

A stranger silence still: the need for feminist social research on climate change

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If the scientific consensus is correct, then humanity faces an impending climate crisis of catastrophic proportions. It is no longer a question of whether it is really happening, but what will be the impacts of climate change on societies around the world and how governments and individuals will adapt to the troubles they will bring. In the light of frightening predictions, it might reasonably be asked, what is the point of suggesting that greater attention should be paid to gender? Feminist scholarship on environmental problems must always be ready for such questions, to defend the relevance of gender analysis in the face of dominant tendencies to see humanity as homogeneous, science as apolitical, and social justice as a luxury that cannot be chosen over survival. In this essay, I make the case for feminist social research on climate change with the following argument: shedding light on the gender dimensions of climate change will enable a more accurate diagnosis and a more promising 'cure' than is possible with a gender neutral approach. My argument is that any attempt to tackle climate change that excludes a gender analysis will be insufficient, unjust and therefore unsustainable.

Supporting this argument with evidence is challenging because there is a worrying lack of research on which to draw. Social research on climate change has been slow to develop; feminist research into the gender dimensions has been even slower. After briefly taking stock of the small amount of research that currently exists on these issues, I take a critical look at the ways in which gendered discourses, roles and identities shape the political and material aspects of climate change. I consider the ways in which gender plays a role in three broad areas: i) the construction of climate change, ii) experiences of climate change in everyday life and iii) institutional and individual responses to climate change. Where possible I discuss what is already known in the available research; but it is also possible to draw on traditions of feminist theorizing in the field of 'gender and environment'. In many ways climate change raises issues that are no different from the environmental challenges we have been facing for the past 40 years. My intention is to highlight gaps where more research is needed now, and so I conclude with a call for more feminist-informed sociological research into the ways in which the material and discursive dimensions of climate change are deeply gendered. If these can be made more obvious, then perhaps the need

for feminists constantly to make the case for gender analysis can be diminished and we might turn our attention to developing critical social theories for a post-carbon world.

Gender and environmental social science: from the margins of the margins

While billions of pounds worth of funding have been spent on climate research in the natural sciences, until recently social research in this area has been minimal. Lever-Tracy (2008: 450) observes that there has been a 'strange silence' about global warming in mainstream sociology. Since sociologists have given little attention to the environment in general, the silence on climate change is not surprising. Exceptions are found in the subfields of environmental and rural sociology, which have examined the social dimensions of environmental problems for decades. Most agree that these subfields have been marginalized within the discipline (Lever-Tracy, 2008). Things move quickly, however, and as I write this I am aware that there are probably several new books on the sociology of climate change going to press. In 2008 Lever-Tracy noted the lack of attention (even the degree of scepticism!) that Britain's leading sociologist Anthony Giddens paid to the existence of global warming; in 2009 he has published *The Politics of Climate Change*. As the topic 'hots up' academically, it is to be expected that more sociological research and theorizing will consider the complex social and political dimensions of climate change. Will gender be included as a relevant category of analysis within this sociological climate change research? As things stand now, it seems unlikely.

At the time of writing there is very little work on gender and climate change in sociology or any other field. Given that feminist perspectives in the marginalized field of environmental sociology are marginalized further still, it is difficult to imagine that this even stranger silence will be broken and knowledge gaps filled, without a great deal of effort by a small number of feminist researchers who face a gruelling uphill battle. Banerjee and Bell (2007) have noted the lack of attention to gender in the environmental social sciences, pointing to the 'shockingly low' number of articles on gender, sex or feminism in the top journals in the field over the past 25 years. They affirm something that feminists who have been involved in interdisciplinary environmental research have been arguing for decades: that there is a pervasive blindness to gender within mainstream (ie non-feminist) environmental disciplines. Whereas class and poverty, 'race' and ethnicities seem to have been easily integrated into sociological analyses of environmental politics – in new literatures on 'environmental justice' and 'climate justice' – the same cannot be said for gender. When Giddens (2009) raises social justice concerns in his analysis of climate change, he appears to be interested only in the relative impacts on poor versus affluent groups in society. He does not mention gender as a relevant category, nor does he mention women other than to remind us that they too drive SUVs (Giddens, 2009: 3).

