier for others, and 28% perceived a barrier for others associated with race.

Perhaps respondents were hesitant to admit personal difficulties but acknowledge that it could be difficult for others. For example, one woman wrote “my responses for ‘others’ ... are only a guess at some of the difficulties that I think that some of the developing country representatives must have”.

Respondents reported that one of the most important tools for success in the IPCC was a good command of spoken and written English: “I found that in many instances having a good English command and speaking out loud defined a discussion”. English as the dominant language for all working groups may exclude those with imperfect command of English and benefits those with degrees from English speaking institutions. One scientist explained this advantage: “having earned my PhD in an English-speaking country, I have good speaking and writing skills. Without those aspects, my participation would have been a lot more frustrating, as I could observe with other female Latin-American colleagues”.

Some respondents noted that gender barriers occurred mostly in leadership positions, for example one respondent noted: “it seemed very difficult for some of the men in my chapter to accept that a woman was leading them. Women were rarely given the word; our suggestions were almost never taken up.” Other comments relating to exclusion included: “in my case, I think it was the factor of: gender+age+command of English” and “being a woman and not particularly tall or loud, I found myself struggling to get attention from ‘senior’ scientists at meetings”.

Although overall respondents reported little discrimination based on race, 35% of women of color reported race to be a barrier to their full participation. One African expressed: “the only reason that I could have felt not required at all in the team could be that I am an African woman.

I have very good command of English, I am as qualified as others, I am confident also but was never listened to”.

Individuals often experience discrimination based on social signifiers such as gender, race, class and sexuality at the same time. These are not discrete categories but intersect; thus, a scientist that is a woman and of color and small of stature and of a developing country may face multiple levels of discrimination(Crenshaw, 1989).

A third of respondents reported that childcare and family responsibilities were barriers to their full participation. Only a few women that contributed to the IPCC in the past had young children, but those who did, reported that childcare responsibilities were their biggest obstacle, particularly those who were single parents or with babies. Some participants confessed that this responsibility might have negatively impacted their performance during the IPCC; for example: “I was a single parent during the last IPCC cycle, so travelling was a major obstacle. I managed because I really wanted to do this, but it was a large extra hurdle that caused me to arrive stressed at meetings and sometimes to not have full attention”. Some women, aware of the challenges of juggling participating in the IPCC with family responsibilities expressed concern regarding the status of their role in the IPCC if they chose to have children: “Childcare responsibilities were not an issue in AR5 but they may well prevent me from participating in AR6 if asked”.

Almost two thirds saw a lack of time as a major barrier and 21% had problems with lack of financial support from their country and or institution for travel. The considerable time devoted to being a responsible IPCC author was a challenge, especially for less senior scholars: “One issue is the fact that being an IPCC author comes on top of other professional duties (research, teaching, administration, meetings) with extra work, travel to remote places, and with a timeline

that is sometimes totally incompatible with the usual rhythm: report versions to be delivered during summer break, or at the end of winter break which are usually to spend with family”.

Time needed for IPCC is a particular problem for early career authors; while helpful in increasing one’s national and international reputation, it does not increase your publication record: “for junior colleagues the barriers included a reduction in their publications given the large amount of time the process takes over the course of the 2-year cycle. The loss of individual productivity could influence their advancement in academe which does reward publication over service, regardless of its importance”.

IPCC authors do not receive any payment for their work. A few women reported that participation resulted in a significant reduction of income and others reported having to take vacation days to work on the IPCC because of basic incompatibility with their regular work schedules.

Women reporting lack of time or financial support as barriers to their full participation reflect common barriers facing women in the workplace (Sayer, 2005). Women do most of the house work, including childcare and this is consistent around the globe with women working two hours more per day than men in the UK, 1.5 hours more than men in France and 4.3 hours more than men in Mexico (Parker & Wang, 2013). This leaves little time for duties such as IPCC on top of family and work responsibilities, especially those that are basically voluntary.

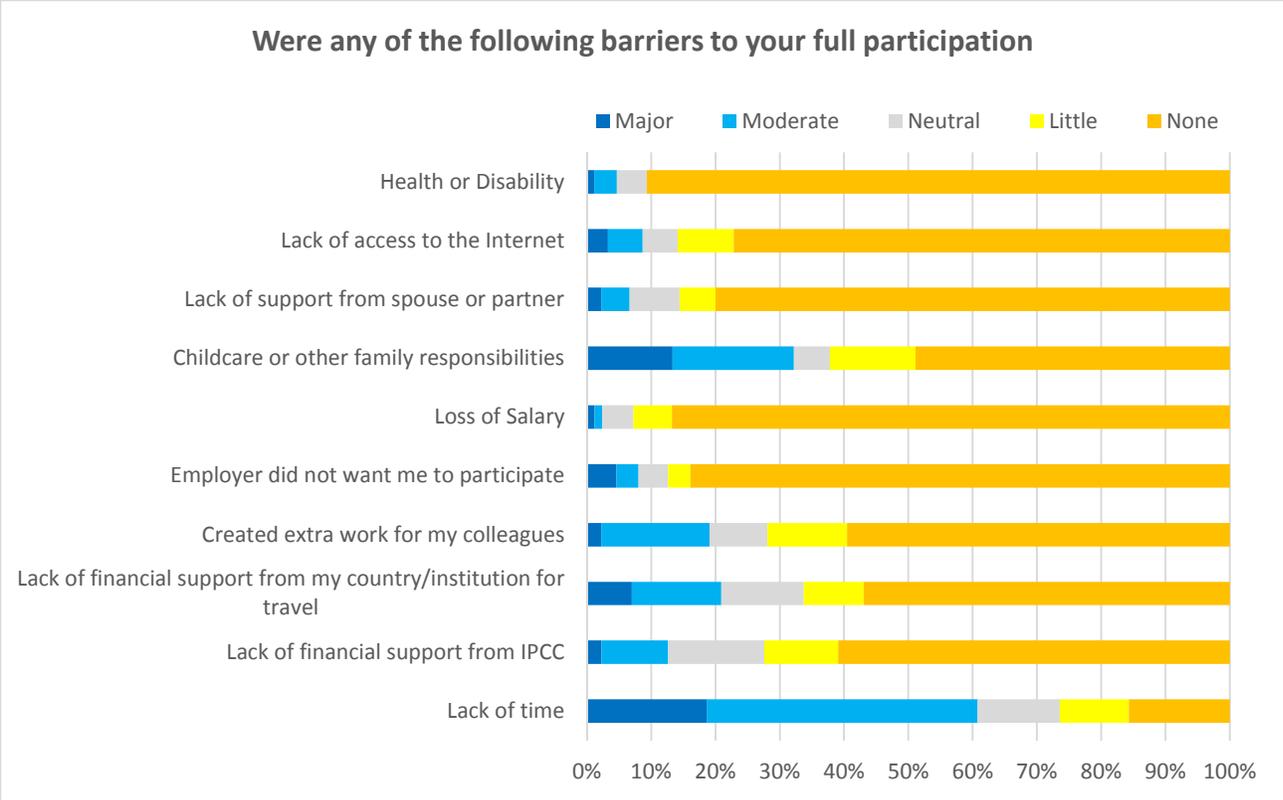


Figure 3. Barriers to participate and influence IPCC report.

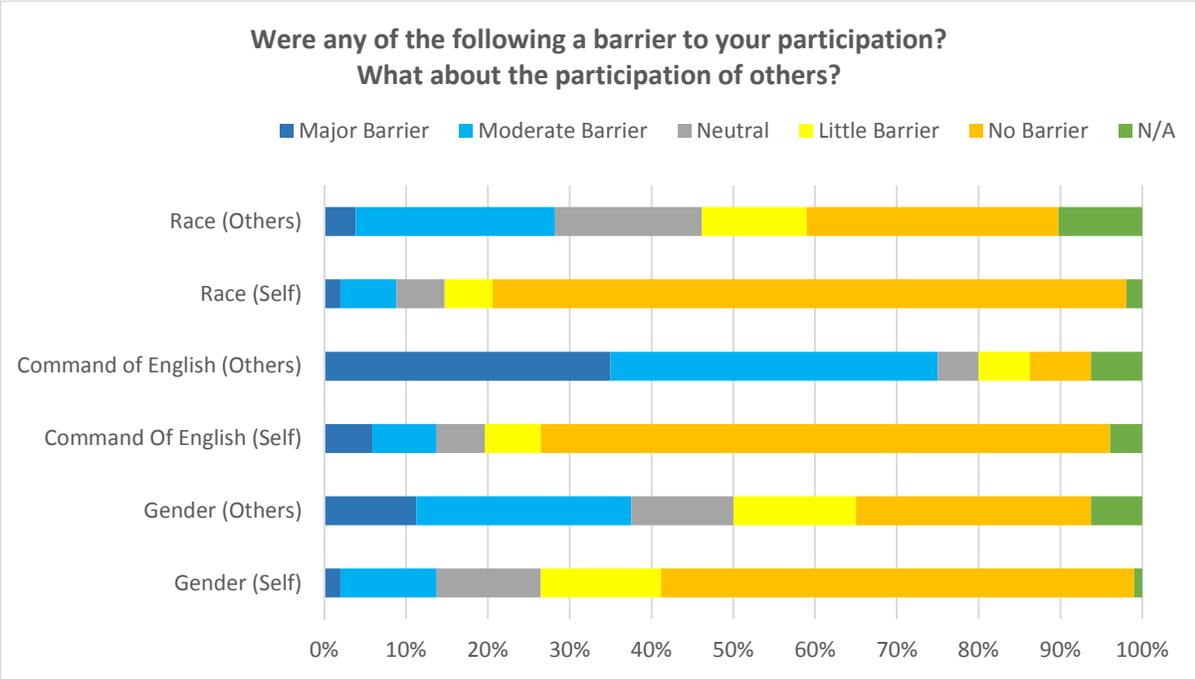


Figure 4. Were any of the following barriers to your participation: Race, Gender, Command of English. For you and for others?

## GENDER AND CLIMATE SCIENCE

Finally, we asked survey participants more specifically about the role of gender in climate science, inquiring whether female climate researchers are now well represented in the climate community and whether gender is a barrier to success in climate research. 41% of women saw gender as a barrier to their success and 43% believed that female climate researchers are not well represented in the climate community.

The open-ended responses provide insights into the different types of discrimination based on gender including active discrimination, subtle discrimination, and discrimination based on family responsibilities.

Active discrimination occurs when women are not included, silenced, ignored, not supported, nor given the credit they deserved because of being female. As a respondent noted “there are enough female scientists that are capable of contributing...[but] males promote other males. It is a fact that there are many male scientists in IPCC that discriminate against female scientists based on the simple fact that they are women”. Another reported “women are still not listened to as much in committees. so many times, a male colleague repeated what I'd just said and it was then tagged in the future as X's idea rather than mine”; a common tactic for ignoring and claiming women’s contributions in the workplace.

More subtle discrimination was reported when women recognized that gender must have been a barrier in their career as scientists but are unsure of how or when it happens. For example: “I suspect that gender has delayed my career, it's hard to say exactly how, but probably through lack of mentoring, not being 'seen'... I don't know that I have ever been discriminated AGAINST, more perhaps what didn't happen in my earlier years rather than what did... gender

can still be a barrier to success in the future, particularly for softly spoken people or women lacking confidence. I now have a full professorship, but I still feel that a male of the same standing might be more likely to be picked for a leadership role than I would". Others reported that their gender stopped them from being themselves or stopped others from getting to know, listen and respect them: "in my view being a female scientist is never neutral. Mostly it is detrimental, people do not take you seriously when you speak...Rarely do I feel just 'normal', only with very close colleagues". There were those who attributed their success to good luck because they saw how many of their female colleagues did not fare the same, for example one participant expressed: "While I have been lucky in my career opportunities, I see many of my female peers dropping out along the way due to lack of job security and flexibility which impacts females more than males".

## DISCUSSION

Women in the IPCC are amongst the world's most recognized climate scientists yet their accounts in the survey suggest that gender is an important barrier for their and other women's full participation in climate science and assessments. Women often have to fight to make their voices heard and overcome barriers that include incompatible work schedules with family and other responsibilities (White, 1970). Our survey indicates that barriers increase for women with young children, and for women of color and from the developing world. Several women most successful in the process reported that they adopt traditionally male characteristics in order to be heard, such as being loud, or exhibiting high confidence.

Of course, some of the barriers identified by women in our survey are also experienced by men including problems with English fluency, racism, family responsibilities, and lack of time.

Many of our respondents made suggestions on how to improve the experience of women participating in IPCC. Some of their suggestions included:

- Encouraging remote participation via videoconferencing or phone calls to decrease the burden of travel.
- Asking focal points to invite more women, and governments to nominate more women to increase the pool size of qualified candidates.
- Creating a support network for women to actively connect with each other during the meeting and before.
- Ensure that young women do not have to choose between participating in IPCC or having a family.
- Pay attention to gender issues in meetings and in report content.
- Increase the proportion of women in leadership positions.
- Include compulsory training on gender issues “to raise awareness of how to be gender-sensitive and be open to different methods of encouraging full participation.
- Monitor perceptions of participation throughout the process that would highlight any barriers and allow for adaptive response.
- Help with mechanisms to ensure that scientists are still able to continue their work after the IPCC is over. Ensure that women are included in relevant publications by IPCC authors.
- Take account of gender barriers by selecting women even if it means that some may have a slightly less impressive publication list than their male counterparts due to discrimination or family roles.

Research suggests that promoting diversity in science may lead to higher quality science as teams with both men and women authors receive significantly more citations than single gendered teams(Campbell, Mehtani, Dozier, & Rinehart, 2013). Women role models in science are important to young women(Dennehy & Dasgupta, 2017; C. V Robinson, 2011) and to giving voice and equal power to the half of the world that is female. As such, increasing the participation and voice of women in the IPCC— especially those from the developing world— will not only promote fairness and increase representation, but might also result in better and more influential climate science.

#### ACKNOWLEDGEMENTS

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## **Appendix B: Paper B: “Women at the Heart of Climate Justice”: Constructions of Space and Gender at International Climate Negotiations**

### **“WOMEN AT THE HEART OF CLIMATE JUSTICE”: CONSTRUCTIONS OF SPACE AND GENDER AT INTERNATIONAL CLIMATE NEGOTIATIONS**

#### ABSTRACT

The Conference of the Parties (COPs) of the United Nations Framework Convention on Climate Change (UNFCCC) is the most important international meeting surrounding climate change and has convened annually since 1994. The 2015 Paris climate talks reflected how climate change has become one of the most pressing issues of our time, in that it was the first time 150 Heads of State ever gathered together to discuss an issue. Twenty-five thousand accredited persons were sent to the COP to defend and state their country’s position on climate action (PARIS COP21, 2015). Negotiators of 196 Parties participate in the Convention where decisions regarding international commons are agreed upon by consensus. Using feminist geography as an analytical lens – one that approaches space and gender as social constructs implicated in complex power relations – I study the material and discursive processes by which some voices are heard in climate negotiations, while others are silenced. More specifically, this paper investigates gender and intersectional disparities within climate change policy initiatives and seeks to explain how these have been created; what discourses of gender and climate change arise at this site and who perpetuates them; and how these discourses are enacted through climate law, policy, and action. Through qualitative methods such as participant observation, document analysis, and interviews, I find that sites where climate policies are decided and gender discourses are perpetuated – a one-dimensional, static and western definition of “women” dominates the meaning of gender. This domination is actively maintained by those in power to the detriment of gender equality, re/producing material hierarchical gendered relations, continuing silencing important voices reducing the effectiveness of climate policies.

#### KEY WORDS

Climate Negotiations, Feminist Geography, Climate Change, Women, Gender

#### 1. INTRODUCTION: THE ROLE OF GENDER IN CLIMATE NEGOTIATIONS

The Conference of the Parties of the United Nations Framework Convention on Climate Change (COP UNFCCC) is a yearly meeting aimed at addressing and assessing global progress to reduce the negative impacts of climate change and green-house gas (GHG) emissions. The site where international climate negotiations take place, the UNFCCC was established in 1992 during the

Rio Earth Summit of the UN Conference on Environment and Development, in which climate change was recognized as a global issue. The resulting UNFCCC treaty, established in 1994, is the document that governs the international climate negotiation process, organized through the Conference of the Parties (COP). These meetings are aimed at addressing and assessing global progress to reduce the negative impacts of climate change and greenhouse gas emissions (Dimitrov, 2010; Wamukonya & Skutsch, 2009). Many powerful actors, governments, businesses, and NGOs participate in these conferences as observers, making them important sites to study how and why certain discourses and practices about climate change arise and are perpetuated. One important set of actors and discourses are women and the discussion of gender issues because women are often more vulnerable to climate change, are key actors in responding to it, and are underrepresented and often unheard in the negotiations.

As I will show, the dominant forms of gender advocacy at the COPs seem to be informed by 2<sup>nd</sup> wave feminism framing ‘gender’ as a single, static category of women arising from a specific understanding of feminism mostly from white women residing in the Global North. Imagery around gender at the COPs usually evokes brown gendered bodies (always women) in the Global South having to walk further for water in the face of a changing climate. My work seeks to trouble climate change initiatives aimed specifically at women by calling attention to how these efforts continue to re/produce colonial and gendered hierarchical social relations. Thus, specific constructions of gender are mobilized at this site for specific purposes. This paper conceptualizes power both as: power-over and power as exercise (Arendt, 2013; Foucault, 1982). It not only details which bodies are subjugated at the COP but it also attempts to elucidate the mechanisms by which these exclusions are achieved.

Limiting the category of gender to a narrow formulation of women, fails to question the systemic way in which so many voices are excluded, and the relational nature of their exclusions from people in power, thus minimizing the impact of proposed policy solutions to the complex social effects of climate change.

This paper explores how terms such as ‘gender balance’ are given precedence over notions of gender equality, detailing the micro-political and everyday interactions between different bodies at this site. These meanings and terms are often constructed in a way that co-opts gender as a category, keeping hierarchical gendered relations in place. Here, by contrast, I illustrate how gender could be used to achieve the opposite effect, offering opportunities for radical transformation. Thus, this article provides insight into social constructions of gender at the COP by studying the social nature of space and gender, and how specific constructions of gender are mobilized at this site, are perpetuated, and for what purposes.

The remaining of the paper is structured as follows: section two outlines why and how I am using feminist geography. Informed by theoretical insights from Joan Scott and Judith Butler, I describe the utility of gender as an analytical category to signify hierarchical social relations, implicated in constructions of gender and climate change at the COPs. I argue that feminist geography is well equipped to investigate the micropolitical and everyday interactions in important geopolitical spaces, such as the COPs, that reproduce hierarchical social gendered relations. I use feminist geography to trouble categories perpetuated at the COP such as: women, indigenous and youth that assume problematic yet universal commonalities across gendered bodies. I argue that these categories create an identity politics that is exclusionary, and results in dispersed and divided people who are failing to achieve common goals. Section three details the qualitative methods used to explore: how intersectional disparities within climate change policy

initiatives have been created; what discourses of gender and climate change arise at this site and who perpetuates them; and how these discourses are enacted through climate law, policy, and action. Section four traces years of gender advocacy work from Global North organizations pressing for gender to be incorporated into Climate Convention documents, and delineates what aspects of gender have been mobilized. In section five, I present research results from participant observation, interviews with gender and climate change negotiators and advocates at the COPs, supported by a review of primary sources (communiqués from different NGOs, the UNFCCC, Journalists, Web pages) of gender discourses and practices during three COPs; COP16, COP20, COP21 (2010, 2014, 2015). I explore, how the institutional structure of climate negotiations excludes certain actors from participating and describe the marginal role of civil society in this space. I then provide detail about one specific constituency, that of the Women and Gender constituency to illustrate how specific discourses of gender are constructed and advanced during climate negotiations and the uniquely spatial dynamics of these processes.

By calling attention to the micropolitical and everyday actions of people at the COP, I show how gender is mobilized in the climate debate towards the goals of specific people. By revealing how gender is constructed at the COPs I aim to elucidate the mechanisms at play that keep hierarchical structures in place. I conclude by stressing how feminist geography is uniquely suited to resist the domestication of gender happening at the climate negotiations, and to advance an identity politics that is not exclusionary in nature. Troubling gender at the COPs could have the power to disrupt discrete social categories to bring together a multiplicity of bodies to fight towards more just and equitable outcomes in the face of climate change.

## 2. CONCEPTUAL BACKGROUND: FEMINISM IN THE GENDER AND CLIMATE DEBATE

Before I proceed to discuss the role of gender in the climate negotiations it is useful to define what I mean by feminism, gender, and women, and why this framing is useful for understanding the work that gender does in the climate debate. My understanding of gender is informed by the works of Judith Butler and Joan Scott. Alongside Scott (1986), I stress that gender does not equate to women; rather, it introduces a relational concept into our analytic vocabulary.

