

Ecofeminism in the twenty-first century

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This paper was accepted for publication in March 2004

This paper considers the influence of ecofeminism on policy concerning gender (in)equality and the environment during the past 20 years. It reviews the broad contours of the ecofeminist debate before focusing on the social construction interpretation of women's relationship with the environment. It will argue that there have been substantial policy shifts in Europe and the UK in both the environmental and equalities fields, and that this is in part a result of lobbying at a range of scales by groups informed by ecofeminist debates. Nevertheless, the paper cautions that these shifts are largely incremental and operate within existing structures, which inevitably limit their capacity to create change. As policy addresses some of the concerns highlighted by ecofeminism, academic discourse and grass roots activity have been moving on to address other issues, and the paper concludes with a brief consideration of contemporary trajectories of ecofeminism and campaigning on issues that link women's, feminist and environment concerns.

KEY WORDS: ecofeminism, gender mainstreaming, environmental discourse, environmental justice

Introduction

Since 'ecofeminism' was developed as a concept in the 1970s¹, there have been, arguably, major policy shifts in the fields of gender (in)equality and environmental sustainability. Thus a consideration of the achievements of, and work outstanding for, ecological feminism is warranted. In this paper, I will assess the changing policy landscape to explore the extent to which this has structurally altered gender inequalities and societies' treatment of the environment, and the imbrication of these two processes. In order to do so, I will look at the rising profile of gender mainstreaming at the international, European Union² and European national level; the application of the 'feminism' debate to environmental concerns; and the shifting of the 'radical edge' of ecofeminism, to explore future possible trajectories (see, for example, Plumwood 2003; Seager 2003). To some extent, I will suggest that the transformation of policy and development rhetoric to include gender, as distinct from women's issues (itself, arguably, a 'post-feminist' dilution of women's equality), masks a fundamental attachment to 'business-as-usual', where social roles, pay differentials, political representation and environ-

mental degradation remain little changed. However, there is, I argue, sufficient evidence to identify the influence of ecofeminist thinking on major policy initiatives concerning the relationship between women, men and environment at a variety of scales.

The central question of this paper, then, is whether ecofeminism (as a distinct discourse, or as an amalgam of feminism and environmentalism constructed in different times and places in different ways) has changed the way in which Western society articulates the relationship between men, women and the environment. This, of course, is a problematic and speculative exercise and will follow from an analysis of how discourse and practice themselves have changed.

This paper will consider key changes to gender equality as it is linked to environmental sustainability, and explore how women's/feminists' interests have helped to shape the environmental debate in the past decade. I will try to unpick dominant discourses which, on the one hand, are beginning to 'naturalize' (some would say neutralize) environmental concerns (where the terms sustainable development and environmental sustainability are common currency but poorly understood to the point of being anodyne), but on the other hand are

marginalizing feminism, to examine the impact of this on 'ecofeminism'. Finally, I will explore the territory of ecofeminism's leading/radical edge to speculate on where this may take both conceptual understanding and policy in the future. First, however, to put this discussion into context, I will briefly review ecofeminist arguments to illustrate their range, before focusing on the constructivist approach, which has had the most traction in gender/environment debates in the last two decades.

Ecofeminist approaches

It is tempting to use a retrospective to try to impose some sort of order on past intellectual activity, and what I am attempting to do first in this article is to explore whether there is an intellectual trajectory, through a not necessarily coherent body of thinking and writing on gender and environment in the late twentieth century. In teasing out the possible relationship between women's position, gender relations, feminism, and the way in which Western society is seeking to control or manage the environment, ecofeminist writers in the 1970s and 1980s explored the relative importance of essentialism and social construction in these relationships.

The social constructivist analyses (which tended to dominate French and British writing; see, for example, Mellor 1992) drew from the Marxist and social feminist literature to show how women's position in society (as, for example, carers of children and other vulnerable family members, domestic workers, and low paid/status workers) derived from prevailing social and economic structures, which exposed them to a particular set of environmental incivilities. The specifically ecofeminist argument here proposed that, since the same social and economic structures also produced wide-scale environmental damage, then women could, in some sense, 'share' this experience and were therefore better placed to argue on nature's behalf.