Given the track record, it is not surprising that there is a lack of attention to the gender dimensions of climate change within sociology and other social sciences. What is somewhat surprising (to me, at least) is that there has been an almost total avoidance of climate change by feminist social scientists in recent years. If conference themes and journal articles are anything to go on, climate change is not on the academic feminist agenda. This may be for reasons similar to those given for mainstream sociology's avoidance of issues that have been defined by the natural sciences (Lever-Tracy, 2008; Rosa and Dietz, 1998). Feminists too have maintained a sceptical stance toward 'nature' for fear of treading into dangerous essentialist territory. Ecofeminism, the one scholarly field that is concerned with the links between gender oppression and the exploitation of nature (or the environment), has been plagued by a negative reputation as being spiritualist, essentialist, and downright 'fluffy' and so arguably has kept feminist-environmental scholarship confined to a ghetto. Banerjee and Bell (2007) suggest that the low status of ecofeminism is partially to blame for the avoidance of environmental issues by mainstream feminist scholars. I shall not review the debate here (but see MacGregor, 2009).

The small amount of research that exists on gender and climate change has been conducted by gender, environment and development (GED) scholars and by feminist researchers working for the UN, government ministries and women's environmental organizations. The bulk of the scholarly work has appeared in two special issues of the journal *Gender and Development* (published in 2002 and 2009), and these are written from a development policy and practice perspective. There are gestures toward feminist and social theory (feminist political ecology in particular); but the work is primarily aimed at development-related issues and takes a materialist approach. A theme running throughout both special issues is that more research into the implications of climate change for women and men as gendered beings is needed. As Geraldine Terry writes in her opening commentary to the 2009 issue, 'academics, gender and development practitioners, and women's rights advocates are still only starting to grapple with [the] many gender dimensions [of climate change]' (Terry, 2009: 5).

I argue that there ought to be a broader agenda for researching and theorizing the gender dimensions of climate change than that presented from a development perspective. At present, the dominance of development scholarship on climate change in the 'South' has resulted in a disproportionate emphasis on vulnerable victims 'down there', when it is the affluent in the sociological 'North' whose large carbon footprints are to blame for global warming. It is also necessary to avoid making the mistake that many outside of the development field have made (eg Giddens, 2009) in presenting climate change as a *future event*. For most of the people living on this planet it is a process whose effects are being experienced *now* (Dankleman, 2002). To broaden the scope of analysis, therefore, my agenda includes three areas in which the workings of gender are apparent in the way climate change is framed (or 'constructed'), in the way climate change is and will be experienced in everyday life, and in the way states and individuals are responding to the challenge of 'tackling' climate change. In

each of these three areas, I am particularly interested in considering examples from within the social and political contexts of overdeveloped, affluent societies.

Constructing climate change: science and security

The first place where gender analysis is possible and necessary is in the very construction of the problem of climate change. Rosa and Dietz (1998: 429) argue that one of two sociological responses to climate change is to ask ‘what *social conditions* and what *social actors* created this global concern?’ (my emphasis). Bringing a social constructivist perspective to the issue is not meant to deny the existence of anthropogenic climate change but to enable critical interrogation of the social and political forces that shape dominant understandings of it. From a *feminist* social constructivist perspective, it is important to examine the ways in which gendered environmental discourses frame and shape dominant understandings of the issue. Gender here is not just an empirical category (ie men/women), it is also a discursive construction that shapes social life. Gender analysis should involve the analysis of power relations between men and women and the discursive and cultural constructions of hegemonic masculinities and femininities that shape the way we interpret, debate, articulate and respond to social/natural/techno-scientific phenomena like climate change.

While scientists have suspected that human activities are changing the earth’s climatic systems for many decades, the rise of climate change to the top of the political agenda at the start of the 21st century can be attributed to some particular social conditions. One obvious social condition is the increasing awareness, thanks to unprecedented amounts of scientific evidence disseminated in the popular media, that the climate is changing. Lever-Tracy (2008) identifies the year 2005 as a social ‘tipping point’ brought about by the Asian tsunami and Hurricane Katrina, among other extreme environmental catastrophes. A related social condition, which has been theorized by Bauman (2006) and others, is the generalized sense of fear and anxiety about the future that characterizes late, ‘liquid’ modernity, a condition that has been shaped by threats of terrorism, natural disasters and economic collapse in the 2000s. It is within this context that climate change has been presented not only as a largely scientific problem (one might say it has been ‘*scientized*’), but also as a threat to national and international security (ie it has been ‘*securitized*’).