Understanding gender relationally means asking that we not only look at power differentials between men and women but also to understand how some bodies come to be marked as sexed and gendered. It asks: what are the mechanisms by which power is exercised? In this line of inquiry, gender also signifies power relations with connections with race, class and sexuality. Thus, Scott's formulation of gender provides a useful analytical framework by which gender can signify the social relations in the climate debate that maintain those in power while (re)producing inequalities.

I use Butler's work to move away from thinking of gender as a binary of male/female, but rather to focus on how power operates to produce the binary, and to trouble the category of women as the subject for 'gender work'. In her words: "it is not enough to inquire into how women might become more fully represented in language and politics. Feminist critique ought also to understand how the category of "women," the subject of feminism, is produced and restrained by the very structures of power through which emancipation is sought "(Butler, 1990, p. 4). Thus by conceptualizing power as exercise, this work takes on the task of understanding how the category of women is produced and restrained at the COP and the ways it continues to do harm to those it aims to benefit or protect.

Butler's work highlights the problematic nature of projects aimed at assisting women and classifying them as a unified category. Climate projects that are gendered should be troubled

because they reproduce notions aimed at a specific group in need of assistance. The act of assisting has been used to subjugate gendered, racialized and sexualized bodies as we have seen via the medicalization of women's bodies<sup>2</sup>. My work seeks to underscore the mechanisms by which specific understandings of gender are operationalized during the COPs. The insistence at the COP upon a coherence and unity of the category of women, effectively erases the diverse cultural, social, and political intersections of the diverse bodies at the COP, but also those bodies who experience these gendered climate policies. Paying attention to the ways that the climate negotiations use gender via a narrow formulation of women can underscore how power operates in this site, where it is located, and on which bodies it acts. The COP, then, becomes an important geopolitical site that re/produces hierarchical social and gendered relations.

Evidencing the way in which social relations are re/produced, provides opportunities to think about ways to construct them differently.

### Gender, Climate Change and Environmental Governance

Literature surrounding gender and climate change<sup>3</sup> can be divided into three main areas. The first, and most prolific literature focuses on poor or third-world women's increasing vulnerability to climate change (Alston, 2013, 2014; Denton, 2002a; Lorenzoni, Pidgeon, & O'Connor, 2008; Skinner, 2011), detailing women either as victims (Beaumier & Ford, 2010; UNDP, 2009) or active agents with expert knowledge that goes unrecognized in policy circles (B. Bee, 2013; Glazebrook, 2011; Ongoro & Ogara, 2012). The second seeks to challenge simplistic representations of gender in the climate debate and warns against equating gender to women

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<sup>2</sup> It is important to question the motivations behind climate change projects aimed at gendered bodies. This question is further addressed in a forthcoming paper.

<sup>3</sup> For comprehensive literature reviews on gender and climate change see (Brody et al., 2008; Moosa & Tuana, 2014).

rather than understanding it as a social signifier of hierarchical social relations (MacGregor, 2010). As Arora-Jonsson has shown, too often gender in climate change is equated with a construct of woman which is either virtuous or vulnerable (2011). These discourses mask the “complexity of gendered and intersectional contexts in the face of climate change” (Moosa & Tuana, 2014, p. 683) that have resulted from imperial and colonial processes that perpetuate hierarchical social relations along axes of gender, race, class, age, etc. (Nightingale, 2011; Tschakert & Machado, 2012). And the third focuses on work around gender advocacy and representation of women within the UNFCCC (Dankelman, 2012; Hemmati & Röhr, 2009; Sasvari, 2010; Skutsch, 2002; UNWomenWatch, 2009; Wamukonya & Skutsch, 2009) but fails to be critical of the way that gender is operationalized in UN documents and at these sites. There is a lacuna in the gender and climate change literature around constructions of gender in the sites where policies, norms, and laws regarding gender and climate change are perpetuated, as well as around the processes that advance certain understandings of gender for specific purposes.

Geographers and other scholars provide important theoretical frameworks that aim at grounding environmental governance (Stripple & Bulkeley, 2014). Scholars are critically assessing environmental governance by illustrating “what happens in the ‘engine room’ of global politics” (Rowe, 2015, p. 65) and treating spaces of environmental governance as “entailing local knowledges and norms and populated by actors engaged in field-specific power relations” (Rowe, 2015).

Studies have found that in climate change governance, exercising power and determining outcomes in international climate governance is not solely a great power game. For example, Lahn and Wilson Rowe (2014) found that Norway, a state that is not normally considered a global super power, has played a high-profile role in promoting anti-deforestation measures by

putting large amounts of money and expertise into the processes surrounding REDD+ (Wilson Rowe & Lahn, 2014). A more recent study by Rowe of power relations during Reducing Emissions from Deforestation and Forest Degradation (REDD+) negotiations details the ways that unexpected actors manage to achieve their desired outcomes while negotiating a changing global order (Rowe, 2015). Using Adler-Nissen and Pouliot's (2014) typology of competence, recognition/leadership and influence over outcomes, she finds that a country like the Philippines can gain a high level of recognition in the conference based on resources integral to the negotiations themselves such as networks, knowledge of process and superiority (Rowe, 2015). Other research has highlighted the important role of island-states in pressuring policy makers to agree to a 1.5°C instead of 2 °C increase in temperature by the end of the century (Schroeder & Lovell, 2012b). The role of non-state actors in the form of constituencies and through side events has prompted research aimed at understanding in what ways specific stakeholders enact change (Andresen & Agrawala, 2002; Bailer, 2012; Betzold, 2010; Hochstetler & Milkoreit, 2013; Okereke, Bulkeley, & Schroeder, 2009; Rowe, 2015). For example, Schroeder has explored indigenous peoples participation during (REDD+) negotiations and finds that while they are being invited to the table, their participation is limited such that they do not control any of the outcomes regarding the forest commons (Schroeder, 2010). Other studies highlight the continued issues of equity between North/South relations and that inadequate attention is given to the human and geographical dimensions of climate, effectively sidelining issues of equity and differentiated responsibility (Liverman, 2009; Najam, Huq, & Sokona, 2003). These studies do not critically examine categories of, state/non-state, indigenous/non-indigenous, South/North, nor do they ask how they are re/produced and for what purposes. They also do not investigate

how gender is being mobilized in climate negotiations, nor how new relationships are shifting global understandings of gender and consequent climate change interventions.

To trouble these discreet categories and to ground environmental governance I employ a feminist geographical lens to highlight the ways in which specific constructs of gender are operationalized at this site and for what purposes. Feminist geography challenges the dominant scales and sites of governance to draw attention to the micro-political, situated, and relational practices through which power relations are (re)produced; to underscore how gender policies were and are created; to expose how discourses of gender and climate change are perpetuated and by whom; and to make clear the relationship between these discourses and social inequality and vulnerability to climate change. Thus, my work aims to build on literature from feminist geographers who: 1) understand social constructions of space and gender as dictated by power relations that reveal underlying structures of power rooted in imperialism and colonial dominance (Blunt & Rose, 1994; Massaro & Williams, 2013; Mollett & Faria, 2013; Nagar, 2000; Power et al., 2006; Sharp & Dowler, 2010); 2) are critical of simplistic representations of gender and climate change (MacGregor, 2010; Seager, 2009) and 3), approach transnational climate governance as site-specific social spaces focused on concrete practices imbued in uneven power relations (Bulkeley, 2005; Rowe, 2015; Schroeder, 2010).

### 3. METHODS

I have attended several COPs to investigate discursive and material process by which some voices are heard and others are silenced in climate negotiations. I attended COP16 (2010) in Mexico, COP20 (2014) in Peru and COP21 (2015) in Paris and interviewed activists, NGO representatives, delegates, expert negotiators, and academics on issues concerning gender and climate change. Given the difficulty of accessing key people and spaces at this conference, data

was also collected through participant observation, informal conversations, and detailed field notes. Because of important pre-established connections, I had the opportunity to access key spaces at the COPs as they concern negotiations around the incorporation of gender into the climate change debate. One of these spaces was the Women and Gender Constituency (WGC), which is the only recognized constituency that works in incorporating important gender issues into the climate debate. In addition, prior to the COP20 in Peru, I participated in a workshop organized by WGC and the International Union for Conservation of Nature (IUCN) and aimed at training women to become gender advocates. During the workshop, I observed first-hand what discourses around gender and climate are being promoted, by whom, and in what ways. My participation in the workshops and in the women's caucus gave me access to certain key gender advocates during the climate negotiations. During the COP20 in Peru, I attended official negotiations on gender and climate change, where I observed mechanisms of power and processes of silencing at play during formal negotiations. Unfortunately, breakout sessions and negotiations were closed to observers in Paris due to security concerns after the terrorist attacks on November 13<sup>th</sup> 2015. I also attended open meetings and side events concerning gender and climate change. Document analysis of communiqués and news reports such as newsletters published each day during the negotiations by the Climate Action Network called ECO complement my ethnographic data. Data was analyzed through thematic coding looking specifically for 1) the role of gender in the climate debate, 2) the role of women in the climate debate, 3) mechanisms of perpetuating specific meanings of gender, 4) exclusions of decisions concerning gender. The following section highlights the rise of discourses surrounding gender at the COP and traces the mechanisms by which specific understanding of gender are perpetuated in the climate debate. I have respected the request for anonymity of my interviewees.

#### 4. RESULTS: GENDER AND THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

While efforts to include gender in climate change documents began in 1995 at the 1<sup>st</sup> COP it was not until 2010 that gender first appeared in UN environmental convention texts and negotiations. Efforts to incorporate gender in the UN framework began in Nairobi in 1985 (Dankelman, 2002). It was finally first introduced under Agenda 21 in Rio in 1992. Chapter 24, called “Global Action for Women Towards Sustainable Development”, emphasized the importance of women in sustainable development. The manner that they were introduced however re-produced hierarchical gender relations. For instance the United Nation’s Environmental Program’s (UNEP) executive director, Mostafa K. Tolba, stated: “...If there must be war, let the weapons be your healing hands, the hands of the *world’s women* in defense of the environment” (Dankelman, 2012, p. 24 emphasis added). This problematic framing of women exhibiting natural caretaking qualities, continues to be carried through to this day having important implications on women’s reproductive labor and bodies. Gender roles go unquestioned and women’s roles are essentialized to highlight their role as caretakers, a representation that has allowed to use women and their labor mostly in the Global South to subsidize development efforts. Nevertheless, 15 years passed after gender was introduced into the sustainable development agenda before gender entered the UNFCCC imaginary. Only since 2009 has a Women and Gender Constituency been formally recognized by the UNFCCC body as a provisional constituency. At that time, eight other constituencies were also recognized as provisional constituencies. These range from an indigenous peoples organization (IPO) to a youth non-governmental organization (YOUNGO). Like the Women and Gender Constituency, the constituencies assume coherence and unity amongst all their members. This is necessary since constituencies state their position at the COP as a unified voice, especially through one

representative from each, speaking for approximately three minutes, in the opening and closing sessions as well as in some of the meetings of the convention and Kyoto protocol bodies.

In 2010, gendered language was included for the first time in formal documents. The 2010 Cancun Agreements acknowledged climate change as a human rights issue and recognize the importance of addressing the social dimensions of the problem. Gender was represented for the first time as declared in the Preamble below:

Noting resolution 10/4 of the United Nations Human Rights Council on human rights and climate change, which recognizes that the adverse effects of climate change have a range of direct and indirect implications for the enjoyment of human rights and the effects of climate change will be felt most acutely by those segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status or disability... (Preamble of Decision 1/CP.16; FCCC/CP/2010/7/Add.1, as quoted in IIED, 2010)

Since then, most efforts of incorporating gender into the climate change agenda have concentrated on changing the gender composition of the climate negotiations. Decision 23/CP.18 called “Promoting gender balance and improving the participation of women in UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol” (UNFCCC, 2012). Women’s presence at the UNFCCC has significantly increased since Nairobi, including in leadership positions. For example, the first female Executive Secretary of the UNFCCC, Christiana Figueres, who was elected in 2010, will be succeeded by another woman, Patricia Espinosa, Mexico’s ambassador to Berlin. Additionally, events surrounding gender in Paris seemed to abound. For example, Mary Robinson, the former president of Ireland, participated in a panel called “Women at the Heart of Climate Change”. Nevertheless, women’s physical presence might have increased in the climate negotiations, but they continue to be underrepresented at the decision-making table (Nations, 2015). Women’s presence is more evident in the subactivities of the COPs such as in side events, and organizing a

‘gender day’. For example, during COP22 in Marrakesh, out of over 200 side events, nine were exclusively around gender and five incorporated some gender aspect (UNFCCC, 2016). Table 3 provides the numbers of Side Events around Gender at three COPs and shows a slight increase around events focusing on gender exclusively, but most importantly, it shows women’s consistent work outside of formal negotiating spaces throughout the years.

*Table 2. Gender side events and side events incorporating gender in COPs 15, 21 and 22*

	Gender Side Events	Side Events incorporating gender
COP 22 (2016)	9	5
COP 21 (2015)	6	6
COP 15 (2009)	6	4

## 5. CONSTRUCTIONS OF SPACE AND GENDER AT THE CLIMATE NEGOTIATIONS

### 5.1 The Climate Experts: Mechanisms of exclusion and silencing at the COPs

The COP has been ongoing for 22 years; for the past 12 years, it has also hosted the Meeting of the Parties to the Kyoto Protocol (CMP), and in Marrakesh in 2016 the first meeting of the parties to the Paris Agreement (CMA). Currently, there are 197 parties involved in the UNFCCC process (UNFCCC, 2016). The Paris Agreement was the first to include gender as a stand-alone item and other important aspects of gender, reflecting many years of advocating for gender issues. The COPs that I attended previously were preparing specifically for the Paris Agreement. As such, I detail the incorporation of gender through a focus on meetings in Paris or the meetings leading to decisions surrounding gender that were advocating for gender to be included in the Paris Agreement<sup>4</sup>. In what follows, I describe the main instruments and bodies that make up the

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<sup>4</sup> For details on the Paris Agreement see (Clemencon, 2016)

COP to better understand in what ways one term and its meanings become dominant over others. The mechanisms of the COP have been described in detail (COP21, 2015; Haites, Yamin, & Höhne, 2013). I aim to underscore the intricate mechanisms of the COPs to contextualize under what conditions and by whom, decisions are made. Figure 5 exemplifies the complexity of these meetings by showing the many working groups including technical and financial branches. During two intensive weeks, delegates meet to debate global agreements aimed at addressing climate change. While the COP is the supreme decision-making body, there are other bodies that work on finance, the Kyoto Protocol, science and technology, and implementation. All of these have specific working groups, meetings, expertise and goals (COP21, 2015). The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) handles decisions surrounding the Kyoto Protocol, the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) ensured that a universal climate agreement: the Paris Agreement, became a deliverable. The Subsidiary Body for Implementation (SBI) assesses and reviews implementations of the Convention and its Kyoto Protocol, and the Subsidiary Body for Scientific and Technological Advice (SBSTA) provides scientific and technological recommendations (for further elaboration refer to Haites et al., 2013). There are no decision-making bodies that work solely on gender or human rights, as such advocates must press negotiators to include them in the negotiations<sup>5</sup>. The role of NGOs at the UNFCCC processes is to keep the negotiators accountable and advocate for important issues such as human rights, since these are not addressed directly within the decision-making bodies. Civil society members are formally called observers. Groups need to apply at least one year in advance to get

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<sup>5</sup> Decisions surrounding gender with varying ambition appear in most of these bodies further explored in section 5.2

accreditation. Passes are limited for observers; a University or NGO might not get more than four.



Figure 5. Bodies and thematic areas at the COP retrieved from (<http://unfccc.int/bodies/items/6241.php>)

Throughout my research, I observed that gender and human rights advocates are observer organizations that do not have the same access to the meetings as country delegates. If they are allowed inside meeting rooms, they cannot speak, usually only UN negotiators have the word. Thus, civil society needs to be well connected at the COP to have any influence. To influence any outcomes at the COP, delegates need to be physically present at meetings. Thus, countries

with the most delegates will have the most representation and thus the most voice. Even larger delegations will not be able to participate in all the meetings so must prioritize issues to be covered. A negotiator from the Global South informed me<sup>6</sup> that groups such as G77.<sup>7</sup> are very important at the COPs because they provide small delegations the ability to cover crucial themes by joining forces and dividing themselves to cover the most pressing issues. A well known alliance recognized as a major player in the UNFCCC negotiations is the Alliance of Small Island States (AOSIS). Despite comprising less than 1% of world territory and population, the alliance consists of 39 states that are dangerously exposed to rising sea-levels and extreme weather events (Betzold, 2010). Once meetings are organized on various topics, delegates attend meetings where they will defend their country's stance on the issue. Most delegates that negotiate at the COP are UN trained officials familiar with UN negotiation, an important skill since the process is very intricate and has many rules. During the meeting, all decisions and changes are made in writing—usually these changes will be made on an existing document drafted by a specific group or country- negotiators sit around a table, and take turns to speak. In this context, a moderator plays a pivotal role since poor moderating can create tensions that lead to conflict and no resolution because changes to the document can only be made through consensus. Most of the text is prepared in advance in brackets around sections where consensus has not been achieved which are removed if the text poses no conflict during the meeting. In Peru, I had the opportunity to follow the negotiations around gender and climate change of the Subsidiary Body for Implementation. Through my interviews, attending the Women and Gender

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<sup>6</sup> Peru, Lima (12/3/2014)

<sup>7</sup> The Group of 77 is the largest intergovernmental organization of developing countries in the United Nations which provides the means for the countries of the South to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major international economic issues within the United Nations system, and promote South-South cooperation for development (United Nations, 2014).

Constituency daily meetings, and participant observation I found that it was only this subsidiary body that gender negotiated as a stand-alone item. Certain trends emerged out of my observations of these meetings<sup>8</sup> which I attended during the first week of the conference in Lima during 2015. For example, most delegates around the table never spoke. Usually, only five or six delegates spoke, controlling the negotiations and thus the outcome. A country representative from the Netherlands told me that some of them could “enter, but not speak”<sup>9</sup>. I asked an interviewee that was familiar with the negotiations as to why so few people spoke during the meetings; the informant explained that those who spoke were highly skilled, UN trained negotiators<sup>10</sup>. As such people who speak around the table are usually not climate experts, but rather, trained experts that are familiar with the United Nations negotiating processes. For example, knowing when to speak, who to address, what to say, how to say it, when not to speak etc. They are usually advised by climate experts who sit slightly behind, but close enough so they can communicate. The hyper-expertise required to participate in climate negotiations is another barrier that small delegations need to overcome since they will normally have one or two expert negotiators familiar with the UN process and, thus, must prioritize what issues to address. In instances where a small delegation is very invested in an issue, a country representative might be sent to a meeting only to make sure that the outcomes are favoring their country; if they are not, they will request that the expert negotiator interject in the meeting. The negotiator must then choose which issues are most pressing, since they cannot be in more than one room at a time. Negotiators at a meeting can also be silenced if one negotiator states that they will speak for a

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<sup>8</sup> Peru, Lima (Dec, 1-6, 2014)

<sup>9</sup> Paris, France (12/5/2015)

<sup>10</sup> Lima, Peru (12/6/2014)

whole group. I observed this happening on numerous occasions in Peru, with Saudi Arabia stating that they would be speaking for the Arab group.

The hyper-expertise in process and diplomacy needed by UN negotiators often leaves them unfamiliar with the specific content that they cover. I asked a negotiator from the Mexican delegation (who was advocating for gender equality) whether he was familiar with gender issues or climate, he responded that he wasn't, and as a negotiator, it wasn't his role nor was it vital for the outcomes. He explained that during negotiations the themes per se are not so important, but rather there is a very complex mechanism leading up to these meetings, for example, it might be that a country agrees with gender equality, but if this country has not signed a treaty, or ratified a document, they cannot agree that gender equality be incorporated into a global agreement. He explained that negotiators cannot defend a stance if institutional and legal processes are missing in their home country; a testament to the difficulty of achieving a global agreement in two weeks. It does not come down to what happens in those two weeks, but rather, what has happened prior to this, and what documents and agreements have been ratified by each individual country<sup>11</sup>.

Newcomers to the COP will find that it is a difficult space to navigate, where there are many negotiating bodies holding simultaneous meetings. The people who have been navigating this space for a while are noticeable since they seem to use this time as an opportunity to reconnect with old friends, while taking advantage of asking them to align themselves to their position. As such the COP is very much a space where connections are needed to have any influence on the outcomes. During the negotiations, I observed that there were open and closed meetings. If you are not part of a delegation, but of an NGO, or university or trade union or an indigenous group

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<sup>11</sup> Peru, Lima (12/3/2014)

for example, many meetings will be closed to you. If you managed to be inside a negotiation room, most likely, you will have no training in UN processes, so following the meetings will be very difficult.