The essentialist argument that underpinned some of the North American and Australian analyses proposed that women had a particular relationship with nature by virtue of their biology (predominantly as actual or potential child bearers) and that this proximity to nature qualified them to speak more eloquently on nature's behalf (see, for example, Spretnak 1989; Daly 1978). Different authors drew on each position to different degrees, and much of the critique of ecofeminism (well articulated in Biehl 1991) over the past 20 years has focused on the problems perceived with essentialism, and on the validity of a shared experience between the human and non-human.

Dennis Smith (2001), in discussing the role of gender in peace and conflict, has argued that

essentialism is often used as a tool to mobilize a group around a perceived characteristic which sets it apart, and, certainly, cultural ecofeminism (prioritizing essentialist arguments) did so. Its strength was to demonstrate the possibility of a way of thinking and being which reversed the normal hierarchy in which men stood at the peak; however, little academic feminist environmental thinking is currently framed in this way. Indeed, as Gillian Rose (1993) noted, to accept that women had an irreducible 'female essence' would be tantamount to admitting that others distinguished by 'difference' (such as minority ethnic populations, disabled people or gay men and women, and men more widely) could be driven to behave in similarly 'essential' ways, which, by definition, would be unchanging and unchangeable, an argument that social scientists have been working hard to refute for many years.

The argument that informs this paper is based on an interpretation of ecofeminism that is constructivist and it is certainly this strand that appears to have informed policy development over the past 20 years.

Changes in the environmental discourse: policy

By 2001, a paper in the *Journal of Gender Studies* was taking as axiomatic that governments throughout the world were beginning to focus more attention on the subject of gender equality (Bhattar 2001, 17). The following section reviews the extent to which mainly inter/transnational policy has accomplished this transition, whilst Table 1 illustrates how both environmental policy and women's equality policy have been dialectically affected by each other.

One practice that has become much more widely embedded at the national/international level from the early 1990s is gender mainstreaming³. Framed within human rights and equality discourses that have informed the United Nations (UN), it has become a plank of all UN conventions since the environment and women's conferences of the early-mid 1990s. Jointly, the outcomes of the two conferences shown in Table 1 have promoted the inclusion of environmental impacts and women's interests in other UN agreements, such as those concerning habitat, social inclusion and poverty. Whilst, arguably, the national machineries of the signatory states of these conventions are necessary as catalysts for promoting gender equality and justice, those same state structures are embedded in structural inequalities and it is sometimes difficult to see how they may be used to make anything other than superficial changes (Rai 2003). Molyneaux (1998) distinguishes between women's 'practical' and 'strategic' needs, whereby addressing such

Table 1 Strategies for linking women and environment

Bringing gender into the environment	Bringing the environment into gender
1992 United Nations Conference on Environment and Development 2002 World Summit on Sustainable Development EU Gender Mainstreaming DGXI Environmental Justice movement	1995 United Nations 4th Conference on Women and Platform of Action UK Government Gender Mainstreaming advice incorporates examples from the environment field

'practical' needs as better childcare (or, in environmental terms, reducing nitrogen dioxide or particulate pollution as a contributor to childhood asthma) does nothing to challenge existing power structures. However, strategic interests (such as challenging a society which values the macho image of much car driving/ownership) take on existing patriarchal 'paradigms of power'. Rai argues that an effective way of gender mainstreaming would be to frame women's interests (both practical and strategic) in the wider interests of a just society rather than the commonly adopted additive nature of gender analysis.

The UN Conference on Environment and Development (UNCED) in 1992 was the first UN conference to be significantly informed by the non-governmental sector. Its centrepiece (or at least, the element that achieved the most publicity, and was least scathed by the Rio +5 evaluation; see Osborn and Bigg 1998), Agenda 21, was a testament to the sustained lobbying by women's groups (as part of a wider NGO presence, and local government). The preparatory meetings took place across the globe for two years and ensured a reasonably coherent lobby from the women/environment movement worldwide, leading to the inclusion of a set of objectives defined in Chapter 24 'Global action for women towards sustainable development and equitable action' (United Nations 1992).