Better known in the field of international relations than in sociology, the discourses of environmental security, and ‘its most powerful and neo-liberal off-spring, “climate security”’ (Doyle and Chaturvedi, 2009: 3), are premised on Hobbesian predictions that climate change will lead inevitably to conflict over scarce resources (especially energy) between and within states (Homer-Dixon, 1999; see also Giddens, 2009: 204–5). Since the early 1990s, defence ministries (traditionally the domain of men) have been interpreting environmen-

tal 'insecurities' in ways that call for armed and militaristic readiness, alliances and responses (Elliott, 2004). There has been growing interest in recent years in presenting climate change as a serious threat to national and global security. For example in 2004 the UK's Chief Scientist Sir David King made the connection clear, saying that climate change is a worse threat than terrorism (Connor, 2004). Conflicts in some regions of the developing world are attributed to climate change (Darfur is the classic example). These are seen to have knock-on effects for affluent countries such as the influx of environmental refugees from impoverished countries. The security threats posed by climate-related mass migration are met with calls for the tightening up of borders and the increasing of aid budgets (for 'selfish reasons' [Giddens, 2009: 212]) so that 'we' do not have to face the social problems 'they' will import from the South.

A feminist response is to point out that by 'scientizing' and 'securitizing' it, climate change is constructed as a problem that requires the kinds of solutions that are the traditional domain of men and hegemonic masculinity. Whereas the environment was once considered a 'soft politics' issue (Peterson and Runyan, 1999: 59–60) in the field of international relations, it has become 'hardened' by the threats to national and international order that are predicted to come with climate change. This securitizing move has framed the issue in a way that justifies both military responses and exceptional measures that depend on a downgrading of ethical concerns that were once central to environmentalism. Interestingly, climate change is used to 'trump' some of the issues about which women have traditionally expressed concern. For example, fears about the health risks of radiation from nuclear waste, significantly higher among women than men (Solomon, Tomaskovic-Devey and Risman, 1989; Kiljunen, 2006; Freudenberg and Davidson, 2007), have been put aside because nuclear power is allegedly a low-carbon emitting form of energy production. The potential health risks and the ethical uncertainties associated with genetically-modified organisms, again expressed more by women than men (GM Nation Report, 2003; Moon and Balasubramanian, 2004), have been put to one side in the face of climate-related crop failures and the need for biofuels. Finally, the contemporary climate change debate is increasingly framed as one that involves dangerous population growth. The reproductive freedom of women, for which feminists have long fought, is therefore being questioned again by neo-Malthusian environmentalists who argue that population growth is a key driver of climate change (Guillebaud, 2007).

With respect to the social actors involved in bringing climate change to the top of the political agenda, it is uncontroversial to note that men are in the majority. After several decades of women carving out a niche as advocates and exemplars of more sustainable ways of living, climate change has brought about a *masculinization* of environmentalism. Men dominate the issue at all levels, as scientific and economic experts, entrepreneurs, policy makers and spokespeople. Since the 1970s climate change had been identified and explained by natural scientists. As Rosa and Dietz (1998: 442) write, '[s]cience provides the framing

and discourse for the problem and scientific elites promote the discourse.' It is not irrelevant that the majority of climate scientists are men. The Intergovernmental Panel on Climate Change (IPCC) is mostly made up of male scientists, with 'chairman' Rajendra Pachauri leading at the global level. Men also dominate in the climate policy arena and as prominent spokespeople whose world-views and personalities serve to construct the issue in gender-specific ways. International environmental delegations are mostly made up of and led by men (Dankelman, 2002). The most prominent politicians associated with the issue are male. In the USA the issue has been popularized by former Vice President Al Gore, Governor of California Arnold Schwarzenegger, and Senator Robert Kennedy Jr. In the UK political awareness about climate change has been aroused in various ways by such men as Sir Jonathon Porritt (chair of the Sustainable Development Commission), Lord Nicholas Stern (economist and author of the Stern Review); the Miliband brothers (David, the former Secretary of State for Environment and Ed, the new Secretary of State for Energy and Climate Change) and the Prince of Wales (who won the title of Global Environmental Citizen in 2007 [Milmo, 2007]). In 2007 an Internet survey of 'global consumers' in 47 countries conducted by The Nielsen Company and Oxford University found that 18 out of the 22 'most influential spokespeople on climate change' are men, among them Al Gore, Kofi Annan, Nelson Mandela and Bill Clinton (Nielsen Company, 2007). The five women on the list are not politicians or scientists, but models and actresses with highly questionable connections to climate change policy.