The chaos and difficulty I felt navigating the negotiations was confirmed by several other interviewees. A delegate from the Global North who was a first-time COP attendee exclaimed “have you seen the big screens? We have been talking about the paragraph two for two weeks! I am really flabbergasted by how it works”. The screens that the delegate is referring to are either screens in the meeting that show negotiators the changes made to the document or screens in overflow rooms allowing people to observe the process who were not able to enter the room. Many times, the screenings were silent, so again it was difficult to understand what was going on. Others described the COP as a “space that is chaotic, it’s inefficient, it isn’t a nice atmosphere, look around, you are standing on concrete materials that are renewable but the world is outside, you are not part of the universe when you walk in here”<sup>12</sup>. The interviewee highlights the artificiality of the space and its distance from real world issues. There were many feelings of frustration as attendees expressed that the negotiations were not acting fast enough: for example, a representative from an Indian NGO described the speed of the negotiations as “snail pace, I don’t see it going anywhere, discussions go on and on, I don’t know why they don’t realize it’s action time now”<sup>13</sup>. Others felt that key information was very difficult to access. An interviewee from YOUNGO, the youth constituency, used the word “begging” to describe what they felt they had to do to get interviews from party representatives<sup>14</sup>. Others internalized their state of confusion; as one said after not following a meeting: “maybe I missed something...I should have

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<sup>12</sup> Paris, France (12/5/2015)

<sup>13</sup> Peru, Lima (12/1/2014)

<sup>14</sup> Peru, Lima (12/6/2014)

been there before”. COP attendees also expressed disillusionment with the negotiating process and believed that reaching consensus with so many different interests on the table was near impossible. One interviewee said “how can you ever think that you will find one text that suits everybody. Just yesterday, I was in a very small space, very hot, too many people in it and then somebody suggested a whole new text for a whole new paragraph!”<sup>15</sup> While we might imagine that people are solely focused on producing a climate agreement, we see how sometimes they are just looking for ways to expedite the process, to get out of that hot, crowded hostile room.

## 5.2 Civil Society: you cannot enter

While civil society is invited to the COPs they have no direct impact on the outcomes. They can only try to influence decisions indirectly, through contacts, connections, media events, gender days and through persistence. The Women and Gender Constituency (WGC) forms part of the amalgamation of “civil society” and it is in this context that a gender agenda is pushed at the COPs. I discuss WGC in the next section. Civil society’s access in the COP is limited and in Paris had a yellow badge which gave you access only to the purple area (See Figure 6 for layout of COP 21 in Paris). If you are a member of one of the nine constituencies sometimes you will get a few passes to important closed meetings. However, even these passes are hard to come by if you have no influence or connections. Because of the Paris attacks of 2015, spaces and meetings that had been previously open to civil society were now off-limits, so civil society’s access was further curtailed. Delegates, on the other hand, have pink badges signifying that all spaces are accessible to them. A representative from the NGO Women’s Earth Climate Action Network (WECAN) described the COP as “a place where all governments meet, and provides a

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<sup>15</sup> Paris, France (12/3/2015)

platform for developing countries to state their case...but it's only a piece of the puzzle. That said, there is too much corporate power in the UN, which is also true of a lot of the governments. The problem we have is that those who are impacted most, do not get their equal say here in the way that they need to"<sup>16</sup>. The representative explained that obvious solutions to mitigate climate change such as keeping fossil fuels in the ground were not even on the table in the negotiations. Thus, not everyone has their say and not everything is discussed in the COP. Nevertheless, despite the lack of access of civil society in formal negotiating spaces, the representative stressed that civil society's presence was vital at the COP "so that they don't run off and make it worse...we are trying to get the best agreement that we can and then fight like hell afterwards"<sup>17</sup>. Other NGOs also stressed that the most important work they did occurred outside of the formal negotiating spaces in the communities that they worked with. Other members of civil society recognized that to influence their government, it was important to be in this space because many national policies are influenced by international policies.

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<sup>16</sup> Paris, France (12/5/2015)

<sup>17</sup> Ditto



Figure 6. Layout of COP21 in Paris

### 5.3 The Gender Experts: The Women and Gender Constituency

The Women and Gender Constituency (WGC) is one of the nine constituencies of the United Nations Framework Convention on Climate Change (UNFCCC) and was established in 2009, becoming a formal constituency in 2011. The WGC consists of 15 women's and environmental civil society organizations and networks, (including IUCN, WEDO, and Gender CC); most of which are based in the Global North. The formal recognition of the women's constituency has facilitated official interventions on the floor on behalf of women and gender equality. The purpose of the WGC is to link WGC members to the UNFCCC's secretariat, to create side events, to deliver interventions during formal meetings, facilitate meeting with other constituencies as well as with UN staff. Much of the information surrounding the activities of the meeting occurs over a closed constituency email list. During the COPs, the constituency meets

daily for an hour to brief and debrief members about events concerning gender, their place and location. During the meeting, constituents can sometimes find out about what is going on in each negotiating body as it relates to gender since some constituents are also country delegates with access to these spaces. Outside of these meetings, the constituency drafts intervention speeches, discuss logistics surrounding gender advocacy, and participate in media events. The constituency actively advocates for themes such as gender balance, gender responsiveness, gender equality, and fair and clean transfer of technologies to be included in the text as well as helps organize side events, such as the now well-known gender day at the COP.

Text on gender within the UNFCCC is a recent addition; only since 2013 has gender been incorporated into its legal instruments and norms. This achievement is largely attributed to the formal recognition of the constituency and the hard-work of gender ‘experts’ – a concept that will be explored further. Some constituency members believed the WGC played a vital role in the incorporation of gender into formal documents and that if “they didn’t insist so much, gender itself would have been completely neglected”<sup>18</sup>. An interviewee<sup>19</sup> explained that the first conference that recognized gender as an important issue was COP16 in Cancún. The Women’s Major Group, a group that has mediated interactions such as participation and access between women’s organizations and United Nations for over 25 years, since the Rio 1992 convention, consisting of NGOs mostly based in the Global North – joined forces with local organizations and began strategizing, maintaining a relationship that exists to this day. Together, per this informant, in a systematic way with key countries, they have achieved incorporating gender into policy text and supported it in climate negotiations. The constituency advocates for the inclusion of gender in the texts and holds Parties accountable when they do not do enough for gender and

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<sup>18</sup> Peru, Lima (12/1/2014)

<sup>19</sup> Peru, Lima (12/5/2014)

human rights. In Paris, the constituency joined forces with other civil society groups to pressure Parties to agree to limit warming to 1.5°C degrees instead of 2°C as well as in decisions regarding finance and technology transfer. Many of the constituency's efforts, however, were absent in the final Paris Agreement. Thus, the WGC denounced the Agreement to be lacking in ambition, through a statement released by WEDO which read "we will not be silenced from telling the truth to power, to highlight the lack of ambition and injustice in this agreement. We have used this space of international policy-making to raise our voices and embolden our movements. Together, we will continue to challenge injustice for the protection of the people and the planet." (Article COP21: A movement Rising- Women's development organization).

The remainder of this paper will trace constructions of gender that are operationalized at the COP, that further the goals of people already in power, inevitably encountering problems with representation.

#### 5.4 The Women and Gender Constituency

The WGC consists of a traceable network of women and their organizations. Many of these organizations form part of the Women's Major Group. During the negotiations<sup>20</sup> I noted that women from the Major Group do not only mediate but also control the 'voice' of women at the COP. Women in the WGC quickly establish their authority amid other constituency members. Through interviews as well as informal interactions I found that the framing of themselves as hyper technical experts, becomes intimidating for other lesser known gender advocates. The WGC suggests that members could get involved, by writing interventions, delivering these interventions or influencing delegates about the importance of gender in climate agreements. However, throughout my interviews and participant observation it was evident that people with

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<sup>20</sup> COPs: Mexico 2010, Peru 2014, France 2015

voice and power at these gatherings knew each other and there was no space for new ideas. Through exclusions, meetings and important conversations that occurred outside of the constituency, where vital decisions were made regarding gender in the climate debate, it was clear who was not “in” the gender and climate circle even though they espoused the virtues of transparency and collaboration.

It should not be surprising, then, that talking directly with many of the leaders was challenging. A delegate from a European country wondered how I was going to be able to get access to speak with people. She was part of a delegation where one of her colleagues was closely involved in the gender and climate negotiations, and when I expressed interest in reaching out to her she said: “I can ask her if she can talk to you, but she’s so busy, I wonder how you will manage to get anything done in this atmosphere”. However, I managed to approach her and walked with her somewhere while asking questions, a popular method for researchers and others in the COP meeting space.

During the meetings, the majority of important tasks were controlled by only a few more established constituency members. There was no room to ask new questions: the meaning of gender was simplified to a single and unified category of women, not allowed to vary through time and space. Gender at this site signifies women. I observed how gender was used strategically by different actors at the COP. On the one hand, the WGC had a one-dimensional, static and western definition of “women” dominated by white, Anglo-phone women. To get across the importance of gender and climate change, it used imagery of women as poor and vulnerable and, whenever available, even though usually women from the Global North control what is written in the interventions, a young woman of color will deliver the speech. For example, I observed how only after the speech had been written by the more established

constituency members did they ask a young woman from Peru, if she was willing to read it during a plenary. Additionally, in breakout sessions I experienced how people who were interested in a developing a deeper understanding of the issues were called out for not focusing on advocating for gender and thus wasting people's time. The experience of a member from the youth delegation who tried to attend a WGC meeting exemplifies the latter:

they told us to check out the women and gender constituency and we did...we were not very welcome there...you know how in the meeting every day this week they talk about how they want to engage youth, we are sitting there like 'hi, I am right here' I've been here for three years now...it's an interesting dynamic where I think the overall policy and the magnitude of what they are doing gets in the way of developing relationships with new leaders or building capacity beyond any programs like the women delegate fund or something like that. It feels like gender is inaccessible.

Another person I interviewed who participated in WGC meetings noted this division as she stressed: "It's kind of manly behavior...my one friend that is becoming a feminist asked why the older women were over there and younger ones over here, is this part of feminism?" I also observed that all the WGC meetings were held in English without providing translators and this excluded many other actors from participating. For example: I was sitting at the back of the room during a constituency meeting when a woman that I had not seen before sat next to me. She was wearing indigenous Peruvian attire. The meeting proceeded in English and she asked if I could translate for her into Spanish. I translated the main points for her, but she did not come back to another meeting.

The western dominance over the discourse on gender at the COPs (see Table 2 for example) was further evidenced by a workshop organized by the WGC, ICAA and IUCN to train African women delegates to advocate for gender at the COP in Peru. This can be seen as highly problematic since UN gender definitions do not allow for intersectional understandings of gender that are important in non-western contexts. The lack of diversity of the WGC was noted by new

members, one of them said: “why are there so few women at the constituency [meetings]? I’ve talked to a lot of women at other pavilions, why is there only one little group?” The lack of new voices meant that the WGC message was not being challenged or updated. In the words of an interviewee: “I think that some of these women are the same, they do really great work but they also must refresh. I get the idea that some women stick to it, to the key statements for the group; I don’t think they are the right ones...” The woman from the youth delegation described the gender binary embodied in the space: “it is apparent that the UN is not focused on any sort of rights beyond this binary, and that’s pretty apparent when you look at this space and only see people that identify really strongly with being male or female”. Thus, she maintained that any insistence that we think of gender beyond the binary might be seen as too radical for the space, especially when “negotiators cannot even keep up with the message of equality between men and women”.

### 5.5 Gender Advocates at the COP: the importance of recognizing the sexual division of labor

An in-depth interview with a gender advocate and advisor to a Global South delegation described many of the intricacies of working on gender at the COPs<sup>21</sup>. The interviewee explained the different gender advocates at work at the COP; in her words:

At the COP, there are (1) those who make climate policies, who think that they do not need any expert person, they say ‘women need clean stoves’ they are not concerned about reproducing the sexual division of labor. There are also (2) women’s organizations, who will tell you about the poor and vulnerable women, the women of color, the indigenous, this is good because they bring their experience from the field but that is where you need to make the jump, from women as vulnerable to a rights-based approach. So then, there is us (3), who know the institutions, and form part of this very specialized filter, and are dedicated to modifying public policies and frameworks and to translate these to very rigorous and coherent policies.

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<sup>21</sup> COP Peru, Paris, and email communications

However simplified, this statement allows us to see the different goals for including gender in the climate change agenda. The groups the interviewee had aligned with are fighting for gender equality, which she explained was a simple recognition that women are people, deserving full rights. The interviewee mentioned that, for the first time in the world, in Latin America, a consensus called the Montevideo Consensus on Population and Development in 2013 stressed the connection between sustainable development and reproductive rights and thus between climate change and reproductive rights. She explained that this is the only global reference connecting the two, effectively recognizing women as rights-bearing individuals. She stressed that “what matters is that governments know that when they talk about climate change they are also talking about sexual rights and violence against women.” With this recognition at hand, governments will no longer be able to solve gender issues by simply distributing efficient woodstoves to women claiming to be contributing to gender equality; they will have realized that some efforts aimed at incorporating women – in development, in climate change – simply reproduce the sexual division of labor, mostly detrimental to women, without advancing anyone’s position in society. The interviewee expressed that this fact was something that Latin American feminist movements were aware of. There are those who understand this fact but they also understand that it will be difficult and expensive, so choose to distribute efficient woodstoves even though they know it is not enough. The informant expressed that many of the decisions regarding gender come down to individuals that are sensitive and open at key moments that push mandates and resolutions ahead. She explained that ambitious references on gender equality were achieved in 2010 in the Cancún Agreements alongside other references surrounding gender such as women as a vulnerable group, pushed forth mostly by Least Developed Countries and the African group. Thus, the advocate and many like her had very

specific and clear directions of where and in what ways they wanted the concept of gender to be incorporated in the climate agenda. However, other actors, with more power, had a different agenda further explored below.

### 5.6 Gender in the Paris Agreement

Since 2012, Parties have considered gender as an independent agenda item ‘Gender and Climate Change’ under the Conference of the Parties (COP) and the Subsidiary Body for Implementation (SBI). Advocates also push for gender to be incorporated in other thematic areas such as finance, technology development and transfer, adaptation under the Convention and its Kyoto Protocol and Paris Agreement.

#### **Terminology used to discuss gender**

It is important to note that the term “gender equality” only appears once in the preamble of the Paris agreement; a section of the document that carries no legal weight. Gender advocates have been fighting to include gender equality in the core of climate documents, a term that most are familiar with, and many women involved in the UNFCCC process push for gender balance.

Instead, the terms gender-responsive or gender sensitive tend to appear in climate documents.

These terms surrounding gender are terms that only have meaning amongst UN circles. A gender glossary was created by UN Women to define all these terms summarized in Table 4.

The key informant described how these terms came about, in her words: “gender sensitive, gender responsive policies whatever... it’s all made up, I was sitting on the grass making up how to name things, and especially the native speakers of English saying, ‘yes this sounds good, this is how you say it’ and I was like, ‘okay, if this is how you say it’. I remember perfectly when we

invented gender sensitive and now we are in trouble because these terms have no rigor in the negotiations, even from our own framework, and we have no way to fix it.”

The informant expressed how gender sensitive quickly became a term that many gender advocates regret since it allows countries to take note, but are not pressed to take specific actions, so since COP 20 advocates have pushed for "responsiveness" instead. During negotiations, I observed negotiators asking what some of these terms meant and negotiators pressing for any term before equality; severely disadvantaging previous advocacy work for the simple recognition that women are people. Some negotiators, however, are clear about the power that gender equality, or gender balance have in specific contexts, and use the availability of terms and confusion of some to their advantage.

For example, the interviewee described that, at first, when people referred to gender balance, it was understood that it was secondary to gender equality, that you first need equality so that women have the same opportunities and thus can achieve a balance of gender. This relationship became blurred and advocates saw how gender balance became not only interchangeable with gender equality but also preferred. The resulting of variants in the use of gender is due to resistances of specific countries to specific thematic areas. More resistance exists in the areas of mitigation, financing and technology. Nevertheless, the advocate expressed that any mention of gender was a step towards equality and that they are looking for ways for each term to help them integrate gender equality in all fields.

Table 3. United Nations Gender definitions used at the COPs

<b>Term</b>	<b>Definition used for COP</b>	<b>Bodies and thematic areas, gender related terms in Paris Agreement</b>	<b>In text:</b>
<b>Gender Equality</b>	refers to the equal rights, responsibilities and opportunities of women and men and girls and boys.... Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centered development (UNWomen).	COP PREAMBLE	...Parties should, when taking action to address climate change, respect, promote and consider their respective obligations... on <b>gender equality, empowerment of women...</b>
<b>Gender Responsive</b>	refers to programmes where gender norms, roles and inequalities have been considered, and measures have been taken to actively address them...beyond raising sensitivity and awareness and do something about gender inequalities (WEDO).	COP Adaptation Art 7 Capacity Building Art 11.	7. Parties acknowledge that adaptation action should follow a country-driven, <b>gender responsive</b> , participatory and fully transparent approach 11.. Capacity-building should be guided by lessons learned, including those from capacity-building activities under the Convention, and should be an effective, iterative process that is participatory, cross-cutting and <b>gender responsive</b> .
<b>Gender Balance</b>	the ratio of women to men in any given situation. Gender balance is achieved when there are approximately equal numbers of men and women present or participating (UNDP, 2010).	SBI FACILITATING IMPLEMENTATION AND COMPLIANCE Art. 15 Item Gender and Climate Change	Decides that the committee... shall consist of 12 members... to be elected by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the basis of... equitable geographical representation... while taking into account the goal of <b>gender balance</b>
<b>Gender sensitive</b>	Attempt to redress existing gender inequalities	N/A	N/A

### 5.1 Power and gender in negotiating texts: LIMA COP 20

Mandate: Subsidiary Body for Implementation (SBI) Conclusion Gender and climate change.

My observations of negotiating text on gender in the SBI at COP 20 in Lima provide insights into who controls the text and the structures and discourses around gender at the COP. An important rift exists amongst women at the COP advocating for gender. While women in power

at the UN believe that they resolve gender issues by demanding more women in power, and thus strengthening their role in the UN<sup>22</sup> -- women who are advocating for equality of all people extending beyond the COP, find themselves fighting so that gender equality, and not other looser terms such as gender balance, are incorporated into UNFCCC documents. The mechanism by which gender balance came to dominate gender equality is clearly shown through an in-depth interview with a gender advocate from the Global South, supplementary interviews and participant observation.

The advocate explained that she and her colleagues at the COP in Peru were fighting for a mandate under the SBI to be incorporated in Paris called the Lima Action Plan that would require UN Women and the UN secretariat to provide delegations and its members training, technical advising and methods on how to incorporate gender equality into climate policies. The secretariat itself does not have gender expertise so the mandate would provide funding to respond to any Party's requests. This gender resolution – first negotiated in Doha in 2010 - had the term gender equality in the title. However, the interviewee told me that overnight the secretariat had changed equality to balance. Four years after Doha, in COP20 in Peru, gender advocates, including my informant resumed the issue. A prepared text that picked up the important items rejected in Doha guided the negotiations. A fight for gender equality to be incorporated into the SBI agenda item gender and climate change opened the negotiations. I observed how the term equality was quickly shut down initially by the United States who explained that they were waiting to hear back from Washington on their stance on gender equality. As the negotiations continued, the United States changed its stance to advocate for gender equality. However, Saudi Arabia who had not attended the initial negotiations

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<sup>22</sup> Document on gender and climate change by the Subsidiary Body for Implementation (SBI, 2014).

aggressively opposed this incorporation. As my informant described they “caused a lot of damage, they blew up our camp and tents”. The informant explained that the Saudi position on gender equality should have been expected since it’s always the same, but that what caused the most damage was the poor facilitation.

During the negotiations surrounding gender equality in the SBI in Peru, I observed only a few countries speaking up. These were Saudi Arabia, Mexico and the European Union; even though negotiations seemed cordial on the surface, the informant later explained that the environment became hostile towards the Saudi delegation. I was told that the facilitator was so invested in the issue of gender that instead of facilitating, she confronted the Saudis and did not permit usual side conversations amongst Parties that are so common in the negotiations. The interviewee explained that Mexico approached Saudi Arabia to privately negotiate some terms, to ask what they wanted, and the facilitator stopped this. The Saudi delegation felt attacked and thus, went to retrieve the Saudi expert negotiator or the “bear” as he was referred to by the interviewee. Once that occurred, the Saudi delegation was very defensive, something to be expected as the interviewee explained after the treatment by the facilitator. After what was considered an attack on the Saudi delegation, the interviewee explained how the facilitator, attempting to remedy this, began to allow the removal of most of the things that the Saudis requested. Mexico was trying to fight for items concerning gender and human rights to remain in the document, but then the facilitator said: “Mexico, don’t be intolerant, we have to give something to the Saudis.” After this, the informant described how much was ceded to the Saudi’s, eliminating many years of gender advocacy in just two days.