The link between women and the environment was consolidated, internationally, at the 1995 4th UN Conference on Women in Beijing. The resulting Platform for Action identified 'women and environment' as one of the critical areas of concern. UNED-UK's 'Gender 21' group subdivided this concern into education, health, marginalized groups, planning, housing and transport, Local Agenda 21, and consumption and waste (Barber *et al.* 1997).

Ten years after UNCED, the World Summit on Sustainable Development (WSSD) did little to advance women's equality with respect to the environment, although the need to embed women's (or sometimes termed 'gendered') concerns was written more thoroughly into the Plan of Implementation. Few achievements were noted in the

intervening ten years; for example, the UN had expressed frustration at the lack of progress on issues as wide as AIDS/HIV, globalization, poverty, and health – all of which are characterized by gender inequality.

Point 20 of The Johannesburg Declaration on Sustainable Development commits to ensuring that 'women's empowerment and emancipation, and gender equality are integrated in all activities encompassed within Agenda 21, The Millennium Development Goals and the Johannesburg Plan of Implementation' (Middleton and O'Keefe 2003). This plan variously refers to women, females, women and men, and gender, both generally (as in 'the outcomes of the summit should benefit all, including women . . .'), and with reference to specific programmes. Such programmes include good governance (item 4), poverty eradication (6), eliminating violence (6), discrimination (6), health (6, 46, 47), economic opportunity (6), land ownership (10a), water (24), agriculture (38f), technology (49), energy (49), and area-specific programmes such as mountain areas and Africa (40c, 56). It also embeds gender considerations into the means of implementing the Plan, such as education, data collection, indicator provision, public participation and decision making. Such a thorough weaving of gender/women throughout the Plan of Implementation is, in some ways, an improvement on the targeted Chapter 24 focusing on women in Agenda 21, but it is too soon to establish whether it will have any effect on signatory states' treatment of women, particularly in relation to the environment. Participants in the Women's Platform at the NGO Forum at the WSSD had mixed reactions: both welcoming a more thoroughly embedded inclusion of women in plans (Women's Environment and Development Organization 2002) and exasperation at the assumption in the main conference that 'women's issues' had already been dealt with at Rio (Women's Environmental Network/Women in Europe for a Common Future 2002). There is some evidence that the women's groups were right to be suspicious as, in preparation for the WSSD, the UN Commission for Sustainable Development, in its

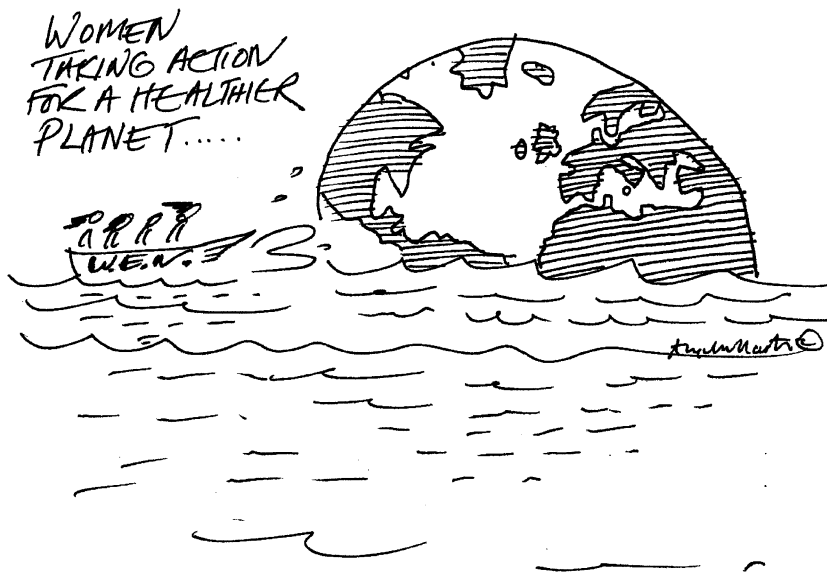


Figure 1 Example of a cartoon used by the WEN in campaigns
Source: Copyright WEN/Angela Martin

own preparatory committee, identified the participation of women at all political levels as 'still relatively low, and the level of participation at the international level is not adequately geographically balanced or adequately financed' (UN Economic and Social Council 2001, 43).