Why are women largely absent as framers and shapers of climate change as a political issue? One answer is that women make up a small minority in fields that have influence over climate change policy-making; in the UK they represent just 18 per cent of MPs and 22 per cent of MEPs (WEN and NFWI, 2007: 11). Another is that the climate change debate has been shaped by stereotypically masculinist discourses (ie of science and security) that work to invisibilise women and their concerns. It is possible that one of the consequences of the scientific framing is that women have become alienated from the climate change debate because they are less inclined than men to engage with science and technology. It is well known that hegemonic femininity does not encourage women's aptitude for maths and science, and the underrepresentation of women in these fields provides convincing evidence. In the UK, it is estimated that women make up just 19 per cent of scientists and engineers (WEN and NFWI 2007:11). When it comes to a highly scientized issue like climate change, it is quite possible that many women simply 'switch off'. According to survey data collected in the UK '...men are better informed about climate change science than women' (Hargreaves *et al.*, 2003 quoted in Shackley, McLachlan and Gough, 2004: 33). Reflecting on her experience of high-level climate meetings, Ulrike Rohr, director of the German gender and environment project Genanet, attributes the low participation of women to the exclusively scientific and technical approach to global warming. 'Women feel like they can't enter the discussions,' she says (quoted in Stoparic, 2006).

Experiencing climate change: impacts and perceptions in everyday life

A second area that is ripe for gender analysis is the impacts of climate change on the everyday lives of men and women. Impacts are predicted to include an increase in extreme weather events like hurricanes and tsunamis, droughts, floods and heat waves, sea level rise, food shortages, displacement and homelessness. There are gender differences in the way people think about, experience and adapt to these impacts. 'Everyday life' is the area in which there has been the most feminist-informed research to date, probably because the gender dimensions are fairly obvious. Even though it has largely omitted gender from its analyses, the IPCC (Intergovernmental Panel on Climate Change) acknowledges (in its Fourth Assessment Report, 2007) that people's capacity to adapt to climate change will be shaped by their gender roles (Terry, 2009). As noted earlier, there is a body of research on the material impacts of climate change on vulnerable women and men in the Global South. This research takes a materialist (or 'neo-realist' in Rosa and Dietz's 1998 terms) perspective, in that it accepts the scientific predictions as given and focuses on the impacts that will be experienced by individuals and communities. The overarching theme in this work is that climate change is not gender-neutral (as per popular belief) but has gender-differentiated causes and effects (Dankleman, 2002: 24). I shall not go into detail about the many ways people are now, and will be, hurt as a result of the crisis; rather I will identify three key themes that are important in considering the impacts of climate change on everyday life from a feminist perspective.

There is widespread agreement among climate change analysts and policy makers that the more socially and economically marginalized people are, the more vulnerable they are to the effects of global warming. The poor will be hurt the most. However, few other than feminists put the *global feminization of poverty* into the frame. In his analysis, for example, Giddens (2009) refers to 'the poor' as a homogenous group, with no attention to the fact that women are more likely to be poor, and to be responsible for the care of poor children, than men. This is a problematic blindness. Approximately 70 per cent of the world's poor are women; rural women in developing countries are among the most disadvantaged groups on the planet. They are therefore unlikely to have the necessary resources to cope with the changes brought by climate change, and very likely to suffer a worsening of their everyday conditions. Research has found that poor women are more likely to be hurt or killed by natural disasters and extreme weather events than men (Nelson *et al.*, 2002). There is also evidence to suggest that when households experience food shortages, women tend to go without so that their children may eat, with all the health implications this brings for them (Buckingham-Hatfield, 2000). Economic and social breakdown caused by displacement will bring about a worsening of women's already low status and vulnerability. Their poverty and low social status also makes it less likely that they will be involved in decision-making. Drawing on specific case studies from developing countries, the contributors to the special issues of

Gender and Development provide a long list of such gender differences in vulnerability to climate change due to poverty.