Mexico was against having gender balance replace gender equality in the document because the interviewee expressed it was fighting for equality and preferred no agreement rather than to agree to gender balance. In the informant's words

there is no hurry. I know that I will die and will not see gender equality, but I want to lay the groundwork for real change. So, what's the difference between one month to the next or two years? This way, you do not negotiate something as crucial as the recognition that women are people

Nevertheless, in the negotiating room, at the last-minute, people agreed to gender balance. The EU was one of the first to cede. Mexico was forced to cede or lose the resolution. Otherwise, the interviewee explained, Mexico would have been seen as the country that blocked gender. She stressed how feminists understood Mexico's position against gender balance, but women's organizations didn't and were asking them why they were blocking all their hard work on gender and climate change. The interviewee explained that Mexico was pushing for something bigger, more transcendental, for gender equality and reproductive rights, but the facilitation allowed the Saudis to set the terms and thus the outcome.

The advocate wanted to make it clear that feminists from the Global South did not think of the resolution as a victory, and that if they have managed to fight for the recognition of reproductive rights and climate change at a regional level — as shown with the Montevideo agreement — they are prepared to fight for this at the global level. She also wanted to denounce the ways that Saudi Arabia continues to boycott all negotiations surrounding gender — just one country with oil and money — speaking for the Arab group negotiating women's rights; and that during COP20 Europe and Finland did the same.

I asked the informant as to why Europe and Finland would agree to gender balance over equality. She stressed that they do not think about the larger geopolitical picture, that they are short-sighted and wanted a gender agreement, so they think they did well. In her words: "I don't

think that they even understand what they did, for them giving up women's rights or gender equality is irrelevant, but for us, it is very important, the Saudi's, the African group understand this perfectly. They are the only ones that do not find out." She continued to explain how gender balance is a term that is beneficial to women in power because it means that they do not have to worry about the more sophisticated and complicated ways in which gender equality would influence climate policy. Instead women in power believe that they resolve gender issues by demanding more women in power, and thus strengthening their role in the UN.

## 6. CONCLUSION

The insistence in advance on coalitional "unity" as a goal assumes that solidarity, whatever its price, is a prerequisite for political action. Perhaps a coalition needs to acknowledge its contradictions and take action with those contradictions intact.

(Butler, 1990)

The Conference of the Parties mobilizes specific constructions of gender with important implications for climate policy and actions aimed at addressing climate change. Mobilizing gender as a category that only equals 'women' effectively erases important social signifiers such as race, class, age, nationality, and sexuality. An agenda that perpetuates an understanding of women as a unified category furthers an active silencing of a multiplicity of bodies that might have similar end goals, but are excluded in one way or another depending on which group they choose to embody. This way, the COP can group people into discreet categories of women, indigenous people, academics, scientists, placing them under the umbrella of civil society, and ultimately excluding their concerns from formal decision making. The WGC and the other constituencies needed their own "space" to voice their concerns, but one that was very much in the margins. These exclusions appear even in the text of the Paris agreement. Women and other marginalized groups are only mentioned in the preamble of the document and thus carry no

weight. The hierarchical social relations observed at the COP during the negotiations, where the North spoke over the South, where English was the only language and where white people dominated outcomes was replicated in the WGC. That there are no men in this space should serve as a warning that oppression of gendered bodies is not only enacted by men, and that belonging to the assigned social signifier of women does not automatically create solidarity. That marginalization of women can be done by women themselves should call into question the taken for granted assumed unity and commonality amongst gendered bodies.

At the COP gender is used strategically by different actors. On the one hand, WGC maintained a one-dimensional, static and western definition of “women,” a discourse dominated by white, Anglophone women lobbying for a simplistic understanding of gender. While their work is commendable, and has been successful in incorporating some aspects of gender into climate documents, these aspects do not question socially assigned gender roles. This incorporation allows for simplistic solutions to the gender and climate change debate such as the distribution of efficient woodstoves which only serve to reproduce the sexual division of labor. I described the ways in which the constituency excludes most women from participating, mostly because their agenda is set. Those who set the agenda have known each other for years so their ideas are rarely challenged or updated. And thus, people excited about the prospect of participating in gender advocacy are disillusioned, as was exemplified by the member from YOUNGO. Consequently, new voices are forced to find other venues for gender advocacy resulting in dispersed efforts towards enacting positive change. More evidence against solidarity amongst women at the COPs can be found between the work of women in the constituency and women in negotiating rooms. Women negotiators that might have a say regarding gender

equality are not effectively being drawn into the constituency: as such the constituent's power is relegated to advocating outside of the negotiating rooms, hoping for the best.

In the negotiating room, I observed another clearly articulated and enacted divide amongst people –between the Global North and the Global South. Even though it appeared that they were in agreement regarding a gender resolution, when it came to the actual negotiation, suddenly it seemed as though anything were possible. Either one country with oil and money, or another with poor facilitation had the power to control the outcomes. When it came to a gender resolution, advocates from the Global North seemed content with any mention of gender, even if it did not include equality. In fact, per my sources, it was more beneficial to them that a resolution was passed on gender balance rather than gender equality because it would mean more women in positions of power (women from the Global North). Mexico and other Global South advocates were fighting for gender equality because they believed that this concept would recognize women as rights-bearing individuals, leading to a systemic shift in the way that women are treated in most of the world. Connecting climate change to women's reproductive rights at the COP would be the achievement that advocates from the Global South are fighting for.

Women fighting for women at this site leads to an identity politics that is exclusionary, reducing the political potential for radical change. Rather, feminism should question and elucidate the systemic ways in which bodies are silenced and excluded from important decisions concerning them directly and invest in a “radical inquiry into the political construction and regulation of identity itself” (Butler, 1990). This inquiry would unite people, not based on their regulated identities, but based on similar goals for equitable and just solutions to the negative impacts of climate change.

This paper has sought to illustrate the ways that gender is advocated in important geopolitical spaces such as the COP, and how these understandings influence how gender is conceptualized globally. More research around the micro-politics of climate governance can elucidate the ways in which gender is being mobilized to the continued detriment of the environment and the majority of the world's population and thus opening alternative avenues for radical transformation.

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## **Appendix C: Paper C: A Micropolitics of Gendered Climate Governance: A Reflexive Research Approach in Oaxaca, Mexico**

### ABSTRACT

Women, especially of color, and in the Global South, have long been on the receiving end of aid and development projects, and usually portrayed as passive victims of global changes around them. More recently, climate change interventions targeting women are producing new configurations of gender and development work. This paper sets out to question why a gender agenda is being pushed alongside a climate agenda, what these projects look like in the communities and households where they are implemented, and the impacts of these projects on the lives of people that encounter them. I argue that to assess the effects of hegemonic global discourses and practices around gender and the environment on the lives of people they target, we must be able to tackle problems of scale: how does the global impact the local, and vice-versa; as well as to question Western feminism tendencies to homogenize diverse understandings gender. This paper aims to ground environmental governance around gender and climate change using feminist geography by calling attention to the everyday practices of the lives of people in Mexico involved in gender and climate change interventions. Using postcolonial insights and reflexive approaches, this paper highlights politics of location and representation encountered in gender and climate change work. It also problematizes tendencies in climate and development work that attempt to homogenize gender, erasing the agency and autonomy that women have always had outside of western spaces. Through reflexive research, a methodology that responds to both feminist and postcolonial practices, I illustrate how gender and climate change projects are taking on new forms of development intervention and environmental governance in Oaxaca, Mexico. I call attention to the ways that concepts operating in global contexts do not merely operate on women but are imbricated in the performance of their every-day lives as they manage and negotiate global discourses around gender and climate change while transforming them so that they become meaningful to their every-day lives. By paying attention to women's every-day lives, we recognize their resistance or acquiescence to hegemonic discourses of feminism and development underscoring their active role as agents of change.

### KEYWORDS

Gender and climate change, Mexico, feminist geography, postcolonial scholarship, reflexivity

## INTRODUCTION

It is now widely recognized that climate change has differential impacts on populations disproportionately affecting the poor, the indigenous and women and limiting their choices (Brody et al., 2008; Leduc, 2010; Sánchez-Vargas, Gay-García, & Estrada-Porrúa, 2011). In the face of a changing climate, cultural and economic norms constrain women's choices even further. Many initiatives that respond to climate change by including gender in adaptation, mitigation, and development, lack feminist insights and often mobilize existing gender roles and power relations to the detriment of women, usually benefitting those who are already better off (Gay-Antaki, 2016). The international scientific and policy community has begun to recognize the triple exposure that women experience in the face of climate change: the biophysical vulnerabilities to climate change such as flooding or droughts, the socioeconomic disadvantages due to the sexual division of labor reducing women's capacity to adapt, and the dispossession and marginalization resulting from climate response projects that do not take gendered rules and norms into account (Denton, 2002b; Sultana, 2013).

Gender mainstreaming in climate change policy has become increasingly popular (Alston, 2014; Hafner-Burton & Pollack, 2002; SBI, 2014). However, as Arora Jonson has shown, women are often written into climate change as either vulnerable victims or virtuous agents of change (2011). In both cases of victim or virtuous agent, gender roles are essentialized and women continue to carry the brunt of unwaged reproductive and development work. Other critiques from post-colonial, intersectional and feminist geography stress how climate change projects perpetuate colonial and imperial processes, especially those that are paired with development interventions that continue expropriation of natural resources (Bumpus & Liverman, 2011; Carey et al., 2016; Houria Djoudi et al., 2016; Seager, 2009).

Gender has become an important issue at the level of international climate policy (Moosa & Tuana, 2014). This is evident in the discourse and practices during international climate negotiations as well as increasing sources of funding aimed specifically at women under the umbrella of gender and climate change<sup>23</sup>. Because international climate negotiations are dominated by people from the Global North, postcolonial insights are useful here as they highlight an important ‘politics of location’ where discourses that will have a direct impact on women’s lives are decided by people in spaces far removed from ‘Third World Women’s’ everyday lives.

Mexico has become a significant actor in these efforts, in part due to its pioneering laws and policies around gender and climate change<sup>24</sup>. This paper sets out to question why a gender agenda is being pushed alongside a climate agenda, what these projects look like in the communities and households where they are implemented in Mexico, and the impacts of these projects on the lives of people that encounter them. There is a comprehensive literature that focuses on the differential impacts of climate change (H. Djoudi & Brockhaus, 2011; Jost et al., 2016). There are fewer studies that evaluate the actual impact of climate change projects in communities as most focus on climate change impacts or how communities are adapting on their own (Tang, Brody, Quinn, Chang, & Wei, 2010). Whereas gender is usually a mere appendage to climate adaptation or mitigation projects, and all projects in Mexico by law must have a gender component, this paper calls attention to a project whose sole focus was on gender and climate change.

Using feminist geography and postcolonial insights, and engaging with reflexive research using insights from autoethnography, this paper aims to ground environmental governance around gender and climate change, while troubling western feminism’s target of ‘Third World Women’.

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<sup>23</sup> Gay-Antaki 2017: Forthcoming paper around Mexico’s role in global gender and climate change laws and policies.

<sup>24</sup> Ditto

Through insights from autoethnography as a narrative ethnography, I call attention to the ways that concepts operating in global contexts do not merely operate on women but are imbricated in the performance of their everyday lives as they manage and negotiate global discourses around gender and climate change while transforming them so that they become meaningful to their everyday lives.

Below, I provide the theoretical context to justify using reflexive methodologies to investigate a gender and climate change project in San Francisco Coatlán, Oaxaca, Mexico. Through story-telling, I describe the acts and performances around gendered climate projects, including my own, to elucidate how a gender and climate project's intent and meaning are constantly negotiated and transformed to fit the needs of people encountering it.

#### CRITICAL CLIMATE GOVERNANCE, FEMINIST GEOGRAPHY AND POSTCOLONIAL SCHOLARSHIP

“Feminism and postcolonial theory point to the hidden and insidious workings of power throughout the structures of everyday life” (Sharp & Dowler, 2010, p. 167).

In this paper, I use feminist geography as a lens to understand the ways in which gender and space are theorized in daily and political life (Massey, 1994). Feminist geography stresses that conceptualizations around space and gender are produced through hierarchical social relations that are dynamic and always contested. Thus, feminist geography can underscore how knowledges around climate change produced by world leaders, the media and resistance groups are circulated around the world.

Feminist scholars such as Judith Butler (1990), Joan Scott (1986) and Chandra Mohanty (1988) have argued that gender must be understood as a social construct and thus as a signifier of uneven social relations with bearings on race, class, ethnicity, sexuality etc. Feminist Geographers such as McDowell (1999) and Massey (1994) stressed that space is also constructed

via uneven social relations. It is through social-spatial practices, constituted and maintained by social relations of power and exclusion, that places and practices are defined (McDowell, 1999). Boundaries then are both social and spatial, and define who belongs to a place and who should be excluded. More recently, the work of Marston (2000) on scale evidenced how scale is also socially constructed. A constant restructuring of these understandings and a consequent different articulation around environmental governance, can underwrite political understandings of local, national, regional and global networks and processes (Bulkeley, 2005; Sharp & Dowler, 2010). Feminist Geography questions women's absence in geopolitical debates but strives to rewrite them in as important geopolitical subjects by focusing on embodied practices and lived social relations (Sharp & Dowler, 2010).

These theoretical contributions have been essential to grounding scholarship around environmental governance. For example, the work of Bulkeley (2005) highlights how environmental governance involves both political processes of scaling and rescaling the objects and agents of governance, that create new, networked, arenas of governance. She troubles understandings of the spatial and scalar as discrete categories that are one-directional, for example the global impacting the local. She argues that these configurations of environmental governance obscure the manifold ways in which environmental issues are created, constructed, regulated and contested between, across and among scales. Thus her work points towards investigating how global environmental governance is taking shape locally (Bulkeley, 2005; Bulkeley & Kern, 2006). Recognizing the relational nature of the sites that we study points towards the fact that all localities are produced by the intersection of both global and local processes. Whether in the home or in the workplace, at the level of the city or the nation-state, global flows are all affected by and reflected in embodied practices and lived social relations

(McDowell, 1999). Feminist geography then further alters geography's understanding of space to examine relational processes through the scale of the body; it is at this scale that we can rewrite the everyday experiences of individuals into geopolitical events (Sharp & Dowler, 2010).

Understanding space, gender and scale this way can illuminate important geopolitical relations in gendered climate projects such as the relationality between the 'First World'<sup>25</sup> to the 'Third World' and consequent constructions of the 'Third World Woman'. It also implies understanding identity as relational, and constituted in articulation with others (Sundberg, 2004). As gender, space and scale are constructed, regulated and contested between, across and among scales, so are the ways in which women react to gender and climate change projects. Feminist geography focuses on the manifold ways that through embodied practices, and lived social relations, women resist, fight, accept and ultimately transform social relations impacting knowledge production of gender and climate change efforts (Hart, 1991; Massaro & Williams, 2013; McDowell, 1999; Sharp & Dowler, 2010).

#### POSTCOLONIAL FEMINISMS

Postcolonial theory has drawn attention to politics of place; the geopolitical location of knowledge and the ways that Western knowledge is abstracted to the universal (Amireh & Majaj, 2000; A Blunt & Rose, 1994; Mollett & Faria, 2013). The domination of Western ideas and their assumed universality is important to recognize when the dominant forms of gender advocacy around climate change are informed by 2<sup>nd</sup> wave feminism that frames 'gender' as a single, static category of women arising from a specific understanding of feminism mostly from white women residing in the Global North (Gay-Antaki paper B). Western feminist assumptions of women as a

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<sup>25</sup> I recognize the movement away from calling a geopolitical site the Third World, however this is the terminology used and justifiably so in postcolonial studies, so will be used throughout the paper, not in a derogatory manner but one that points towards the power relations between the First and the Third World.

‘sex class’ only elucidates a relative autonomy of particular women's struggles in the West fighting against only one oppressor: men (Mohanty, 1988). While the construction of the category ‘women’ in the climate change discourse is largely dominated by NGOs and individuals in developed countries, the discursive focus is on poor rural women of color outside the developed world (Brinker, 2012). Postcolonial feminisms underscore the power of discourse in constructing rubrics for identification of ‘Third World Women’ and questions the way they are represented, with important consequences in addressing their problems and their needs. Today, many women advocating for gender equality located in the West uphold an “(implicit) self-representation of Western women as educated, as modern, as having control over their own bodies and sexualities, and the freedom to make their own decisions” (Mohanty, 1988, p. 56). This, juxtaposed to non-west women’s cultural practices as 'feudal residues' or 'traditional,' perpetuating an image of women as politically immature in need to be versed and schooled in the ethos of Western feminism (Mohanty, 1988 quoting Amos and Parmar). Assuming a homogeneous notion of the oppression of women, colonizes and appropriates the pluralities of the simultaneous location of different groups of women in social class and ethnic frameworks while producing the image of an "Average Third World Woman" and robbing them of their historical and political agency (Mohanty, 1988). The authorizing signature of Western feminist discourse is evident in climate change efforts that ‘teach’ ‘Third World Women’ western constructions of gender equality. This homogenization allows for simplistic and superficial solutions: we can resolve the problems of ‘Third World Women’ in the face of climate change by distributing efficient woodstoves. Postcolonial and Black feminisms have long-challenged the notion of women as a unitary category stressing that women in different contexts engage in disparate issues with different

debates and agendas. These multiple sites of struggle are not necessarily limited to gender as the primary factor of oppression. For example, in the United States women of color have long been critical of the homogenizing tendencies of 2<sup>nd</sup> wave feminism, as is evident in a compiled volume *This Bridge Called my Back* where women of color spoke out about how “with such grace, such blind faith, this commitment to women in the feminist movement grew to be exclusive and reactionary” (Moraga & Anzaldúa, 2015). Postcolonial theory emphasizes the local and cultural specificity of other women’s lives, recognizing a politics of location, deconstructing the hegemonic use of gender as a universal category encouraging interest and receptivity to other cultures (Rich, 1984).

There are concerns that one of the pitfalls of becoming so specific is to risk occluding common struggles of feminists fighting for more promising futures. Nonetheless, scholars like Mohanty (1988) stress that postcolonial experiences should be understood as important geopolitical sites. For there are shared experiences of Postcoloniality, resulting from territorial conquest. Thus, the physical limits of geopolitical locations are direct results of the postcolonial condition with important consequences in how we have come materially and discursively to shape the ‘First and the Third World’. The current moment of globalization and transnational flows, mostly imposed on the Third World by the First World, in the shape of aid, war, or of knowledge, policies and laws surrounding gender and climate change, necessitates comparative analysis and alliances across local sites of struggle. These alliances can create spaces for geopolitical border crossings with important fighting potential against global hegemonic forces. Postcolonial theorists also bring into sharp focus the inevitable violence that occurs in academic research practices, including the writing process, when representing others. Gayatri Spivak’s seminal thesis on representation, *Can the subaltern speak?* acknowledges representation as an

inevitable violence. Especially so when representing ‘Third World Women’. She asks that western academic projects seeking emancipation of ‘the other’ reflect on: Who speaks for whom? How is she spoken of, do we ever hear her speak? (Spivak, 1988) One of the responses to the ‘crisis of representation’ has been to shy away from conducting field research in postcolonial places, for fear of homogenizing and ‘speaking for’ and misrepresenting ‘others’ (Besio, 2005; Sharp & Dowler, 2010; Spivak, 1988). But, is the best approach to avoid committing this inevitable violence to not write about other women’s struggles? By not writing about them, we exclude them further from the production of global knowledges and fail to recognize them as powerful agents of change. Sharp and Dowler (2010) insist that it is not only important to write the actions of women back into geopolitical debates, but also to question their absence in the first place. Thus rather than taking one’s relative privilege as a reason to be silent, Spivak (1988) argues that this should generate a sense of anger at our position and an eagerness to learn. With the privilege of representation, comes the ethical obligation to unveil the historical and political structures and relations of power that undergird research and representation itself (Besio, 2005; Staeheli & Nagar, 2002; Tobergte et al., 2012).

The effects of gendered climate governance can be best understood through a postcolonial lens that questions the homogenizing tendencies of western feminism. This postcolonial lens unsettles the object of western feminism since raced and gendered bodies become active subjects of feminism rather than simply objects (Henry, 2004; Nagar, 2000). Subjects that are active agents of change with power to transform global discourses around gendered climate governance.

## METHODOLOGY

The decision to focus on a climate project in San Francisco Coatlán and on its residents, and not on other levels of government or expert opinion, was my political choice. To include the voices from government officials from Mexico City, or even Oaxaca, could silence the lives and voices of local women. I wanted to focus on the stories of the women and men as they spoke for themselves and as I interacted with them to underscore the lived social relations and performances of residents as they navigate, negotiate and ultimately transform global knowledges impacting their own community.