Gender mainstreaming

On the basis of the women's groups involved in submitting evidence to the UN preparatory committees, it could be argued that the inputs into the UNCED and Beijing conferences were influenced by the ecofeminist debates from the 1980s onwards. As such, it is possible to see how constructivist ecofeminism has been incorporated into policy governing gender relations, environment, and the linking of women and environment. One of these outcomes is 'gender mainstreaming'.

The UN pioneered 'gender mainstreaming' which requested signatories of the 4th World Conference on Women 'to mainstream a gender perspective into all policies and programmes, so that, before decisions are taken, an analysis is made of the effects on women and men' (United Nations 1995). The European Union accepted the principle of gender mainstreaming in 1996 and this has been formalized in the Treaty of Amsterdam, which commits member states to the 'elimination of inequalities and the promotion of equality between

women and men' (European Union 1997). For example, a recent investigation of the gendered impact of waste management practice⁴ in selected European Union member states illustrates the scope for this and the limited amount of good practice that is beginning to emerge (this point will be developed below and in Buckingham *et al.* 2004). It is also clear that the European Union commitment, and subsequent UK commitment, to gender mainstreaming through the Women and Equality Unit (1998) is not filtering down to the local level of waste management in anything but a piecemeal fashion.

The World Bank has identified practical reasons, consistent with its aims and practices, for incorporating gender equality into its programmes.

Gender is an issue of development effectiveness, not just a matter of political correctness or kindness to women. Evidence demonstrates that when women and men are relatively equal, economies tend to grow faster, the poor move more quickly out of poverty and the well being of men, women and children is enhanced.

World Bank 2002

Whilst most policymakers would not challenge these aims, ecofeminists do question the validity of pursuing economic growth, as much of this is likely to produce negative impacts on the environment. Their argument (see, for example, Mellor

1992; Merchant 1996; Plumwood 1993) rests on changing our priorities, whereby we may be driven more by quality of life issues, and that it is redistribution that should be at the heart of policy, rather than generating more growth. Ecofeminist literature suggests that women might be better able than men to effect this change, and that, therefore, it is not just a matter of equality within existing structures, but of changing the structures to reflect this mode of thinking, a point that will be developed when considering future trajectories of ecofeminism. Bhattar (2001) argues that gender mainstreaming, since the 1980s, has sought to integrate gender concerns as part of 'business as usual', and that part of this approach has been to raise the number of female appointments to decision-making posts. Her reservations on this procedure are that this only works if women are able to 'fundamentally re-orient the nature of the mainstream' (2001, 22), which requires all policymakers to accept that there are 'fundamental differences in the experience and interpretation of reality between women and men' (2001, 22). Unless policymakers are aware of this in advance, no amount of gender mainstreaming initiatives will make any difference. She argues that a 'critical mass' of women is needed in decision-making fora to create the possibility for women to support each other in policy initiatives, to be a catalyst for other women to be involved, and to be in a position to allocate and control resources. A consensus seems to accumulate around a 30–35% minimum ratio of women to men to create critical mass (see also Dahlerup 1988; UNDAW & PRIO 1996).

Gender considerations in UK environmental policy

This critical mass has demonstrated its importance in the gender mainstreaming research referred to above. The UK was one of three case study countries in which a number of waste management authorities were examined to explore the extent to which they considered how their policy and practice may have gendered impacts. Of all the case studies examined, this (let it be called CS1 – a semi-rural county council in southern England) stood out in terms of the consideration gender was given in its public participation procedures, consultations and internal training policies. CS1 was also one of the few waste management authorities which had a significant number of women employed in senior posts – waste management being a notoriously masculine profession based on engineering and technical solutions. Staff interviewed in CS1 indicated that the waste management team was more sympathetic to waste minimization based on attitudinal and behavioural shifts, rather than on the

'technological fix', and had achieved a relatively high recycling rate of 20% (compared with just under 15% nationally by 2003). Whilst the county produces a higher than average amount of waste (it is a prosperous region), significant inroads into reducing landfill are being achieved by a widespread 'real nappy campaign', which supports families with lower incomes to use cloth rather than paper nappies. Whilst evidence of the link between gender-sensitive employment practice, training, public participation and policies remains at this stage circumstantial, it is a relationship that warrants further investigation.