Secondly, ecofeminists and GED scholars have been claiming for decades that women are more dramatically affected by environmental degradation than men, due to their social roles as provisioners and carers (Buckingham-Hatfield, 2000; Mellor, 1997; Jackson, 1994). Much of this work draws on analyses of social reproduction and *the gendered division of labour*, which have been central to feminist political economy for decades. Attention to women's gender-ascribed responsibility for social reproduction allows for recognition of the ways in which men and women will be affected differently by climate change. Di Chiro (2008: 281) gives a useful ecofeminist definition of social reproduction as 'the intersecting complex of political-economic, socio-cultural, and material-environmental processes required to maintain everyday life and sustain human cultures and communities on a daily basis and intergenerationally'. She notes that social reproduction, a feminized sphere of activity, has been 'ignored or trivialized' in mainstream (ie non-feminist) scholarship, even though it has been affected in important ways by neoliberal capitalist globalization and ecological degradation. In developing countries, women's everyday provisioning work will be made more difficult due to climate change-related impacts such as drought (eg walking further for clean water and firewood, spending more time growing food for household consumption). Little research has been done on how the gender division of labour will shape women's and men's experiences of climate change in affluent, overdeveloped societies, but it is reasonable to suggest that there will be gender-differentiated implications for both formal employment (eg job losses in the traditional energy and manufacturing sectors) and paid and unpaid reproductive work (eg increases in amount of care required for people hurt by climate change). Policies aimed to achieve a drastic reduction in greenhouse gas emissions, such as carbon rationing, are likely to affect those with greater responsibility for household consumption and transportation. Later in the chapter I comment on how the need for lifestyle changes in the private sphere disproportionately implicate women and their gendered sense of duty.

A third area for feminist research into everyday life is *gender differences in perception of climate change-related risks*. There is an established body of work on risk perception in environmental sociology and social psychology that tends to find differences in men's and women's levels of concern about environmental risk (Slovic, 1999; Finucane *et al.*, 2000). Generally speaking, there is evidence to suggest that women express higher levels, and men lower levels, of concern, and this has been attributed to differences in gender roles and social status (including class). Just as women's socially ascribed roles as carers and provisioners make them more vulnerable to the impacts of climate change, women tend to feel more responsible for and more concerned about the quality of the environment (Zelezny *et al.*, 2000; Dietz *et al.*, 2002; Hunter *et al.*, 2004). Thomas Dietz, who specializes in social psychological research into environmental attitudes, reports that 'generally, women are more concerned about environmental

issues [than men]...’ (Dietz, Dan and Shwom, 2007). Terry (2009) notes that there has been very little research on gender differences in perceptions of climate risks, but preliminary evidence collected in South Africa, in a survey of male and female farmers, suggests that women feel more worried than men about the likelihood of increased climate-related drought. She suggests that this is due to women farmers’ heightened sense of responsibility for household survival: drought means crops fail and families go hungry. Men, on the other hand, tend to be more involved in livestock rearing, which is slightly less sensitive to climate change (Terry, 2009: 8). In the UK, a survey conducted in 2007 by the Women’s Environmental Network (WEN) and the Women’s Institute (WI) found that women are more concerned about climate change than men and have stereotypically gendered (ie feminized) priorities in response to this concern. Women in the survey were far more concerned about the risk of climate change to future generations (85 per cent), to animal life (81 per cent), and to food security (81 per cent) than they are about threats to the economy (39 per cent) (a stereotypically masculine concern) (WEN and NFWI, 2007: 14).

Tackling climate change: institutional and individual responses

The final area in which there is scope – and need – for a feminist analysis is in the types of responses to climate change that are made by institutions and individuals in different spheres of social life. Echoing much of what I have discussed thus far, Masika alludes to a gendering of responses to climate change when she writes:

Predominant approaches and policy responses have focused on scientific and technological measures to tackle climate change problems. They have displayed scant regard for the social implications of climate change outcomes and the threats these pose for poor men and women, or for the ways in which people’s political and economic environments influence their ability to respond to the challenges of climate change.’ (Masika, 2002: 3)

As noted earlier, the scientizing and securitizing discourses that construct climate change as a social problem are informed by stereotypically masculine concerns; it follows that it should be possible to theorize a masculinization of the dominant responses.