The stories recounted below are interpretations of field work consisting of interviews, participant observation, field visits, conversations and daily interactions. Stories have the power to describe and situate gender and climate change projects. Reflexive research is a qualitative method that invites the author to use self-reflection and writing to explore their personal experiences that connect their autobiographical stories to wider cultural, political, and social meanings and understandings. Writing myself into these stories addresses my complicity in the power relations that perpetuate global discourses, and writing about the relationships with my research subjects sheds light on the ways in which they influence, perform and produce new understandings of global discourses in my presence. In line with Nagar and Geiger, I am careful to not disclose things about myself or my research subjects in terms that contradict the purpose of problematizing the essentialist nature of social categories (Nagar & Geiger, 2007). And while my aim of writing myself into the stories is to attenuate some of the violence of representing others, in no way do I pretend to be levelling the landscape of power between myself and my research subjects. Neither do I believe that I should devote significant space to a discussion of my own positionality, when my aim is to disclose the situations and circumstances of residents from San Francisco Coatlan as gender and climate projects were introduced into their

community. Rather my aim is to “explore ways to take positionality, identity and reflexivity out of misplaced struggles over legitimacy and transparent reflexivity and turn them into more meaningful conceptual tools that advance transformative politics of difference in relation to our own research agendas” (Nagar & Geiger, 2007, p. 250).

Rather than the usual reporting of results as a passive observer, I intend to tell stories as someone who is also negotiating, performing and transforming meanings in the sites that I study. The examples below describe the context in which a gender and climate project was implemented, and what the reception was, not only to the gender and climate change project, but also to my presence investigating this project. These stories are the result of research interviews, formal and informal interactions occurring in many different sites, from the Conference of the Parties (COPs) in Peru (2014) and then in Paris (2015), to interviews with government officials, academics and NGOs in Mexico City, and Oaxaca City, to the households of people in San Francisco Coatlán in Oaxaca. The data collected here is a testament to the ways that knowledge is circulated as part of global networks, assemblages, and flows. In San Francisco Coatlán, the community that experienced the gender and climate project, I conducted interviews and focus groups as well as homestays and field visits. Overall, I recorded over 60 hours of interviews, from many actors in many locations. Transcriptions of the most relevant, as well as detailed field notes and journal entries provide the material for the stories in this paper.

I believe that the contradictions of representation though irreconcilable, can be attenuated through reflexive methodologies. Butz and Besio (2009) stress that autoethnography offers analytical challenges to geographers interested in postcolonial research practices. By introducing ourselves into our research, our analysis and our results, we admit to our complicity in the flows of power, information, signification, and identity that occur during field work to avoid

reproducing colonialist representations (Besio, 2005). Understanding our objects of research in terms of flows, assemblages and networks rather than, static, 'local', traditional, and removed from global processes, is a useful tool to ground environmental governance.

Reflexive research requires that we make sense of unequal relations of feminist research. This approach explicitly deals with power relations imbricated across sites, networks, and scales, especially useful to study the impacts of gendered global environmental governance. By attending carefully to the flows of power, information, signification, and identity we can understand our research objects less in spatially bounded and temporally static terms, but as agents of change (Butz & Besio, 2009).

By locating ourselves within our text, and admitting our complicity in power differentials we can underscore interactions that circulate around privilege between researchers and research subjects. Through story-telling, researchers can explore new relationships between research subjects, audiences, and texts, that resist colonialist, research impulses of authoritatively entering a culture and imposing our own meaning. We are honest regarding the impossibility of master narratives, universal accounts and simple explanations, and shy away from reporting our research findings as facts and truths. Rather, we admit that our results will always be mediated by our own cultural contexts.

Reflexive research, as narrative ethnography, becomes particularly useful in instances where regular research methods would miss the mundane and everyday moments of resistance and transformation. This method is an approach that pays attention to meaning conveyed beyond the spoken word, particularly useful in different cultural contexts. Meaning can be found in how we react to silences, or laughter, or certain intonation of words or through body language.

Thus, this approach allows for multiple modes of meaning beyond the spoken word. This is not to say that research subjects are without voice but rather, we elucidate the multifaceted ways that women in non-western contexts retain tactical and strategic advantages, by paying attention to performative expressions of their wants, needs and opinions that may appear in representations of silence, laughter, or presenting themselves as in need of aid (Besio, 2005). By paying attention to women's every-day lives, we recognize their resistance or acquiescence to hegemonic discourses of gender and development underscoring their active role as agents of change. We can avoid imposing our own cultural context to explain what they meant by talking about how we understood and felt during these exchanges. Thus, reflexive research sheds light on the inevitable messiness of field work, the ways in which information is always mediated and influenced by both local and global forces and that power, discourse and meaning do not flow unidirectionally.

Story-telling demands researchers to see the new relationships forming between research subjects, audiences, and texts, to conduct research that resists colonialist impulses of entering any culture and imposing our own meanings. Through this approach we not only admit to our strategic intentions of obtaining information from a particular place, and thus locating our subjects within our text but we see how they also locate us in theirs (Besio, 2005; Tobergte et al., 2012). Besio has stressed that stories can be used as analytical and representational tools for geographic research to aid researchers and their readers to better understand the complex context of the research while attempting to attenuate some of the violence that occurs during representation (2005). Through reflexive research we can tell tales that would otherwise remain untold.

Through story-telling, I do not pretend to resolve the 'crisis of representation' but attempt to attenuate the violence of representing 'Third World Women'. By focusing on my experiences, I try to reject mis/representing the experiences of others. This way, in line with Besio (2005), I

attempt to practice research, and write about it, in ways that does not reproduce colonialist representations. By making clear my politics and biases, I show that we are constantly negotiating what, or not to represent. The stories shared here highlight that women are and have always been active agents of change in rural Mexico. They illustrate the effects of these projects on women's understanding of gender and climate change; and they show the value of using reflexive research as a feminist and postcolonial approach.

## CONTEXT

Mexico is an important site to study because it plays a leading role around gender and climate change internationally (Gay-Antaki paper B) and nationally. Mexico has managed to attract international attention because at least, legislatively and discursively, it appears to be at the cutting edge of thinking both about climate change and gender. The Mexican Inter-Ministerial Climate Change Commission (CICC in Spanish), created in 2005, developed the first National Climate Change Strategy (ENCC in Spanish) ENCC in 2007 and a Special Climate Change Program (PECC in Spanish). This effort was strengthened by The General Law of Climate Change in June 2012; with Mexico, the second country to create a climate law, after the United Kingdom.

Within this law, Article 71 states that gender must be considered but gives no further instructions on how to achieve this (Delgado et al., 2015; Vazquez Garcia et al., 2015). In 2014, federal funds from the environmental and natural resource secretariat (SEMARNAT in Spanish) began to be specifically designated for projects focusing on gender, the environment and indigenous communities. The projects generally last around a year, and are targeted at 20-40 community members (of which most are women), and are given around 750 thousand pesos (40,000 USD). Most these projects introduce a simple technology such as water capturing

systems or efficient woodstoves plus a gender empowerment component (See appendix for examples).

Although these gender targeted funds were terminated in 2015, it was from this funding source that the project I visited originated. Oaxaca is the most biodiverse state in Mexico but also the 3<sup>rd</sup> most marginalized (INEGI, 2004, 2007). As such, it presents attractive options for those seeking to conserve the environment while contributing to sustainable development (Emanuel & Greenberg, 2000; Gay-Antaki, 2016; Howe, 2011; Pasqualetti, 2011). Oaxaca is also known for the leadership of women in strong opposition against foreign intervention (Stephen, 2005).

To understand how climate and gender projects are experienced on the ground I decided to visit a gender and climate project introduced by a forestry engineer in a small town in Oaxaca called San Francisco Coatlán with a population of 1569, in the Municipality of San Pablo Coatlán in Oaxaca (Figure 7). Federal Statistics beyond population numbers on San Francisco Coatlán are not available, neither are statistics of San Pablo Coatlán. More statistics can be found on Miahuatlán de Porfirio Diaz, the district that houses San Francisco Coatlán. Available data underscores a mass exodus of men: there are 21,595 women vs 19,792 men, forced to leave Miahuatlán in search of viable livelihoods. Most of the current economic activities in Miahuatlán are in the retail trade sector. My results below are intended to fill in the gaps found in national data to provide a sense of place for San Francisco Coatlán.



*Figure 7. San Francisco Coatlán*

## RESULTS

### Story 1: Getting there

I had almost given up hope finding a climate and gender initiative that was actually in place on the ground in Mexico rather than just on paper in law or policy, which seemed to abound in Mexico. Oaxaca is one of the states in Mexico to have a Climate Change law, and one which incorporates a gender component. In interviews with officials I found that most of them, especially at the state level had never worked with either climate change or gender. Those few who did, expressed (off record) their frustration around the incompetent politicians taking over such important matters, who gained power due to their familial or friendly ties with the current political administration. I came across a gender and climate change project in a very roundabout way: at the Conference of the Parties in Lima, Peru in 2014 I met an American woman who knew an American man living in Oaxaca. It was through this connection that I met a former

gender and environment Mexican government official who knew a forestry engineer who had worked on a gender and climate change project in Oaxaca.

Getting to San Francisco Coatlán felt like detective work, much like my experience in finding a gender and climate change project. After several transfers in tiny rickety transportation, travelling along dirt-roads with breathtaking landscapes, I finally made it to San Francisco Coatlán. “We are here miss” the driver told me, “we are?” I asked as I looked around wondering where to go next. The driver pointed to a building, and I decided I would go there to ask about Amelia, the woman who was supposed to meet me. I found Amelia, she picked up my bag as she told me how far she lived from town. I was going to stay with Amelia, the forestry engineer had helped me make the initial arrangements. In our interview, he had briefly mentioned that he was from this community, and tried to make me go ‘study’ another, but I insisted I wanted to go to Coatlán, the project seemed more interesting. I was a little taken aback when I found that Amelia was his sister. I was also ashamed that I had initially believed that I was going to stay in the house of a single young woman. As we arrived at her house I was surrounded by two children aged 8 and 11 “are these your kids” I asked, “no!” Amelia exclaimed, “they are my siblings!” Soon after, I met Monica, Amelia’s mom, Amelia was the second child of ten. As I looked around I gained initial impressions that connected to some of the statistics. San Francisco Coatlán, is a small town where most homes have electricity<sup>26</sup> but no running water nor cement floors. Many young men have migrated, and some women are beginning to do the same, there is a single primary school, and a health center, but one that was empty.

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<sup>26</sup> Mostly, this is made possible by political parties, winning (buying) people’s votes, mostly through political propaganda available in the limited TV channels.

As an ‘outsider’ who was not a government official, nor an NGO representative, but a ‘researcher’ my presence was disorienting to many people in Coatlán. I may have been the first researcher there. Both intentionally and accidentally I performed many roles in Coatlán, depending on whether I was chatting with Amelia, or her mom Monica or Monica’s husband, or going with the kids on a walk, or in a small crowded room leading a focus group. The idea of a focus group was not my own -Amelia organized the focus group on her own, and explained this is what she had learned to do (or was told to do?) for the gender and climate change project. I did explain that I preferred talking to women individually about the impacts of these projects. Previous experience had taught me that women lead very busy schedules and I did not want to take them away from their work. I knew that a focus group would provide a very different dynamic than the one I wanted to build with the women of Coatlán. But Amelia had her own ideas of what that dynamic was going to be like. The women came to Monica’s house for the focus group one day after I had arrived. I did not have the time I expected to get acquainted to the town or prepare what I was going to ask.

## Story 2: The Focus Group

Once all the women were in the room, our dynamic became more formal. The women sat facing me, silent, waiting, probably for a dynamic like the gender and climate change project they had a two years ago. The expectation of me as researcher, or project developer, got me speaking more than I wanted to, about things that I hadn’t carefully prepared. I said that I wanted to know whether they found the project and the workshops useful, whether they considered climate change a priority, and what their biggest concerns were.

Over and over, I had to clarify that I wasn’t testing them, I just wanted to know what they had found useful. I asked them about what they understood by gender or a gender perspective. A

long silence followed and then then a single woman exclaimed “nothing!” this made us laugh. This opened the floor to women as they attempted at answering my question with questions: “That men and women are equal?” “Sure”, I’d say, “what else?” “That we have the same rights?”. That was about it.

I felt they were desperately wanting to please me (or show me that the workshop worked), by answering not what they had understood, or in what ways it was relevant to their everyday but what they recalled from the workshop. I decided to change my approach and instead ask them what they wanted to know. This question was followed by silence, it unsettled them, they were not used to being asked what they wanted or needed. I tried asking them if the workshop had been useful. After another silence a woman responded, “yes because we realized then that we have the same *rights* as men that men cannot make us less, we are equal men and women”. I asked how their husbands reacted to this, women laughed and one responded, “well they realize that this makes sense.” I asked if they knew these things before the workshop, and another woman said “no because before, the elders would force their daughters to marry at 15 but not anymore because we realize that it is our decision to make, not our parents. They can no longer tell us what to do, now we don’t want that for our daughters and sons”. Her answer talks about gender inequality as something of the past, one single workshop that happened two years prior, could not be responsible for this change. However, she told me that the workshop was useful. There are a couple of explanations for her response that underscore issues beyond whether the workshop worked or not. Was it perhaps that the workshop gave them a language to articulate to outsiders’ things that they already knew? Maybe the workshop discussed how these practices were acceptable in the past, but they should be no longer, and this was the way that the woman conveyed the message? Perhaps this was her way of attempting to show me she did learn

something from the workshop because she felt I was testing her. I asked about how they thought of gender equality after the workshop, “men and women are equal, we have the same rights”. The message around men and women being equal and having the same rights was voiced by most of the women. I was left wondering if they were articulating a new idea or an old idea with new language and what it meant for them that men and women are equal. One of them elaborated that this meant that women were now able to hold office, yet when I asked women about what they wanted, holding office was nowhere in their list of priorities.

In informal conversations with Amelia, I found ideas around gender and women’s rights being articulated in ways that seemed less rehearsed and more relevant. She expressed that the workshop around gender had been useful to her because they were told that they should not be treated as rags, “*pues que no somos trapos*”. We both laughed at this statement. This less rehearsed answer made me think that perhaps something useful was gained from the workshop. While I was skeptical when I found out that this was the forestry engineer’s hometown, I realized that his familiarity with the community and its dynamic might have been helpful in making messages more relatable.

Story 3: Climate Change: “Maybe it’s the way we use wood”

Asking the group about climate change presented considerable challenges, I was aware that climate change can be conveyed in a way that increases anxiety for people who have been minimally responsible for anthropocentric change and that can do very little about it. Why impose a new worry when they must worry about more pressing daily matters such as how they will feed their kids or send their girls to school? As such, my goal was not to ‘teach’ them about climate change but to gauge what they had found useful (or not) from the project.

I asked them whether they thought that their environment was changing, specifically the rain or heat. Someone replied, “well it would seem that way, it is hotter, and there used to be more rain...but regarding the heat, it seems as if the sun is getting closer”. That her answer included exactly my prompts – heat and rain – made me question if this was something that really concerned them. I decided to ask instead whether they had enough water for their crops, or whether they were having any difficulty growing their food. A woman responded, “well yes, sometimes the *milpa*<sup>27</sup> wilts, but the *milpa* is strong, and then it rains and then the *milpa* rises again”. She seemed to be referring to the hardiness of the *milpa* rather than to a change in the climate, so pursuing this further, I asked whether this was happening more frequently or whether it was a common occurrence. The reply was that this was newer.

I then asked them what they understood by the terms, global warming, or climate change or environmental change. Someone replied, “to be honest, we have no idea, we don’t know!” this was followed by laughter. In retrospect, I should have stopped questioning them about what they learned from the workshop regarding climate change. I already had the answer.

Instead, I pressed further and asked them whether they were interested in knowing, whether it was something that worried them (which I now realize was not a good question to ask if they said they did not know what it was). This answer put everyone in an uncomfortable situation because they were too polite to say no, and I had not come prepared to ‘teach’ women from Coatlán relevant information regarding climate change. But they said, ‘yes, yes, we are interested’, and I proceeded to going down a rabbit hole. I asked what they thought climate change might be, “maybe it’s due to the trees, the people, maybe there are too many people, and maybe it’s the way we use wood.” This response would have been worth detangling further but

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<sup>27</sup> Milpa is a crop-growing system usually including corn, squash and beans

instead, recognizing that they were claiming responsibility for causing climate change because of their use of wood consumption or many children, I jumped right in and began to talk about how most of anthropocentric climate change was due to events happening in mass scale such as the burning of fossil fuels, or industrial processes that release gases into the atmosphere...I observed the blank stares from women sitting in front of me and decided to stop myself from 'teaching' climate change any further. My explanation was not only irrelevant to their everyday lives, but I also do not have the expertise or credentials to talk about the physical properties of climate change, which for some reason I found myself pretending to have.

Power relations underlining knowledge production surrounding climate change in Coatlán are evidenced in this interaction. My research was intended to only evaluate whether the gender and climate change project had any impact in the town, not to 'teach' them about either. Instead I found myself trying to transform their understanding of climate change. Dynamics such as these and possible explanations are further explored below.

#### Story 4: Agents of change

"And what project did you bring? How will you help us?" Monica asked me as she sat me down in her kitchen table about to feed me. My heart dropped when I had to tell them that I did not bring any projects, but rather I came to study the gender and climate change project. I learned my lesson and quickly prepared a different response for the next person to ask me the question. "I will write a report to give to the forest engineer so that he can do a follow up". Or answers of the like. Interactions such as these evidence that the women had their own reasons for allowing me to be there.

The performance of themselves as vulnerable beneficiaries was common throughout my stay, probably a performance with government officials or project developers that had resulted in

some form of material benefit. The expectation that I would also provide benefits mediated many interactions, at least initially, as I had to clarify that I had not come with money or with a project. I found however that the ways they presented themselves to me were dynamic and that describing them as poor or vulnerable would fall short of who they are, and what they believed. As I had been inconsistent with my role as researcher, they were also inconsistent in their roles as vulnerable victims<sup>28</sup> and beneficiaries.

For example, I asked women during the focus group to tell me about how the program got started. The forestry engineer had told me that it was their initiative and that he was just the facilitator. The response from one of the women seemed to confirm this. “Well, in fact here, we have needs, because of these needs Amelia and myself organized a group. Alongside the engineer, we asked him if we could start a project and he requested 20 people, so we had a project, the engineer helped us”. In this answer, this woman began by describing themselves as in need of assistance but immediately as women who did something about it. That this was the engineer’s hometown and that Amelia was the president of the project left me wondering if indeed the women had been the pioneers. They had to find out about these funds from someone, this information would not have been available to them without an external contact such as the engineer. My presence in Coatlán, and my search for a project for and by women might have influenced the way that they conveyed their message. I asked the women in the room if the project was something that interested them and someone replied, “yes it was free, totally free”. The main attractiveness of the project for some of the women was not the gender or environmental component, nor whether it was fulfilling any actual need, but that it was free of charge.

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<sup>28</sup> My intention is not to say that they are pretending to be poor and vulnerable, but rather they are much more than that.

I was constantly falling back into the role they expected me to play. After the focus group, I asked whether they had any more questions, since I wasn't offering anything concrete or material, perhaps as a last attempt for a material benefit a woman responded: "In my case I would like to know about another project, or *more* projects about what is gender equality. Here, we are women with barely any studies, we don't know how little we know, we want more". This was another instance of performing as vulnerable beneficiaries but immediately followed by a request, highlighting their agency. In the moment, I had understood this as a request for me to tell them more about gender equality, which I did, just as unprepared as when I described climate change. In retrospect, I realize my efforts would make many feminist and post-colonial scholars, including myself, cringe. In the process of transcribing my interviews, and listening to them, I realized that they were interested in more projects, even if they were around gender equality, and were not asking that I talk to them about gender equality. I came to this town to ask about the gender and climate change project; skeptical about what meaningful impacts it had on women's lives in Coatlán. It was extremely uncomfortable and embarrassing that in that moment I took on the role of a project developer that I had so often criticized. The women were pressing me to deliver something, and I felt obliged to comply, delivering what I could, even though that was probably not what they wanted.

Other stories: Home Visits

While it might seem that some of the women's intention was to see what projects they could get from me, and that certainly mediated some of our interactions, Amelia's mom, Monica, also took on a caretaking role that disrupted the researcher/subject dynamic. Monica would take extra care that I was fed and well rested. She took interest in my personal life, asked me if I was married. She recommended that I do, to not be alone, to have someone to talk to. I informed her that I had

many friends, to which she replied with a blank stare. This pattern was repeated throughout my home visits. Others asked about my parents, or a husband. The sight of a woman, alone, was disconcerting. An elder man informed me that if I were his daughter, he would not have allowed me to conduct this research. These informal interactions illuminate social relations around Coatlán, including gender relations and their relationships to outsiders. For Monica, marriage was a positive thing, and it was peculiar that friendships could be fulfilling. The sentiment towards marriage that Monica expressed was not shared with Amelia, her daughter. During a walk, I asked her whether she wanted to marry and she exclaimed “oh no!”