Despite some indication that CS1 may indirectly be an example of ways in which UK environmental policy has been influenced by some forms of ecofeminism, the overwhelming conclusions of the research are that gender remains on the periphery of waste management. Local politicians and policy officers mostly expressed a reluctance to 'favour' one group over another and claimed that they 'treated everyone the same', ostensibly unaware that this approach can lead to institutional and structural inequalities of outcome. The Treaty of Amsterdam, which clearly promotes positive action, short of quotas, in favour of disadvantaged groups in order to achieve equality, does not appear to have made an impression in most local waste authorities. Nevertheless, it became clear through focus groups and interviews that, when pressed, respondents volunteered a number of examples where women and men would experience waste in different ways – health concerns over incinerators (mostly mothers), commitment to recycling (more likely to be women), inability to use unwieldy waste bins (many women, as well as elderly or more frail men). Respondents also identified difficulties mothers with dependent children were likely to have in attending public meetings which, despite many decades of feminist lobbying, still do not make provision for childcare and the timing of which is geared to accommodate the conventional 9–5 working day.

The continued focus on a 'universal public' undifferentiated by gender constitutes rather a dissembling discourse in which policy officers and elected councillors claim to have 'gone beyond' gender, indeed, some talk of avoiding gender stereotyping, without, it seems, being fully aware or admitting the realities which structure women's and men's lives. Successful gender-sensitive policy can only develop out of sound understanding and acknowledgement of gender inequalities. Such policy would ease the burden of women's lives, where they are bound by gendered roles, whilst ensuring that this policy did not confine women to these roles.

That most local authorities in the UK now have Equal Opportunities Officers (EOOs) indicates a

commitment to address some inequalities (although the balance of work of these officers differs – in a London case study the emphasis was much more on addressing black and minority ethnic inequalities). In the majority of authorities examined, however, EOs fulfilled mostly a human resources function to ensure that staff all had equal opportunities and few waste management authorities had drawn on their own council's expertise in this field. A new Local Government Association Equalities Standard represents a way in which local authorities can embed equal opportunities and diversity throughout their work, although its impact will depend on how seriously this is undertaken, or whether it is used superficially to add the kitemark to a marketing exercise. Returning to CS1 to conclude these comments on the extent to which an ecofeminist agenda might have indirectly informed local environmental policy making, the LGAES had been used by the county's waste management team to review the way in which they tackled their work, and public participation was one area in which some effort had been addressed to ensure that women were well represented.

There is no evidence that national and regional waste management strategies have responded to the government's own gender mainstreaming guidelines (Women and Equality Unit 1998). An examination of waste management policy documents published since this guidance was issued revealed not a single mention of women or gender⁵.

Changes in environmental discourse: environmental protest

Rai (2003) argues that civil society (specifically women's groups) is essential to strengthen the resolve of government to gender mainstreaming, and to hold it to account. The degree to which any government is open to civil society scrutiny will determine the effectiveness of policy monitoring. Indeed, as the above discussion shows, the global environmental debate has recognized the importance of enabling women and men to participate meaningfully in environmental policy formation and decision making through civil society structures, as well as through more formal representative structures. Such participation requires the means to access information which, in the Third World, means eliminating inequalities in education from the primary level. At present, the global adult literacy rate for men is 85%, whilst that for women is 74% (UN Economic and Social Council 2001).