There are two main policy responses to climate change: some that aim towards *mitigation* and others that focus on *adaptation*. Mitigation refers to policies aimed at reducing CO₂ emissions in order to slow the speed of climate change. Setting targets for the reduction of CO₂, such as an 80 per cent reduction in emissions by 2050, is now common in most overdeveloped countries and a goal of international environmental negotiations. Achieving these targets will involve social and economic changes that will be slow and politically difficult to make, so at the same time as working toward mitigation, policy-makers also need to think about how to prepare for the likely impacts that will come with

climate change in the next 50 years. If people are not prepared, they will not be able to adapt, and the consequences for governments will be serious. So there is a growing focus on improving people's capacity to adapt to things like water shortages, extreme weather and coastal erosion.

Mitigation and adaptation policies are informed by the dominant discourse of ecological modernization which advocates the use of 'technological advancement to bring about [both] better environmental performance' (Schlosberg and Rinfret, 2008: 256) and economic efficiency in a win-win situation. Largely replacing the contested notion of 'sustainable development' in green policy circles, ecological modernization has a supply-side focus and depends on cooperation between government and business to solve environmental problems (Hajer, 1995). It has brought about the development of all sorts of complex technologies and systems that are (or promise to be) highly profitable, such as carbon trading and offsetting, carbon capture and storage, carbon sequestration, renewable energy (wind, solar, wave and geothermal power, biofuels), patented genetically modified crops – the list could go on. Many of the proposed solutions to climate change come in the form of innovations and gadgets, or 'lots of neat green stuff' (Schlosberg and Rinfret, 2008: 268). Giddens (2009) endorses the ecological modernization approach in *The Politics of Climate Change*, arguing that technological innovation and risk-taking is our best hope for ending fossil fuel dependency. His enthusiasm is nicely displayed when he writes:

Taking risks adds edge to our lives, but much more importantly is intrinsic to a whole diversity of fruitful and constructive tasks. Risk-taking is essential to new thinking in all spheres, to scientific progress and to wealth-creation. We have no hope of responding to climate change unless we are prepared to take bold decisions. It is the biggest example ever of *he who hesitates is lost*. (2009: 57, my emphasis)

With his use of 'he' in this quotation Giddens may not intentionally be making a comment on the gendered nature of ecological modernization, but I think one reasonably can be inferred. While many green techno-scientific innovations will no doubt be important for a sustainable future, it is also true that ecological modernization amounts to more searching for the new rather than improving the old; more omnipotence rather than humble reflection on the benefits *and the costs* of male-dominated scientific ingenuity to date. It is arguably masculine risk-taking and the quest for progress that got us into our ecological mess.

Feminist critics have suggested that the dominant responses to climate change mitigation and adaptation display a stereotypically masculine focus on supply side, technical solutions and militaristic 'muscle-flexing' (Denton, 2002: 18; see also Terry, 2009: 6). Meanwhile feminists argue that women have tended to focus their responses on the social dimension rather than looking to technical fixes for environmental problems (Johnsson-Latham, 2007: 6). The discourses of sustainable lifestyles, ethical consumption, and the precautionary principle seem to reflect a stereotypically feminine set of concerns. The Women's Environment and Development Organization (WEDO), for example, have called for

a 'human security' approach, possibly to distinguish it from the dominant environmental security discourse. Human security has been defined as the protection of 'the vital core of all human lives in ways that enhance human freedoms and fulfilment' (Ogata and Sen, 2003). This is a theme in the GED research on women's responses to climate change in the Global South. In order to counter the image of women as powerless victims of climate stresses and natural disasters, feminist researchers have documented the various short- and long-term strategies that women have used to adapt to – and resist – harsh environmental conditions and political marginalization. There tends to be a desire in this literature to theorize women's 'gendered indigenous knowledge' (Terry, 2009: 13) that stems from their close proximity to the natural world through everyday agricultural practices. There is also some work on international women's environmental organizations and the modest success they have had in their efforts to put gender on the agenda of UN policy makers, such as at the Bali Conference in 2007 (Terry, 2009).