Conversations with individual women and their families inside their homes or nearby allowed for more understanding around the project to surface. Amelia, took me to some of the homes of the women who had participated in the project. The women would always invite me in, feed me something and give me something to drink. We usually sat around their kitchens. These home visits allowed me to observe first-hand what the impacts of the ecotechnologies were having. The project had provided the construction materials to build efficient woodstoves, compost bins, water cisterns, dry toilets, home gardens and the like. During the home visits, I asked about community life and what they did, I asked about the project, “do you like the efficient woodstoves?” “Yes, they are great”. Many replied, but in fact, I did not see a single person using them. Instead they used their old woodstoves: open flame in the middle of the kitchen. Pressing further about the stoves, a woman explained that it was difficult to use them because the hole for the wood was so small that it made it hard to cut the wood to fit inside. She told me that she had to put a chair next to the wood to support the piece that would stick out. Women’s use of the other ecotechnologies repeated this pattern: for example, inside compost bins, I saw turkeys, and orange peels outside, I did not see any powdered lime next to the dry toilets, and most of the

home gardens remained empty. A woman informed me that she was simply too busy to manage them. The water cistern however, did make a difference. It was a technology that did not require much upkeep with everyday use-value; women did not have to walk far to collect water, and they had more of it.

Informal interactions in Coatlán also underscored how notions of ‘empowering’ women based on modern ideals do not always have a place in spaces such as Coatlán. For example, the forest engineer had told me that it was the women who took the initiative to organize themselves for the project, and that they handled and controlled all the logistics. However, how would they have found out about the existence of this project without the engineer as a contact? Amelia explained to me that this project provided her with the opportunity to leave her village for the very first time, as the engineer had her accompany him to buy the construction materials. How would she have known how to go, where to go, what to buy? She told me she had very little experience handling money. The project clearly missed opportunities to provide useful skillsets for women that could have been put to work after the project ended. The project could have had a component that would have trained her in basic accounting, construction work, small business transactions, but instead she just tagged along, and the project ended once they got an efficient woodstove. Another year was promised to them, but the engineer, even being from the community, did not come back. He told me that he did not receive any more funds. Thus, the project ended after one year and the women who had organized around it ceased to meet.

Additional information about the project surfaced during another informal interaction. As I sat in one of the women’s kitchens who had participated in the project, her husband told me that while the engineer had asked Amelia to collect 25 signatures from women, if it hadn’t been for the men, the project would have never materialized. He explained how the village only received

construction materials, it was up to the community to build the technologies (woodstoves, compost bins, water cisterns, etc.). Since many of the men from Coatlán have experience in construction work, they had the know-how and were able to provide most of the manual labor. A project about gender equality that erases men's contribution sends out a skewed message regarding gender equality. That the project offered both men and women benefits, and required both of their labor should be something to highlight, not hide. I did not actively choose to only speak with women about the project, this was mediated by Amelia since the moment I arrived at the town. She organized the focus group and she also took me around her town to talk to other women about the projects. Only through informal conversations and interactions with the community outside of the focus group, did these nuances surface. The dominant narrative around the gender and climate change projects in Coatlán erased men and their contributions. If I hadn't visited the homes of people from Coatlán, I would have not been able to interact with them. This reversal of gender roles was surprising, since previous research experience around development projects, had showed me they kept most women in their homes, and the men, outside, handling these projects.

## CONCLUSION

On paper, Mexico is allowing Western notions of gender equality to permeate into every law and policy, however, in my research, by focusing on micropolitical and everyday practices of the women targeted by a climate response project, I observed how women in San Francisco Coatlán are not passive victims of global flows of power, but they actively negotiate them, shaping them to fit their needs. The global discourse around gender and climate change is transformed to fit their own cultural context.

But my reflexive approach also brought my own identity and relation to the women I spoke to into my research and findings. Reflexive research sheds light on the inevitable messiness of field work, the ways in which information is always mediated and influenced by both local and global forces and that power, discourse and meaning do not flow unidirectionally. I described the many nuances surfacing from this gender and climate change project. Rather than presenting my results around this project in stark contrasts, I must admit that it was difficult to discern whether they learned anything new or useful regarding gender equality from the interactions with me, or gained any gendered benefits beyond how to communicate about gender equality with outsiders. The project seemed to be more effective in communicating to the women about gender than climate change, since the women said that they had learned nothing about climate change. They did, however, communicate the conclusion that climate change was partly caused because of their wood consumption or their many children.

By interpreting my work as narrative and reflexive ethnography, I have located myself within the conversations and interactions. This way, as Besio (2005) explains, story-telling becomes a method of representation allowing some of the women's knowledge to construct the narratives I have described. My research was intended to only evaluate whether the gender and climate change project had any impact in the town, not to 'teach' them about either. Instead, I found myself trying to transform their understanding of gender and climate change. I found myself complicit in power differentials when I started lecturing to women, and when I was unable to respond to their expectation that I would provide new projects and benefits. The stories here show that global discourses do not simply write themselves onto women's bodies as if they were blank slates (Sharp & Dowler, 2010). The women in Coatlán who organized the focus group and who made time for me during my stay clearly had an agenda. Previous experience

with ‘outsiders’ was that they offered some form of material benefit, even if it did not address any of their main concerns. Their interactions with me clearly showed that they were expecting something similar, and I felt compelled to please them, forcing me to take on roles of authority that I felt uncomfortable playing. These interactions were also suggestive of how women, at least in this village, engage with the combination of expertise and political authority. These interactions illustrate how women are far from being passive victims of changes around them, but rather, use opportunities both structured and unstructured to find ways of using knowledge and privilege of others, such as myself, for their own goals (Webber, 2013)..

Climate change will have serious impacts on the most vulnerable, especially in Mexico which is projected to experience much warmer and drier conditions. Actions should be taken to minimize people’s exposure, and because Mexico is a major GHG emitter, to reduce emissions. Women have distinctive but overlapping roles in relation to responses to climate change which have been recognized through projects targeted at women. The results presented here suggest that gender and climate change projects have had little impact in San Francisco Coatlán. The women do not use the woodstoves that were built, nor the compost bins, and they do not maintain the home gardens. These ecotechnologies, while perhaps address some immediate concerns, do nothing to improve women’s social, political or economic standing. The exchange of climate knowledge and interventions continues to be unidirectional, from experts to local communities. I found no effort, in this case, to collect data, evaluate or acknowledge the cultural, local, differences, that would make climate projects aimed at women more effective. The project reflected the homogenizing tendency of representing women in the Global South as ‘Third World Women’ which has allowed for short-term, and shortsighted solutions, having no adaptive long-term transformative potential. These projects miss opportunities for targeted actions that could be

meaningful to women's lives in specific places, with particular problems. This is extremely worrisome since we pretend to provide important aid and knowledge to people to prepare them for climate change, but, are doing very little to reduce the risks and impending threats. Climate change will still impact women disproportionately. Projects like the one I visited - whether focusing on mitigation or adaptation to climate change - should focus on reducing people's vulnerability to climate change. What can people do with an efficient woodstove in the face of flooding, drought or an extreme event?

We must wonder whether the umbrella of climate change is providing easy fixes and short-sighted development solutions that allow the Global North to continue the uncontrolled burning of fossil fuels. The fundamental problems that make certain people more vulnerable to a changing climate go unaddressed. For example, some women in Coatlán were mostly concerned with providing their children a viable future, which is difficult for many since Coatlán only has a primary school. Only those who could afford sending their children to the adjacent town would be able to provide an opportunity for their children to continue their education. Other women were concerned with the current housing situation in their town. Most of their homes were made of wood: poor at insulating during the cold, too hot during the summer and leaky during the rainy season. Are climate change projects taking away resources and attention from people and issues that are more pressing; i.e. those of a socio-economic nature? I also found it troublesome that these projects and the discourses of experts have led some of the women to believe that global climate change is attributed to their wood burning, or the number of children they have. They are not responsible for the changes. We need to ensure that climate projects aimed at women do not add guilt and another burden to poor women's lives. There is also a danger around the essentialist narratives that these projects promote around gender roles and the ways they

perpetuate the sexual division of labor and actively exclude men, erasing their important contributions. We must problematize why gender is being introduced into the climate change agenda and how this move continues development interventions that continue colonial practices and representations of people. Perhaps projects aimed at women need to think about the context of where these projects take place, what is possible for women to do on their own and what is not, and at the very least provide appropriate training. Otherwise, we allow promoters of gender and climate change projects to believe they are easily solving ‘Third World Women’s’ issues – that is, solving problems for those who also face the negative impacts of climate change -- with efficient woodstoves.

Through feminist geography and reflexive methods informed by postcolonial insights, this paper called attention to the everyday lived experiences of women and their importance in influencing geopolitical events and outcomes. Through these insights I observed the ways that gender and climate change projects are taking on new forms of development intervention and environmental governance in Oaxaca, Mexico with women as agents of change. Story-telling illustrates the messiness of doing field work and allows researchers to report results filled with contradictions and partial truths, as they are, avoiding false representations of them as truths or untruths. We are forced to admit our complicity in influencing people’s performances and their consequent messages, and their important role in shaping and influencing our own. I have shown that through story telling we can report our results, and elucidate power relations underlining knowledge production in the places we study. These findings should force climate change projects aimed at women to acknowledge that socio-environmental changes of a global nature can only be felt and understood locally. Climate projects aimed at women will only be successful

if they set out to learn what women already know and do, in what context they operate and in what ways learning about climate change can be most useful to them.

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# APPENDIX D: EXAMPLE OF GENDER AND ENVIRONMENT PROJECTS IN MEXICO



UNIDAD COORDINADORA DE PARTICIPACIÓN SOCIAL Y TRANSPARENCIA  
 DIRECCIÓN GENERAL ADJUNTA DE IGUALDAD Y DERECHOS HUMANOS  
 DIRECCIÓN DE EQUIDAD DE GÉNERO Y DIRECCIÓN DE PUEBLOS INDÍGENAS  
 "LINEAMIENTOS PARA EL OTORGAMIENTO DE SUBSIDIOS A ORGANIZACIONES DE LA SOCIEDAD CIVIL,  
 DESARROLLO SUSTENTABLE EN BENEFICIO DE COMUNIDADES Y PUEBLOS INDÍGENAS". EJERCICIO 2015  
 LISTADO DE PROYECTOS APROBADOS POR EL COMITÉ DICTAMINADOR DE PROYECTOS MODALIDAD "A"  
 24 DE MARZO DE 2015, EDIFICIO SEDE DE LA SEMARNAT, SALA MAURO MOLINA

N°	RAZÓN SOCIAL OBC	LOCALIDAD	MUNICIPIO	ESTADO	NOMBRE DEL PROYECTO	OBJETIVO	BENEFICIARIOS			PUEBLO INDÍGENA	MONTO SOLICITADO A LA SEMARNAT		
							MUJERES	HOMBRES	TOTAL		CAPACITACIÓN	INVERSIÓN	TOTAL
1	Enlaces Educativos A.C.	San Miguel Coatlán San Pablo Coatlán San Sebastián Coatlán San Jerónimo Coatlán Santa María Lachibío	San Miguel Coatlán San Pablo Coatlán San Sebastián Coatlán San Jerónimo Coatlán Santa María Lachibío	Oaxaca	Impulso del desarrollo forestal participativo con perspectiva de género en la sierra de Miahuatlán Oaxaca.	Fortalecer la inclusión e integración equitativa de las mujeres así como el desarrollo sustentable de las sierras comunales de la Sierra Sur del estado de Oaxaca, por medio de la implementación de un beneficio de servicios forestales, capacitación y asesoría técnica a jóvenes mujeres y hombres, además de acciones alternativas para disminuir la brecha de género en el ejercicio de los derechos de las mujeres.	24	15	39	Capotéca en Santa María Lachibío	\$ 142,800.00	\$ 571,200.00	\$ 714,000.00
2	Bioservicos, A.C.	San Juan Tepez	Tehuacan	Tehuacan	Producción ecológica de hortalizas y manejo de melocotones en San Juan Tepez.	Impulsar la inclusión de las mujeres en las actividades productivas de la comunidad de San Juan Tepez, en el estado de Tlaxcala a la vez que se mejoran las formas de relacionarse los hombres y las mujeres.	25	0	25	Méjico	\$ 148,570.00	\$ 592,040.00	\$ 740,610.00
3	Centro Encuentros México A.C.	Huayapan	Tehuacan del Volcán	Morales	Empresas sustentables para las mujeres rurales.	Fortalecer en las mujeres rurales, capacidades de producción ecológica de hortalizas, con impacto ambiental cero, y con el aprovechamiento de energías renovables, para la generación de empresas sustentables para las mujeres.	40	0	40	Náhuatl	\$ 150,000.00	\$ 600,000.00	\$ 750,000.00
4	Comunidad Ambiente Adonal, A.C. Asociación Civil	San Pedro Ocotlapeac	San Pedro Ocotlapeac	Oaxaca	Manejo sustentable de cultivos con la participación de las mujeres de la sierra de Oaxaca, como medida local para la mitigación del cambio climático.	Fortalecer las capacidades de 74 productoras y productores en el manejo sustentable de cultivos, como medida local para la mitigación del cambio climático, así como para mejorar los ingresos de 74 núcleos familiares de la sierra sur de Oaxaca, cambio climático.	54	10	74	Mixt	\$ 149,988.00	\$ 599,952.00	\$ 749,940.00
5	Bioservicos, A.C.	Ejido Villa Charo	Charo	Michoacán	Instalación de vivero consultivo para producción de plantas ornamentales y medicinales.	Generar una alternativa de trabajo permanente para las mujeres del Ejido Villa Charo a través de la construcción de un vivero de plantas ornamentales y medicinales.	20	0	20	Ninguno	\$ 71,680.00	\$ 286,740.00	\$ 358,420.00

APPENDIX E: RESEARCH PHOTOGRAPHS



*Figure 8. Example 1 of 'ecotechnology'. Turkey and chicks inside compost bin*



*Figure 9. Example 2 'ecotechnology' functioning home garden. Behind compost bin and research friend.*



*Figure 10. Example 3 'ecotechnology' unused efficient woodstove, open flame instead.*



Figure 11. Women from San Francisco Coatlán during Focus Group

## **Appendix F: “Now We Have Equality”: A Feminist Political Ecology Analysis of Carbon Markets in Oaxaca, Mexico**

### **“Now We Have Equality”: A Feminist Political Ecology Analysis of Carbon Markets in Oaxaca, Mexico**

**Miriam Gay-Antaki**  
*University of Arizona*

#### **Abstract**

Carbon projects follow a neoliberal logic that stresses that nature is best conserved via market mechanisms. Studies and experiences of the impacts of development projects on communities and feminist political ecologies suggest that women, the elderly, the young, the poor, and the indigenous often perceive projects differently, benefit and lose in different ways, or shape the projects on the ground to fit their needs. Carbon projects have differentiated impacts within a community especially on the poor, women, and ecology; however, these differences do not tend to be the main focus of scholarship. The research presented here focuses on the effects of a wind project and a small-scale reforestation project and the convergence of environment, gender and development as these are introduced into communities in Oaxaca, Mexico. This paper expands on carbon offset literature in Mexico by looking at the differential impacts of technologies on

geographies and people with specific attention to gender. I find that there are important gendered differences between the wind and the forest projects, and suggest that a Feminist Political Ecology perspective is a necessary, though infrequently employed, lens through which to understand the impacts of carbon markets.

Keywords: *Carbon Projects, Feminist Political Ecology, Oaxaca*

## Resumen

Los proyectos de carbono siguen una lógica neoliberal que mantiene que la mejor manera de conservar a la naturaleza es a través de mecanismos de mercado. Estudios y experiencias de los impactos de proyectos de desarrollo en las comunidades y ecologías políticas feministas sugieren que las mujeres, los ancianos, los jóvenes, los pobres y los indígenas a menudo perciben los proyectos de manera diferente, ganan ó pierden de manera diferente, o adaptan los proyectos para satisfacer a sus necesidades. Se ha documentado que los proyectos de carbono tienen impactos diferenciados dentro de comunidades, especialmente sobre los pobres, las mujeres, y la ecología; Sin embargo, estas diferencias no tienden a ser el foco principal. La investigación que se presenta aquí se centra en un mega proyecto eólico y dos proyectos de reforestación de pequeña escala y se enfoca en la convergencia del medio ambiente, de género y desarrollo, al ser introducidos en las comunidades de Oaxaca, México. Este trabajo busca expandir la literatura sobre los mercados de carbono en México con un enfoque en los impactos diferenciales de las tecnologías, la geografía y en las personas con atención especial al género. Encuentro que hay diferencias de género importantes entre: los proyectos forestales y el de viento y, si están bajo un esquema de Mecanismo de Desarrollo Limpio o un mecanismo voluntario, la escala del proyecto y el grado en el que está involucrada la comunidad.

Palabras claves: *Mercado de carbono, ecologías políticas feministas, Oaxaca*

## Introduction

Through carbon markets mechanisms, wealthy countries can offset their carbon emissions by transferring the burden of reducing greenhouse gas emissions (GHG) to the Global South, usually through monetary incentives that fund carbon sequestration and GHG reduction projects such as reforestation and wind farms. Formal negotiations to reduce increasing levels of carbon dioxide began at the 1992 UN Framework Convention on Climate Change (UNFCCC) where GHG emissions became an international issue. The 1997 Kyoto Protocol compelled industrialized countries to reduce their emissions back to 1990 levels, partially via the Clean Development Mechanism (CDM), a formal compliance and regulatory approach that has strict international metrics, rules, and guidelines. About the same time, firms and NGOs created accompanying voluntary markets whose most attractive feature was their non-binding quality (Bumpus and Liverman 2008).

Advocates of carbon markets contend that markets allocate scarce conservation resources more efficiently than states, suggesting that reducing emissions through economic incentives provides greater benefits to the atmosphere and to sustainable development, especially when carbon projects occur in the developing world (Nelson and De Jong 2003). Carbon projects have become preferred approaches to mitigating GHG emissions for wealthy, industrialized countries because they encourage penetration of market mechanisms into environmental governance, and do not require the kinds of fundamental social and economic changes that are implied by strategies

for keeping fossil fuels in the ground (Nelson and De Jong 2003; Yamin 2005). Studies of the CDM have found that they do not benefit the world's poorest communities since carbon mitigation usually takes priority over sustainable development (Boyd 2009). Stakeholders usually select the cheapest and most efficient ways of reducing greenhouse gas emissions through large-scale projects in the power and manufacturing sectors or forestry carbon sink projects. As such, most of the finance capital goes to a few of the more industrialized countries that have the means to build and sustain these large-scale projects (Skinner 2011). Communities interested in accessing the CDM have encountered a complicated processes of applying for and obtaining permission to access the international carbon market (Lambrou and Piana 2006). Voluntary markets, on the other hand, have been shown to be more successful than the CDM at promoting sustainable development since they are interested in smaller-scale projects such as those in micro hydro and biomass energy, community reforestation or agroforestry (Boyd 2002; Boyd *et al.* 2009; Boyd 2009; Gay-Antaki 2013; Lovell and Liverman 2010).

Most of the carbon literature in Mexico has focused on forests, revealing that commodification of forest carbon maintains exploitative labor relations while continuing environmental and social degradation (Corbera and Brown 2010; Klooster and Masera 2000; Osborne 2011). While gender is mentioned in a few of these studies (Boyd 2002; Corbera *et al.* 2007), it is not by any means their primary focus. Meanwhile, the few studies of wind projects in Mexico find that they reify exploitative North/South relations (Howe 2011; Pasqualetti 2011), but pay no attention to gender relations within the projects themselves.

Even though gender equality is a cross-cutting theme in sustainable development discourse—and the CDM encourages developing countries to incorporate 'sustainability' into their mitigation priorities—a gender perspective on carbon market policies and practices is strikingly absent (Hemmati and Röhr 2009; MacGregor 2010; Skutsch 2002). While women are involved in some of the carbon projects as employees, there is no evidence of gendered benefits to be gained from them (Boyd 2002; Boyd *et al.* 2009; Wamukonya and Skutsch 2009). Gender is important to consider within carbon markets since such markets rely on land ownership, access, and property, all of which favor men in much of the Global South (Denton 2002a; 2004). The extensive literature on gender and sustainable development suggests that development projects that do not consider gender marginalize women's access to land and resources, excluding them from formal decision making (Boyd 2002; Resurreccion and Elmhirst 2008), or exploit women's social reproductive role to subsidize these projects (Nagar *et al.* 2002).