Public participation usually relates to forms of democratic challenge which are formalized and organized in relation to state decision-making structures. Less formal expressions of political protest

emerge when these formalized structures of participation are found wanting – when fundamental breaches of 'natural justice' are as much the result of governing structures as their neglect. Such protests are more likely to be organized by women, themselves on the margins of formal decision making, and this has characterized the grass roots environmental movement in disparate geographical locations. The early ecofeminist literature canonized 'movements' such as the Chipco in Himalayan India, the Green Belt in Kenya, the Love Canal in New York State and drew attention to the role of women in dramatizing the links between environmental damage, the human impacts of this, women's relative lack of power, and the strategies this lack of power has necessitated (see, respectively, Mies and Shiva 1993; Dankleman and Davidson 1988; Gibbs 1998).

Wickramasinghe links the conceptual and practical aspects of ecofeminism in her work in South Asia, arguing that this region, particularly in rural areas, has been at the centre of ecofeminism, and that this has helped women conceptualize the links between women and the environment. These inequalities – the gender gaps in education, and the distribution of rural work – have not been eased by 'development [but have been] endorsed in newly created development paradigms' (Wickramasinghe 2003, 230).

What such movements lack in terms of financial resources, they make up for in imagination, commitment and social cohesion. Indeed, Seager claims that 'at its best, feminist environmentalism rocks boats' in a variety of policy and philosophical areas (2003, 167). It combines theory and activism to 'challenge and redefine foundational principles' (2003, 167). In the UK, the Women's Environmental Network (WEN), founded to counter what was seen as a masculinist bias in environmental campaigning⁶, has taken on issues that particularly affect women in attention-grabbing campaigns such as 'Getting Lippy' (investigating chemically toxic ingredients in cosmetics), 'Real Nappies' (promoting the use of cloth nappies to reduce the 8 million disposable nappies that are discarded, mostly to landfill, each day), and 'Chocolate' (raising awareness of the toxic pesticide residues of lindane which still exist in some non-organic chocolate bars).

Whilst the link between poverty and women is not explicitly made, WEN's work is founded on the understanding that women are not well placed to argue within business or government and this has been borne out through several public battles with advertisers. Both the establishment of WEN in 1988 and its current practice is informed by ecofeminism, which, through WEN's increasingly sought after policy advisory role, is indirectly finding its way into

some UK government policy. In some ways, the example of WEN illustrates the scope for more radical protest finding its way into public policy several years down the line. The WEN waste minimization campaign demonstrates this as well, as the organization is now called upon to advise central government and local authorities: it has made a significant corrective input into the Greater London Authority's Waste Plan and was a partner in the European research into the gendered impacts of waste management cited above. The challenge for WEN, as a multi-issue campaigning organization, is to combine working at the more radical ecofeminist edge, raising issues of salience to women, and often ignored in other policy fora, whilst retaining the ability to have an input into government policy. This apparent balancing act is well explored by Neil Carter (2001), who examines the environmental movement more widely.

Future trajectories for ecofeminism

Environmental justice

The environmental justice movement has grown in scope over the past two decades, emerging primarily from analyses of environmental inequalities based on race/ethnicity and poverty. Whilst ecofeminism has not claimed to be part of this, it clearly shares a number of its characteristics, not least, the fact that from the micro to the macro level, women are more likely than men to be classified as 'in poverty' the world over. The environmental justice literature, previously dominated by poverty and race issues, is just beginning to address gender. This is timely since there is accumulating evidence that gender is disproportionately associated with disadvantage in a number of ways. An Equal Opportunities Commission funded report recently found that even when controlling for factors such as labour market status, age and number of children, household composition, and age, there was still a clear gender dimension to poverty, and that women who are single pensioners, unemployed, of Pakistani or Bangladeshi origin, teenage householders and/or tenants, are more likely than men with the same characteristics to be poor (Bradshaw *et al.* 2003). Such disadvantage has an impact on the extent to which these women are trapped in poor quality environments. It is also noticeable how women, compared with men, are disproportionately disadvantaged in both chronic and catastrophic environmental hazard situations. Fordham (2003) identifies how this is either as a direct result of the hazard, for example, in the 1991 cyclone in Bangladesh which killed almost 140 000 people, 90% of the victims were women and children, or indirectly.

Here Fordham considers violence against women which increases in high-stress situations, both in environmental catastrophes and chronically environmentally stressed situations, but which is largely ignored in the male-dominated field of disaster management and development.