It has always been somewhat dangerous for feminists to celebrate women's responses to environmental problems when they are connected to their gender-specific responsibilities for social reproduction (MacGregor, 2006). In the Global South, gender analyses have sometimes led to development programmes that are explicitly designed to be carried out by unpaid women volunteers, based on the assumption that rural women are predisposed to taking an environmental care-taking role (Jackson, 1994). This assumption, writes Maskia (2002: 6) '...continue[s] to translate into initiatives that place greater burdens on women's time and labour without rewards, and do not provide them with the inputs (education, information, and land rights) they require'. In the affluent North, the assumption is subtler. Thus far there have not been any programmes that overtly target women as they do in the South. But governments and environmentalists place emphasis on the role of individuals as consumers to tackle climate change by conserving energy, taking public transit, recycling waste, growing food and foregoing flights. Households contribute about 40 per cent of emissions in the UK and so are under pressure to change their behaviour and 'lifestyles'. Giddens (2009) claims to be 'hostile' to efforts aimed at making people adopt green lifestyles because they are unrealistic, punitive and possibly counterproductive – in short, they might put people off. A feminist objection is to point out that there are unfair gender asymmetries involved in greening the household, which stem from the traditional division of labour.

In so far as consumption is a private sphere activity, and women tend to be principally responsible for household consumption, it is likely that exhortations to 'live green' are directed at (and will be received primarily by) women. Men may hear them, but expect women to do the work. There is evidence to suggest that women are more likely than men to take on green housework (Schultz, 1993; MacGregor, 2005; Vinz, 2009). It is therefore not surprising that women tend to respond to the climate change crisis with increased green diligence in the private sphere and public announcements of gender-specific concern through forms of activism. For example, the EcoMom Alliance, an American non-profit

organization that was established in 2006, has the expressed aim of 'inspiring and empowering women to help reduce the climate crisis and create a sustainable future'. It has over 6,000 members and a trademarked motto: *Sustain Your Home, Sustain Your Planet, Sustain Your Self™*. The EcoMom Alliance pushes all the right buttons of hegemonic femininity in the effort to convince women that it is their duty as mothers to save the planet. Their website sums up the organization's *raison d'être* like this:

Throughout history, during times of fever, flood, famine or flu, women step up and do what must be done... As both role models and a market force, we believe mothers (and earth mothers alike), can help propel an environmentally, socially and economically vibrant and healthy future. (<http://ecomomalliance.org/about>)

The website also invites women to 'take the ecomom challenge', which entails taking ten well known steps toward tackling climate change by changing household practices and making the right consumer choices. All of these steps are promoted by government and environmental campaigns; the difference is that whereas masculinist greens do not address who will take the steps, here there is an explicit acknowledgement that this is *women's work*, indeed work that most 'good moms' already do. The same may be said for one of the very few women's organizations that campaign on climate change in the UK, the Women's Institute. The WI traditionally has been associated with stereotypically feminine pursuits and concerns about domestic life. In recent years, it has become involved in expressing a 'women's perspective' on such political issues as European agricultural policy, prostitution and the environment. In 2007, the WI paired up with the Women's Environmental Network (WEN) to publish the Women's Manifesto on Climate Change, the preamble of which states: '[w]omen in the UK have a key role in tackling climate change as consumers, educators and 'change agents' in our homes, encouraging the adoption of lower carbon lifestyles and passing on green values to the next generation. We are also far more concerned about environmental issues than men' (WEN and NFWI, 2007: 2). The WI celebrates women's 'power' to tackle climate change by making good decisions in the supermarket and in the household. 'As household managers, [women] are also key to controlling the 30% of UK carbon emissions that are produced in the home' (WEN and NFWI, 2007: 9). The Manifesto contains a list of 'what women want' the government to do about climate change, a list of demands that is justified by the argument that not only are women in a better position to take action on climate change than men, they are also more concerned about it than men. Rather than questioning the traditional gender division of labour (where women take on all the unpaid housework while men are exempt from such domestic drudgery), the EcoMom and the WI campaigns accept and affirm the gendered status quo – and want to put it good green use.

An ecofeminist critique of environmental politics is that it pays insufficient attention to the politics of gender in general and the gender division of labour in particular (Shultz, 1993; Sandilands, 1993; Littig, 2001; MacGregor, 2006;