This article fills a lacuna in the gendered experiences of carbon markets through the exploration of two case studies in Oaxaca, Mexico. By providing insight into the gender relations within these projects, I will examine their broader community dynamics, particularly as they affect women. The question of who controls and determines rights over resources and environmental quality is fundamental to a feminist political ecological (FPE) approach. FPE uses gender as a critical variable to explore power relations that shape access and control over resources (Rocheleau, Thomas-Slayter, and Wangari 1996) and underscores the gendered nature of carbon markets and highlights differential opportunities to access benefits and reduce negative impacts that carbon projects might have.

In what follows, using FPE as an analytical lens, I review geographical research on Gender, Development and Environment to contextualize the significance of a gendered perspective within carbon markets. I argue for the importance of a gender perspective when assessing carbon markets and describe the value of using FPE as an analytical lens. After describing my methods, I provide a brief history of gender and land rights in Oaxaca before presenting two case studies—a forest

carbon project and a wind carbon project—as windows onto the ways in which women can access benefits and reduce negative impacts of carbon projects. I conclude with recommendations for incorporating more completely gendered perspectives into future CDM development projects.

### Carbon Markets and Gender in Oaxaca through a Feminist Political Ecology Lens

Although there are no studies that focus on the gender dynamics of carbon markets, the comprehensive literature on gender and environment through an FPE lens serves as a useful hermeneutic to study the impact of development projects on gender dynamics. Feminist Political Ecologists have found that much of the gender and environment literature has overwhelmingly equated gender to women through three main formulations: women as victims, women as the problem, or women as saviors (Arora-Jonsson 2011; Buechler and Hanson 2015; MacGregor 2010; Skinner 2011). Much of this literature has focused on women in the developing world, mostly in rural areas where women are usually assigned reproductive social roles, explaining why they are responsible for the collection of forest products and food for daily household subsistence; and how they will have to spend more time seeking alternate and increasingly scarce sources of food, fuel, and water in the face of climate change and environmental degradation (Cannon 2002; Goldsworthy 2010). Literature connecting environmental degradation to population growth has positioned women as the main culprit of climatic changes, undermining longstanding advocacy work for women's human and reproductive rights (Terry 2009). To counter the woman-as-victim narrative, Feminist Political Ecologists have stressed how women's social positioning has made them expertly aware of rising prices of consumables, electricity and water, as well developing adaptive strategies in the face of climate changes (Bee 2013; Glazebrook 2011).

The portrayal of women as the main victims of climate change and environmental degradation, coupled with the portrayal of their expert, differentiated, and grounded environmental knowledge has positioned women as key players in development narratives (Dankelman 2002; Denton 2002b; Nagar *et al.* 2002; Power *et al.* 2006). While development initiatives could disrupt oppressive gender roles by considering the above dynamics, they usually end up reifying essentialist notions about men and women where women carry out the brunt of unpaid environmental work because of their social reproductive roles and subsidizing development schemes that exacerbate social and gender injustices (Arora-Jonsson 2011; MacGregor 2010; Resurreccion and Elmhirst 2008).

Feminist Political Ecologists have been critical of the mainstream use of gender in development work, and underscore that gender relations form part of wider relations and webs of power that impose rules and laws over the use of environmental commons. These scholars seek to destabilize gender as a central analytical category, and emphasize how gender is constituted through other axes of power and difference such as race, sexuality, class, and place, while stressing that practices of development are intricately linked to colonial and imperial practices (Mollett and Faria 2013; Nightingale 2006). Under global capitalism poor women and men are marginalized through, "...informal economies of production and caring that subsidize and constitute global capitalism" (Nagar *et al.* 2002: 261). Feminist critiques of development in the Global South underscore the importance of social reproduction for environmental sustainability by showing how development initiatives explicitly use women's unwaged labor as subsidies, based on the assumption that women are naturally suited for care-taking roles. As a result, global economic processes have directly intensified the feminization of production, reproduction, and community management (MacGregor 2010; Nagar *et al.* 2002).

FPE positions gender as a critical variable that impacts resource access and control, shaping global ecological practices that impact both men and women and their relationship to their environment (Rocheleau *et al.* 1996). As such, gender is a useful analytical category to study relations of power. This perspective allows for an understanding that women are disproportionately affected by all forms of environmental degradation because of their roles as caretakers and providers, roles that leave women at a comparative disadvantage to men when it comes to accessing education, paid jobs, economic resources, and land (MacGregor 2010; Resurreccion and Elmhirst 2008). In climate and development contexts, FPE can provide women and other marginalized groups with new avenues of expression by denaturalizing disempowering gender distinctions, and showing the implications of gender as a social construct rather than as an uncontested biological fact (Mollett and Faria 2013; Nightingale 2006).

While understudied, gender issues play a major role in carbon projects because access to resources and political participation, as well as land ownership and property, are required to participate. Each of these processes is gendered. There are a handful of studies that mention gender in relation to carbon projects (Boyd 2002; Corbera *et al.* 2007; Galt 2010), and while gender was not the central theme for most of them, their insights are nonetheless valuable for understanding gendered participation and exclusion within these projects. Decisions regarding the forest commons in Southern Mexico are usually made through a male-dominated community assembly and thus a carbon project's ability to incorporate a broad range of preferences regarding tree planting is severely limited due to the lack of recognition of women and small landholders as resource managers (Corbera *et al.* 2007). Carbon markets in Bolivia were meeting the 'practical gender needs' of women by providing livelihood alternatives such as home gardens, but the projects failed to meet 'strategic needs' – that is, needs whose fulfillment would enable women to improve their status in society (Boyd 2002). At the policy level, a scoping study conducted on gender sensitivity in voluntary carbon market standards found that only a surprisingly few mentioned gender (Galt 2010). The deficit of a gendered perspective in carbon projects disadvantages women and other marginalized groups. It also results in a progressive loss of knowledge concerning environmental commons.

### Gender Relations and Land Tenure in Oaxaca

Oaxaca is the most biodiverse state in Mexico and has been ranked the third most economically marginalized state in Mexico (INEGI 2010). As such, Oaxaca has attracted the interest of the international community for its potential for mitigating the effects of climate change while promoting sustainable development. Since 1995, Mexico has legally recognized differentiated rights for indigenous communities in Oaxaca in the form of indigenous customary laws called *sistemas normativos internos* (Customs and Traditions) (Velásquez and Cristina 2004; Wise and Salazar 2003). In indigenous communities in Oaxaca, municipalities are elected through the process of Customs and Tradition rather than through electoral practices using secret ballots. Although Oaxacan women have always participated in the maintenance of their households and communities, they have not been allowed to formally participate in *sistemas normativos internos* (Danielson and Eisenstadt 2009; Worthen 2015). Gender roles are shifting in some of these communities due to increased male migration from rural Oaxaca. Women are filling their husband's roles in collective decision-making; their political participation for community survival is vital as they fill in for the absent male so that he can conserve his status even from afar (Cohen *et al.* 2009; Heyward 2007; Maldonado and Artía 2004; Radel 2011; Radel and Schmook 2008; Velásquez and Cristina 2004; Worthen 2015). Women under these circumstances, even if present

in assemblies, do not represent themselves; their silent presence legitimizes their absent male counterpart's voice (Velásquez and Cristina 2004). Women in these positions carry the added burden of fulfilling their husbands' duties while still solely responsible for their homes, with no added benefit of increased decision making (Velásquez and Cristina 2004). This low level of female participation in agrarian and communal assemblies has stimulated legislative efforts in Mexico to increase the participation of indigenous women in community decision-making. This might be perceived as a positive change for women in communities still run by *sistemas normativos internos*. However, for those who believe that they are oppressive for women, one study found that when women were given the option to formally participate in assemblies, they collectively decided to opt out because of the added burden that fulfilling such a role would represent without any benefits (Worthen 2015). Liberal models of women as individual rights bearers fail to understand the complex ways gendered labor influences political participation in non-liberal contexts, a fact that women are well aware of (Worthen 2015).

Land tenure in many agrarian communities in southwest Mexico is managed through communal systems. Liberal land reforms disrupt these systems and have important gender implications. Prior to the Mexican Revolution of 1910, the upper classes in Mexico owned most of the agricultural land. Following the Agrarian Reform of 1917 until 1991, more than half of this land was redistributed to *ejidos*: territories defined by legal ownership of communal land, combined with individual use, and recognized via agrarian rights or communal land certificates. This transformation occurred sparingly in Oaxaca, with most of its territory remaining communal, which unlike *ejidos*, cannot be privatized or sold. However, since carbon projects such as the wind farms require ownership of *ejidos* for participation, it is important to understand this transformation in relation to women.

The Agrarian Reform of 1917 did not apply to women. Amendments to the Mexican Constitution in 1927 under article 27 granted women land-use rights if they were single or had no male offspring. Further revisions to the Federal Agrarian Reform Law in 1971 demanded equal treatment for men and women regarding land tenure (Hamilton 2002) but today, only 15 to 20 percent of *ejidos* belong to women (INEGI 2007). Women have been excluded from Mexico's land redistribution program, first legally, and later, as legal barriers were removed, culturally (Young 1998). In 1992, an Agrarian Law also known as the counter-reform under President Carlos Salinas' administration (1988-1994) allowed for the privatization of *ejidos*. This law gave men legal rights to sell what had previously been a family resource for their own benefit. The effects of the new Agrarian Law in Mexico have been thoroughly discussed in the literature (Barnes 2009; Perramond 2008) but less so as it relates to women. Researchers have found that redefining land rights in terms of private property often disadvantages women in the developing world and has had little impact on women's ownership and land rights (Hamilton 2002; Nightingale 2006; Velásquez and Cristina 2004; Young 1998). For example, even though Oaxaca has the largest number of *comuneros* and *ejidatarios* (over half a million) in all of Mexico, out of these, only 27.1% are female (INEGI 2007). If the ability to privatize an *ejido* is a condition to participate in some carbon projects, we can see that most women will be automatically excluded since they only make up 27% of the total *ejidatario* population. In addition, because most of Oaxaca is under communal land tenure, it comes as no surprise that carbon projects such as wind farms have encountered barriers since they require clear, individual, and defined land rights. These conditions are fundamentally opposed to the *ejidatarios'* concepts of labor, community, and property.

Because political participation as well as access to resources, land and property ownership are all gendered, development projects have significant gendered impacts in rural Oaxaca (Young

1998). Thus, to understand the full implications of carbon projects that follow logics of individual rights and property in non-liberal contexts, it is essential to understand the gendered dynamics of these projects. This includes grasping the extent to which carbon forest projects disrupt or reproduce gender relations when it comes to accessing resources, education, property, paid jobs, and livelihood survival strategies.

## Methods

I collected data over a four-month period in 2010. Because I was interested in exploring the differences between wind and forest carbon projects, I conducted case study research in Tlahuitoltepec and La Venta (Map 1). In order to understand carbon markets more broadly, I conducted archival research in Oaxaca City and Mexico City. Throughout the research period I conducted a series of informal, semi-structured and in-depth interviews (in Spanish) in Mexico City (5) Oaxaca City (11) in Tlahuitoltepec (16) and in La Venta (12). These took place in offices, meeting rooms, homes, coffee shops, and during field visits. In addition, over the course of my fieldwork, I attended meetings, organized focus groups, visited health centers and wind farms, shadowed agrarian authorities, accompanied community members to their reforested plots or to observe their wind towers, conducted house visits, visited both headquarters for wind and forest carbon projects and took field notes. I collected oral histories in both communities. During my visits to Tlahuitoltepec, I stayed in homes of people from the community. Most interviewees spoke Spanish. When interviewees preferred to use their mother tongue (Zapotec in the Isthmus, and Mixe in Tlahuitoltepec) an interpreter facilitated the conversation. I used a snowball sampling technique to expand my network of contacts in the public, private, and civil society sectors. I spoke with a wide range of professionals, public servants, academics, activists, members of civil society more broadly, and residents that were familiar either with carbon markets or gender issues in Mexico.

The quotes are my translations of interviewees' opinions expressed in Spanish. I have respected the request for anonymity of my interviewees. The data were classified through thematic coding, in which I looked specifically for: (1) role of gender in carbon markets; (2) gender relations of carbon markets; and (3) resident participation in carbon markets. The following section compares the three themes above between the wind and forest carbon projects.

## Forest Carbon Markets in Tlahuitoltepec

The concept of payments for environmental services (PES) was introduced for the first time into Mexican law in July 2000 alongside the ratification of the General Wildlife Law. In 2007, the Mexican National Forestry Commission (Comisión Nacional Forestal or CONAFOR) set up ProÁrbol, a federal program governing and supporting the forestry sector and carbon projects. ProÁrbol set out to generate development and economic benefits through conservation, valuation, and sustainable usage of varied ecosystems to enter the carbon market. In 2008 PRONATURA, a Mexican environmental NGO, the Ministry of Environmental and Natural Resources (SEMARNAT), and CONAFOR created one of the first voluntary carbon programs called NEUTRALIZATE (Neutralize Yourself). A PRONATURA representative told me that the so-called voluntary market would provide opportunities for businesses and individuals to neutralize their CO<sub>2</sub> emissions while paying communities to reforest or conserve their biodiversity. The program created instruments of control and facilitated the initial contact between NGOs and private companies. The carbon reforestation project was handled by a small, Oaxaca-based NGO:

*Servicios Ambientales de Oaxaca* (Environmental Services of Oaxaca, SAO). SAO handled carbon reforestation projects in eleven communities in the Sierra Norte and focused on forest restoration, agroforestry systems, natural regeneration, maintenance, reforestation, and emissions reduction (de Oaxaca 2010). An SAO representative explained that the idea of obtaining payments from reforestation efforts emerged alongside the Clean Development Mechanism (CDM). The representative expressed that hopes were high then, as it was widely believed that carbon markets were going to be a, “path to salvation; they were going to end poverty and marginalization.” However, the high costs and red tape in accessing the CDM made it impossible for a small NGO such as SAO to participate. The voluntary market offered SAO a viable alternative to carbon trading; however, finding companies willing to offset their carbon proved to be a challenge for an NGO with limited resources. In response, PRONATURA facilitated interactions between the companies and SAO, and soon found parties from Mexico and Spain interested in the voluntary carbon market. SAO explained that companies participate in these carbon projects by paying ten dollars for every ton of sequestered carbon. In return, they get a “green certification” that is testament to their environmental responsibility.

Even though NEUTRALIZE was designed to be a carbon market, I didn’t observe any carbon trading during the time of my research. PRONATURA said that the US\$10 amount was chosen with the understanding that it had to be attractive to the buyer and to the community. I was informed that of this ten-dollar amount, SAO gets one dollar, PRONATURA gets one dollar and the community gets eight dollars, money used to keep the project going. An SAO document stresses that, “women’s participation in these projects is key since by nature, women will not destroy what they build...” (de Oaxaca 2010 p. 46). Even though the importance of women’s participation is mentioned, it does so in an essentializing and gender specific way: a testament to how development projects continue to take advantage of women’s social roles without disrupting any oppressive paradigms in regards to land tenure, property, or political participation.

The Sierra Norte of Oaxaca is one of the best-preserved biospheres in Mexico and thus a perfect target for conservation projects. The Zapotec, Chinantec, and Mixe indigenous groups occupy this territory, which is divided into three districts: Ixtlán, Villa Alta, and Mixe. The forest carbon project under study is located in Santa María Tlahuitoltepec, one of 17 municipalities in the Mixe district. It has a population of 3,452 (INEGI 2016) divided into *Rancherías* (settlements) and *Cabeceras* (municipal seats). Land is communally owned.

The forest projects were located on communal territory and managed by a local community technician, trained by SAO. His responsibility was to train other community members to reforest per PRONATURA’s voluntary market standard. Tlahuitoltepec has always had an agrarian counsel, constituted by agrarian authorities that rotate every year and oversee all agrarian activities in the community, including reforestation. SAO’s community technician went to them first about the carbon project and my visits to the reforested plots were made alongside these authorities. Through community interviews, community meetings, and engaged participant observation, it became clear that the agrarian authorities were the only ones aware of the carbon project. An interviewee explained that Tlahuitoltepec has a long-standing tradition wherein community members volunteer labor for reforestation and are expected to plant 30 trees a year. This tree-planting tradition might have been masking community member’s knowledge surrounding the carbon project since the only way that residents could participate was through their reforestation work. I was informed about an upcoming reforestation project that was open to men and women and was allowed to participate.

There were two women in the room during my first meeting with the authorities and the technician, yet they did not say anything and were not asked to contribute. I asked whether women participated in decision-making processes surrounding the forest project and a male agrarian authority answered: “Yes they do; now we have equality.” The women remained silent. I found out that these two women were *vocales* whose duties were like secretarial work. I was told that young men can also hold these positions and that there was the possibility of upward mobility for both men and women, men appeared to occupy all of the higher positions. These women accompanied us to the field visits and were mostly in charge of bringing food. I asked one of them if she also took care of her house and she responded, “Well, who else?” During a field visit to the reforested plots I asked the agrarian authorities about the general role of women in their community, and one of them replied:

“Because all my countrymen are peasants, both men and women need to work. They need money to feed their kids, to take care of their homes. That is the life we live here, work is hard here, it is shared between men and women, here there is no difference...Here we take women into account, we don’t leave them on the sidelines.”

This account stood in sharp contrast to the gender dynamics observed during my research; women’s expertise was spatially segregated from forest management, and they were not invited to the decision-making table. However, they were primarily responsible for reforestation since the community technician estimated that around 70% of people working on reforestation were women. I asked him why so many women reforested, and he replied, “[B]ecause it’s easy...men handle the machetes; women deal with the branches.” If this division of labor estimate is accurate, then women are carrying the brunt of reforestation work and are in effect subsidizing the carbon project.

Since most women did not attend any of the meetings, I visited them at their homes to ask what they thought about the reforestation work. One woman said, “I like it a lot. The problem is, I can’t cope with all the work. It’s beneficial [and] I like to plant but I don’t have time.” Another woman replied, “I have time to do everything; while we are strong and healthy we must work. The truth is we lack resources, it is hard work, the money they give us is not enough, and the work is heavy and tough.” Their statements indicate that they are aware that this work is exploitative but they choose to participate because it presents them with an opportunity for extra income, even though it adds many hours to their already full workday.

## Wind Carbon Markets in the Isthmus of Tehuantepec

Wind farms were one of the many market-based projects that the Salinas administration introduced in Mexico during the early 1990s, alongside the counter-reform of 1992. During this time, his administration passed a law permitting the foreign production of electricity because it would be cheaper than domestic production. As a result, foreign companies produce electricity, sell it to the *Comisión Federal de Electricidad* (Mexican Federal Electric Commission, CFE), which then distributes it via the CFE-controlled grid (Mexico’s only power grid).

Wind companies have long been interested in Oaxaca’s Isthmus of Tehuantepec because it is one of the windiest places in the world (Jaramillo and Borja 2004). The Isthmus region has two districts, Juchitán and Tehuantepec, and four major indigenous groups: Zapotecs, Zoques, Mixes, and Mixtecos. This region is known for its contentious history of battling external forces, as well

as aggressive government intervention. A CFE official admitted that the government and private companies were concerned about working in the Isthmus because “they were afraid of making mistakes,” an oblique reference to errors in communication when negotiating with communities that could result in a collapse of business negotiations.

Despite the difficulty in navigating the cultural divides, the prospect of significant economic gains was enough for the Federal Government to urge the CFE to spearhead the first negotiations with an isthmian community in 1997. The proposal was to use wind tower technology provided by GAMESA, a corporation from Spain. The economic prospect of the wind farms presented an attractive alternative for the community, which was moving away from crop production towards raising cattle. The pilot project, called La Venta I, was a financial success and began attracting others interested wind farms. La Venta I is located in an *ejido* in the Municipality of Juchitán de Zaragoza. It has a population of 2,161 (INEGI 2016). The wind park belongs to ACCIONA, a Spanish company that has developed infrastructure in Mexico for more than 30 years. Its first wind park, EURUS, began operation in 2009. EURUS produces electricity for CEMEX, the biggest cement company in Mexico and third largest in the world.

Once a self-sustaining community that lived off production of beans and corn, cattle, dairy products, and sugarcane, today cattle farming is the only source of reliable income for a few small holders. A La Venta resident told me that the community welcomed the proposal for a wind project since ACCIONA promised to build a new community center, bring computers, and fix damaged sewage systems and streets. Most importantly, the company promised development and economic returns for residents. Residents became disillusioned, however, as ACCIONA failed to deliver on its promises. The jobs generated by the company were limited to the short-term construction sector, yet when it came to longer-term employment, I was told that, “the Spaniards bring their own people...there is a hierarchy, the engineers with better positions are from Spain; there are local engineers, but they have inferior positions.” Residents and local government officials stressed that the wind company showed no interest in training residents in the use and maintenance of wind-farm technology.