Vinz, 2009). Because women's responsibility for social reproduction is *assumed-yet-ignored*, no one stops to raise questions of equity and fairness in a green agenda that depends on it. Ecofeminists have criticized this as a form of environmental privatization that is consistent with neoliberalism (Sandilands, 1993). Women have internalized the sense of responsibility to 'do their bit' for the environment and have taken up the duties promoted by the 'green agenda' quite willingly and publicly. Invoking a Foucauldian analysis, some theorists have referred to this internalization as a form of 'environmentality' (Agrawal, 2005) whereby people are made into good green subjects by adopting the values of government. As I have analysed at length elsewhere (MacGregor, 2005, 2006) many women have become 'environmental subjects' who wear their green duty with feminine pride. Similarly, Sandilands (1999: xiii) describes what she calls 'motherhood environmentalism,' arguing that women's environmental concerns tend to 'boil down to an obvious manifestation of natural protective instincts towards home and family.' Women's maternal role is often used as a justification for their involvement in environmentalism. I have called this 'ecomaternalism' (MacGregor, 2006) in relation to women's 'quality of life activism'; I now recognise it in women's private and public responses to climate change.

Conclusion: the need for feminist social research on climate change

It remains to provide an answer to the question: why call for an end to the strange silence that exists on gender and climate change within the social sciences? Why is feminist research in this area necessary? After decades of feminist scholarship it is regrettable that the onus is still on those of us who want to include gender as a relevant social category rather than those who regularly ignore it.

A great deal of energy is devoted to making the case for gender analysis, energy that might be better spent on other things – like theorizing the social conditions necessary for a low-carbon society. It is tempting to give in to paranoia when one searches in vain for the incorporation of feminist insights on environment-society relations in newly published books and journal articles on climate change. I shall conclude by turning the question around: what are the implications of leaving gender analysis out of sociological investigation into a crisis that threatens to 'undermine the very basis of human civilisation' (Giddens, 2009: 1)?

Gender and development researchers make the instrumental argument that, because it is undeniable that the impacts of climate change are and will be gendered, 'policies need to ensure that gender analysis is fully integrated to avoid exacerbating gender inequalities' (Nelson *et al.*, 2002: 58). Feminist lobbyists at the Bali Climate Conference in 2007 used the slogan 'No climate justice without gender justice' to make their position clear. Empirical research on gender dimensions of climate change, such as that produced by feminist development specialists, will enable a more accurate diagnosis of the problem and thus a more promising 'cure' (if there is one) than is possible with a gender neutral approach.

But those in the field are unanimous in calling for more case studies and more evidence that will contribute to a thorough understanding of gender differences in perceptions, impacts, and responses in developing and overdeveloped regions of the world. Attempts to tackle climate change that proceed without the benefit of this knowledge will be insufficient, unjust and hence unsustainable.

It is also important that materialist-informed empirical research be complemented by critical feminist theorizing of non-material and discursive aspects of climate change. Sociologists have a long tradition of interpreting the processes through which social issues are constructed and framed, and this approach is highly useful in the climate change arena. As I have shown above, the dominant discourses that shape climate change as a social issue, the kinds of responses that are deemed appropriate for it, and the kinds of concerns that are displaced by it, are ripe for feminist analyses of hegemonic gender codes. The case for developing this kind of constructivist analysis is simply 'intellectual opportunity' (Rosa and Dietz, 1998: 446): it will allow deeper, better sociological understanding of an issue that dominates social life in the 21st century. Feminist social constructivist analyses of climate change will not yield solutions per se and so perhaps will be regarded as frivolous at a time like this. But if the social sciences are to contribute to climate change research on an equal footing with natural sciences (as Rosa and Dietz hoped would happen back in 1998), then there must be space for non-instrumental goals and critical interrogation of scientific knowledge claims from a range of perspectives.

In *The Politics of Climate Change* Anthony Giddens's aim is to understand in order to solve: to analyse the root causes, survey the available technologies, calculate the costs, weigh up the risks and benefits, and propose viable solutions. Despite the book's title, its starting point is the claim that '*we have no politics of climate change*' (2009: 4) (many of us who have been working on environmental political issues for a lot longer than he has would beg to differ with his assessment). 'In other words,' he continues, 'we do not have a developed analysis of the political innovations that have to be made if our aspirations to limit global warming are to become real. It is a strange and indefensible absence...'. From a feminist perspective, it is unlikely that 'our aspirations' can be realized without an accurate understanding of the social and political relations that have brought about the crisis of climate change or of the social conditions under which potential solutions will enhance rather than entrench existing injustices. So perhaps a more interesting question for him and others gripped by the present ecological crisis is: when will we have a *sociology of climate change*? Until there is an end to the strange silence on the gender dimensions of climate change, this will remain an elusive goal.

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