Residents from La Venta participated by leasing their *ejidos* to ACCIONA and that the only negotiable condition was the per hectare remuneration. Residents were obliged to sign contracts that would eventually give the government permission to take their lands. Others who signed without knowing how to read, or with full disclosure of the contract details. Some residents felt cheated because the payments they were receiving from the company were less than those made to others. And even though electricity was being generated from their lands many were also upset that they did not receive any discounts on their electricity bills.

Interviewees also reported repression and violence directed at those who resisted the project or those who questioned its intentions. Most residents were unclear about the terms of participation and those that did participate depended upon *ejido* titling, excluding most women from participating. One interviewee explained that because of a law called *sociedad conyugal* (marital partnership), which divides property between married couples, ACCIONA requires that women sign the lease as well. Another interviewee told me that, “it’s not because the [company] cares about the woman; they are never told why they must sign. They just tell the men: ‘if you are married your wife also must sign.’”

To assess how women were affected by the wind project, I asked the wives of *ejidatarios* what they knew about it. One responded: “I am not sure because I am not an *ejidataria*. What I do know is that those who do not own land do not receive anything, and since they do not have land they don’t say anything.” Thus, women and the landless are left out of an important decision-

making process. I asked a resident who was leasing his land to the project whether the money that people made from ACCIONA benefitted women. His response:

There are a lot of drunks here. There are people with problems. The money that men get through these companies does create conflict. I have heard that many drink it, spend it elsewhere... The ones who think of their family don't go around wasting money. Others spend it on women, beer. In my mind, if I bring home two thousand pesos, I give them to my *señora*. There are others that think 'since I am macho I will give 700 hundred to my wife and keep the rest...' There are many men like this. Why would I steal from myself, I earned it, if my woman keeps it I tell her, woman give me money, I want to go to a wedding, and she gives me the money - how nice, we don't fight. I even go all the way to Acapulco.

In La Venta, men are primary income generators, because men have land titles and mobility, while married women are economically dependent and their mobility is limited to the domestic and community spheres. La Venta is a place that can no longer provide viable livelihoods to many of its residents, which is why the prospect of ACCIONA's economic development was so attractive. While the payments from the company cannot be directly correlated with drinking, several interviewees confirmed that the new payments with no added job prospects might facilitate alcoholism.

Since the structure of the wind project excludes women from receiving payments from the company, ACCIONA, hoping to be recognized as a socially responsible company, set up two programs aimed at women: health education and embroidering. The embroidering workshop was positive for a woman from La Venta because it, "presented an opportunity to clear my mind, since I am locked up (in my home) it alters my nerves and I get depressed so when I heard about this workshop I went." This illustrates how there is not much for women to do in the community and their willingness to participate in anything that takes them out of their homes and mundane routines.

María was one of the two health promoters in La Venta trained by ACCIONA to recruit women for free cervical exams. Maria was self-driven and curious, so when she heard that the company was offering health workshops she was excited to attend. It is important to note that she could do so not only because she was personally motivated, but also because her husband allowed her to do so. He was also on good terms with the company. Maria was surprised that by the end of the training they told her that she had become one of the two community health promoters for La Venta:

I thought it was it for me, as I told you; I just finished primary school, so I just was dedicated to my house. But after three days, they told us we were health promoters; our duties were to support the women of our town! I like supporting women. There are many diseases and many people do not have the necessary funds to go to a doctor.

She described her job as challenging since often she encountered women who had never had a cervical exam. She stressed, "women's work is hard because chauvinism is rampant. They see it as something normal." Nevertheless, Maria expressed hope: "...I will keep fighting so more women go while the company is backing it. Because they do help even though there are

misunderstandings.” I asked Maria about what others thought about these projects: “People see helping women as a good thing since these studies are expensive. So, my *compañera* and I will keep trying.” Maria and her friend had empowering experiences, yet their participation follows the well-worn grooves of traditional gender roles, which take advantage of their unwaged, socially reproductive roles. ACCIONA’s initiatives are yet more examples of gender-blind development projects that deploy discourses of “female empowerment” but instead fall into a gender trap (Leach 1992) where women’s prescribed social and occupational roles are seen as natural, expected, and incontestable.

## Conclusion

Using an FPE framework to examine the gendered impacts of carbon projects, I have shown how gendered rights and responsibilities enabled differential access and opportunities for two communities in Oaxaca. The Tlahuitoltepec forest project allowed residents to participate via their labor and was open to both men and women who had time and were physically able. Since women do 70 percent of the reforestation work, we must wonder whether the project takes advantage of their caregiver roles and utilizes their unpaid labor as a de-facto subsidy. The lack of female representation within the agrarian authorities and their exclusion from spaces where they had always participated, albeit informally, has further marginalized women, contributing to a progressive loss of knowledge surrounding the forest commons.

In La Venta, the structural conditions of participation through ejidario land tenure effectively excluded most women and those with insecure property rights. There was no attempt from the wind company to incorporate women into the main project, and the side projects aimed at women were only open to those whose husbands allowed them to go (and who were on good terms with the company). Thus, the programs that targeted women were little more than ancillary to the main objective of profit through carbon sequestration.

In both cases, the ad hoc incorporation of women into social programs created unwaged activities via “women’s work”—gendered activities that effectively subsidized these projects through reforestation work in Tlahuitoltepec, or providing health care in La Venta. The projects did nothing to relieve women from household duties, nor did they leverage them economically, so they are still dependent on their male counterparts. In most cases, the carbon projects have consolidated gendered regimes of differential access to markets and economic opportunities while also reifying property tenure structures that may exacerbate these distinctions even more.

Women participating in these projects actively chose to take on these extra responsibilities either because the carbon projects represented extra income or an opportunity to leave the house. Sadly, even though the carbon projects attempted to incorporate women, the under-recognition of women’s as critical agents in resource management and fundamental actors in climate mitigation and adaptation, limited the carbon project benefits. In addition to increasing the labor burden of women, this will likely result in a progressive loss of knowledge concerning forest health, biodiversity, and climate change.

By failing to acknowledge women’s vital role in the maintenance and reproduction of their communities, the carbon projects examined here have ignored some hard-won lessons of gender and development work. Rather than being unintended side effects, they have used women’s roles in production, reproduction and community management as a critical subsidy for the economic and social viability of these projects. While global environmental conservation efforts are changing the structure of employment, opening opportunities for female workers, they often do so by taking

advantage of dominant social roles that effectively lock women out of any kind of meaningful participation in decision-making. These efforts look for ways to cut labor costs, instead of economically leveraging women, increasing the number of women taking on unwaged jobs of caring, low wages, and dead end jobs (MacGregor 2010; Nagar *et al.* 2002; Young 1998). When women's activities are narrowly defined within the domestic sphere, policies focusing on women are only geared towards that area and a broad range of other interests and capacities are left unexplored. Carbon initiatives thus fall into a gender trap by implementing "women's projects" that ignore the power of gender as a political category, squelching the potential for change. Even though carbon markets present alternative economic opportunities for participating communities, by including women as a form of exclusion, they are intensifying gender inequalities that leave women at a disadvantage in comparison to men when it comes to accessing resources, property, paid jobs, and livelihood survival strategies. In fact, the carbon markets exacerbate the effects of a broader crisis currently occurring across the Mexican countryside. In many communities, policy changes and environmental degradation have dramatically narrowed the range of livelihood possibilities. To prevent gender projects from becoming a box-ticking exercise, policies should address the structural constraints that limit women's access to control and ownership over resources by acknowledge that gender inequity stems from many different layers of oppression. A narrow focus on gender masks other forms of social difference and oppression such as class, race, sexuality, and place, all of which are important in crafting responses to vulnerability, environmental governance, and climate change (Crenshaw 1989; Elmhirst 2011; Mollett and Faria 2013; Nightingale 2011).

Using gender as an analytical category, rather than understanding it as a biological given, allows us to focus on power relations within development schemes to understand under what processes women are left at a disadvantage in relation to men. Carbon projects in Oaxaca should evaluate how they are transforming social systems of land, property, and political participation to avoid disadvantaging women. Otherwise, they run the risk of increasing gender inequality by only approaching and benefitting those who are visible and already better off. Women's silencing in development schemes will result in a progressive loss of gender-specific knowledge and expertise in land and resource management.



Figure 12 Map of Research Sites

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## Appendix G : Detailed Results of Survey

### *IPCC Female Scientists*

#### Q5 - Age

#	Answer	%	Count
4	Below 40	3.48%	4
1	41-55	46.09%	53
2	56-66	50.43%	58
8	66+	0.00%	0
3	Prefer not to respond	0.00%	0
	Total	100%	115

#### Q6 - I consider myself to be what type of scientist?

#	Answer	%	Count
1	A natural scientist	50.43%	58
2	A social scientist	24.35%	28
3	Both natural and social scientist	21.74%	25
4	Other	3.48%	4
	Total	100%	115

### Q7 - I am currently employed in...

#	Answer	%	Count
2	Academia	63.72%	72
3	Government	17.70%	20
4	An NGO	2.65%	3
5	Consultant	1.77%	2
6	Other	14.16%	16
	Total	100%	113

### Q18 - Country for IPCC Affiliation



## Q9 - How would you rank yourself on the following attributes

#	Question	Very Confident		Confident		Neutral		Not Confident		Not Confident at all	
1	Speaking up in professional groups	7.99%	52	9.21%	51	7.83%	9	4.35%	1	0.00%	0
2	Spoken English	11.06%	72	5.96%	33	5.22%	6	8.70%	2	0.00%	0
3	Written English	11.21%	73	6.14%	34	4.35%	5	4.35%	1	0.00%	0
10	General Writing skills	10.45%	68	7.76%	43	1.74%	2	0.00%	0	0.00%	0
11	General Public Speaking skills	8.45%	55	8.84%	49	6.09%	7	4.35%	1	0.00%	0
4	Meeting deadlines	8.91%	58	7.76%	43	8.70%	10	8.70%	2	0.00%	0
5	Chairing a research discussion	7.53%	49	9.57%	53	6.96%	8	4.35%	1	20.00%	1
6	Resolving conflict over research	3.53%	23	11.19%	62	17.39%	20	17.39%	4	40.00%	2
7	Calling out gender (or other) discrimination or bias	3.53%	23	9.21%	51	23.48%	27	34.78%	8	40.00%	2
8	My qualifications to be an IPCC author in general	9.06%	59	8.30%	46	5.22%	6	4.35%	1	0.00%	0
9	My qualifications to contribute to the particular chapter I was assigned to	10.60%	69	7.04%	39	3.48%	4	4.35%	1	0.00%	0
12	Willing to challenge senior	7.68%	50	9.03%	50	9.57%	11	4.35%	1	0.00%	0

	researchers when I have a different opinion										
	Total	Total	65 1	Total	55 4	Total	11 5	Total	2 3	Total	5

**Q20 - How did you become involved or invited to contribute to the IPCC?**

#	Answer	%	Count
1	National Nomination Process	63.64%	70
2	Invited by a lead author for report or chapter	16.36%	18
3	Other, please explain	20.00%	22
	Total	100%	110

**Q21 - Why do you think you were nominated for IPCC? Please check all that apply**

#	Answer	%	Count
1	Scientific expertise in climate	43.46%	83
2	Senior scientist in my country (but not expert in climate)	10.47%	20
3	Direct a scientific institute	1.57%	3
4	Personal or professional networks	22.51%	43
5	Because I am a woman (gender representation)	10.47%	20
6	I am one of the only scientists in my country who could contribute	5.24%	10
7	Other	6.28%	12
	Total	100%	191

**Q27 - Please tell us about your most recent experience as an IPCC participant regarding the following:**

#	Question	Excellent		Good		Average		Not very good		Poor	
1	Influencing my chapter	10.39%	35	13.07%	46	11.38%	19	6.82%	3	7.41%	2
2	Influencing overall report	2.67%	9	8.52%	30	25.75%	43	29.55%	13	11.11%	3
3	Making professional connections	9.50%	32	11.93%	42	13.77%	23	9.09%	4	11.11%	3
4	Increasing my reputation internationally	8.90%	30	15.06%	53	8.38%	14	13.64%	6	7.41%	2
5	Increasing my reputation in my own country/institution	8.61%	29	13.07%	46	12.57%	21	11.36%	5	14.81%	4
6	Learning experience	17.51%	59	8.81%	31	6.59%	11	6.82%	3	3.70%	1
7	Treated with respect by chair of my chapter	15.73%	53	7.95%	28	4.19%	7	11.36%	5	22.22%	6
8	Treated with respect by co-authors	15.13%	51	11.08%	39	5.99%	10	2.27%	1	11.11%	3
9	Being listened to in meetings, break outs and chapter text	11.57%	39	10.51%	37	11.38%	19	9.09%	4	11.11%	3
	Total	Total	337	Total	352	Total	167	Total	44	Total	27

**Q29 - To what extent do the following statements agree or do not agree with your most recent IPCC experience?**

#	Question	Strongly Agree		Agree		Somewhat agree		Neither agree nor disagree		Somewhat disagree		Disagree		Strongly disagree	
1	Everyone had an equal opportunity to contribute to the chapter/report	11.24%	28	8.75%	30	7.41%	22	1.90%	2	8.81%	14	3.37%	6	4.26%	4
2	All points of view were included	8.03%	20	5.83%	20	11.78%	35	3.81%	4	6.29%	10	6.74%	12	2.13%	2
3	The workload was equally distributed	3.21%	8	2.62%	9	8.75%	26	5.71%	6	11.95%	19	12.92%	23	11.70%	11
4	People were treated with respect by the leadership	12.45%	31	11.66%	40	5.72%	17	4.76%	5	1.26%	2	2.25%	4	4.26%	4
5	Decisions were made by consensus	8.43%	21	7.87%	27	9.76%	29	6.67%	7	6.92%	11	2.81%	5	5.32%	5
6	Decisions were made by just a few people	2.01%	5	6.12%	21	7.41%	22	6.67%	7	10.06%	16	12.36%	22	8.51%	8
7	Decisions were made openly and transparently	8.03%	20	11.37%	39	7.07%	21	10.48%	11	3.77%	6	2.25%	4	4.26%	4
8	A few scientists controlled the discussion	4.82%	12	7.58%	26	7.41%	22	6.67%	7	7.55%	12	10.11%	18	7.45%	7
9	A few scientists controlled	4.02%	10	6.12%	21	10.10%	30	3.81%	4	5.66%	9	11.80%	21	9.57%	9

	what was written															
10	Female scientists were treated with respect	14.46%	36	10.50%	36	3.70%	11	9.52%	10	2.52%	4	1.69%	3	2.13%	2	
11	Those who did not speak or write English well were able to contribute	5.62%	14	4.08%	14	6.40%	19	9.52%	10	9.43%	15	7.30%	13	6.38%	6	
12	People from developing countries were able to contribute fully	6.02%	15	4.96%	17	6.06%	18	11.43%	12	11.95%	19	4.49%	8	6.38%	6	
13	Younger scientists were included	7.63%	19	9.62%	33	6.73%	20	11.43%	12	4.40%	7	3.93%	7	3.19%	3	
14	There was an equal representation of men and women in my chapter	4.02%	10	2.92%	10	1.68%	5	7.62%	8	9.43%	15	17.98%	32	24.47%	23	
	Total	Total	249	Total	343	Total	297	Total	105	Total	159	Total	178	Total	94	

### Q32#1 - For you

#	Question	Major Barrier		Moderate Barrier		Neutral		No Barrier		N/A	
1	Gender	7.14%	2	14.46%	12	13.83%	13	11.72%	15	7.61%	59
2	Race	7.14%	2	8.43%	7	6.38%	6	4.69%	6	10.19%	79
10	Ethnicity	7.14%	2	10.84%	9	5.32%	5	2.34%	3	9.94%	77
3	Nationality	10.71%	3	13.25%	11	5.32%	5	9.38%	12	9.03%	70
4	Age	0.00%	0	9.64%	8	9.57%	9	9.38%	12	9.16%	71
5	Religion	0.00%	0	1.20%	1	10.64%	10	2.34%	3	9.29%	72

6	Command of English	21.43%	6	9.64%	8	6.38%	6	5.47%	7	9.16%	71
7	Natural Scientist	3.57%	1	1.20%	1	9.57%	9	0.00%	0	9.29%	72
8	Social Scientist	3.57%	1	8.43%	7	9.57%	9	6.25%	8	5.55%	43
9	Self Confidence	10.71%	3	12.05%	10	8.51%	8	19.53%	25	6.84%	53
11	Not Having a Strong Voice	17.86%	5	10.84%	9	5.32%	5	20.31%	26	5.94%	46
12	Weak Writing Skills	10.71%	3	0.00%	0	9.57%	9	8.59%	11	8.00%	62
13	Click to write Statement 13	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0
	Total	Total	28	Total	83	Total	94	Total	128	Total	775

## Q32#2 - For others

#	Question	Major Barrier		Moderate Barrier		Neutral		No Barrier		N/A	
1	Gender	8.91%	9	8.68%	21	6.76%	10	13.04%	12	9.91%	23
2	Race	2.97%	3	7.85%	19	9.46%	14	10.87%	10	10.34%	24
10	Ethnicity	2.97%	3	6.20%	15	10.14%	15	8.70%	8	11.21%	26
3	Nationality	2.97%	3	9.50%	23	10.81%	16	9.78%	9	8.19%	19
4	Age	0.99%	1	6.20%	15	11.49%	17	5.43%	5	14.22%	33
5	Religion	0.99%	1	1.65%	4	10.14%	15	3.26%	3	16.81%	39
6	Command of English	27.72%	28	13.22%	32	2.70%	4	5.43%	5	2.59%	6
7	Natural Scientist	0.00%	0	2.07%	5	10.14%	15	4.35%	4	15.09%	35
8	Social Scientist	1.98%	2	7.85%	19	10.14%	15	7.61%	7	7.33%	17
9	Self Confidence	11.88%	12	12.81%	31	5.41%	8	14.13%	13	2.16%	5
11	Not Having a Strong Voice	14.85%	15	14.05%	34	6.08%	9	9.78%	9	1.29%	3
12	Weak Writing Skills	23.76%	24	9.92%	24	6.76%	10	7.61%	7	0.86%	2
13	Click to write Statement 13	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0
	Total	Total	101	Total	242	Total	148	Total	92	Total	232

**Q34 - Were any of the following factors a barrier to your full participation in the most recent IPCC?**

#	Question	Major		Moderate		Neutral		None	
1	Lack of time	38.46%	20	39.45%	43	18.06%	13	3.18%	16
2	Lack of financial support from IPCC	3.85%	2	8.26%	9	18.06%	13	10.54%	53
3	Lack of financial support from my country/institution for travel	11.54%	6	11.01%	12	16.67%	12	9.74%	49
4	Created extra work for my colleagues	3.85%	2	13.76%	15	12.50%	9	10.54%	53
5	Employer did not want me to participate	7.69%	4	2.75%	3	5.56%	4	14.51%	73
6	Loss of Salary	1.92%	1	0.92%	1	5.56%	4	14.31%	72
7	Childcare or other family responsibilities	23.08%	12	15.60%	17	6.94%	5	8.75%	44
8	Lack of support from spouse or partner	3.85%	2	3.67%	4	9.72%	7	14.31%	72
9	Lack of access to the Internet	5.77%	3	4.59%	5	6.94%	5	14.12%	71
	Total	Total	52	Total	109	Total	72	Total	503

### Q37 - To what extent do you agree or not with the following?

#	Question	Strongly agree		Agree		Somewhat agree		Neither agree nor disagree		Somewhat disagree		Disagree		Strongly disagree	
2	Gender equality is a concern in my career and life	38.89%	35	23.71%	23	22.77%	23	17.54%	10	3.23%	2	13.46%	7	5.13%	2
3	My research interests include women, gender and climate	15.56%	14	14.43%	14	14.85%	15	24.56%	14	17.74%	11	19.23%	10	35.90%	14
4	Female climate researchers are now well represented in the climate community	8.89%	8	16.49%	16	29.70%	30	8.77%	5	41.94%	26	30.77%	16	10.26%	4
5	Being a woman has been a barrier for me in climate research	10.00%	9	21.65%	21	20.79%	21	15.79%	9	33.87%	21	23.08%	12	23.08%	9
7	Being a woman has been a barrier for others in climate research	0.00%	0	0.00%	0	0.00%	0	0.00%	0	1.61%	1	0.00%	0	0.00%	0
1	I am a feminist	26.67%	24	23.71%	23	11.88%	12	33.33%	19	1.61%	1	13.46%	7	25.64%	10
	Total	Total	90	Total	97	Total	101	Total	57	Total	62	Total	52	Total	39