Much of the ecofeminism literature refers to 'embodiedment' – or how women's bodies are particularly vulnerable to environmental pollution (see, for example, Mellor 1992; Salleh 1997), and yet, historically, safe chemical loads have tended to be calculated on the basis of men's body tolerance to exposure over an eight-hour period (i.e. work time). New European legislation (such as REACH – The European Registration and Evaluation Authority for the Restriction of Chemicals) and recent publications are beginning to draw attention to the vulnerability of pregnant women (EEA 2003), women more generally (European Union) and women at different stages of their life cycle, such as at puberty and menopause (Women's Environmental Network 2003). However, there are still relatively few instances of such recognition in the actual legislation. There is, consequently, significant scope to develop an environmental justice case along the lines that women are more vulnerable to toxic exposure both due to their social roles, which are more likely to consign them to poverty than men, and their biology. Recent publications on environmental justice (see, for example, Agyeman *et al.* 2003) are beginning to incorporate concerns about women into their analyses, and, more particularly, groups of women who are additionally marginalized by their income, occupation, ethnicity or disability. This is an important inclusion, given that environmental justice issues are becoming more widely heard and argued in North America and Europe.

Non-human others

In 2003, two feminist/environmentalist writers published on the extension of feminist/environmental concerns into animal rights. Joni Seager argued that a shared structure of oppression, a feminist analysis of allocation of rights and gendered assumptions about the relationship between human and non-human species underpinned both ecofeminism and animal rights (Seager 2003). Seager goes further to suggest that both concerns share the problem of being consigned to a dualistic 'other' that, in reality, is more of a continuum (see also Haraway 2000). Such extensions of feminist/environmentalist concerns reach into debates into food production systems, and recreational activities such as hunting, both of which can be enriched, she argues, by an ecofeminist perspective.

Likewise, Val Plumwood, who, in the 1990s argued for a dissolution of the dualistic way of seeing men and women (Plumwood 1993), has extended this analysis to argue for a new 'inter-species' ethic as the only way in which to avert what she sees as an ecological crisis, born of human hubris, sado-dispassion, rationality and a dualistic culture which has separated 'nature' and 'culture' in the West. Plumwood sees what/who she describes as the 'Hero of Reason' (2003, 21) as responsible for the 'sado-dispassionate . . . cultural drama of reason and nature [unfolding to] choke the life from his planetary partner in his final sadistic act of mastery' (2003, 22). Her aim is to provide 'recipes for escaping [this] situation' (2003, 36) and she uses most of the book to critique not only industrial and post-industrial approaches to the Earth and to what she variously refers to as Earth Others, supra-human, non-human and more-than-human (as alternative descriptors for life which is not classified as human), but also other spiritual traditions and approaches of deep ecology.

Conclusions

The relationship of the leading or radical edge of any social movement to the state is complex and increasingly well theorized (see, for example, Carter (2001), trading off radical action with incorporation). With regard to gender, Rai (2003) argues that, whilst it is important to work within the state, such a strategy cannot be used exclusively, as the radical edge identifies the future, possibly less politically acceptable challenges. This 'radical edge' has, I would argue, a particular salience with regard to environmental feminism, as protest and community politics is sometimes seen as the only way in which women, as a minority in decision-making arenas, can make their voice heard. This is as true within the academy (where both women and feminist studies of one sort or another are marginalized) as beyond.

In looking back, then, over the past 30 years of ecofeminism, I would argue that significant strides have been made to incorporate women's and gender issues within certain policy areas at both the global and the local level. The evidence for this, where it exists, lies in the campaigning groups which have informed international agreements and local practice. This is, of course, particularly so where the aims of these groups have coincided with the practical aims of international and aid agencies (such as Oxfam or the World Bank). With regard to scale, there is no smooth cascade from the macro-scale international announcements of the UN or European Union through national government legislation, to local and regional policy making and enact-

ment, nor are there mechanisms to evaluate how these macro-pronouncements find or lose their way in policy. Although some local policies have benefited from contextual inputs that have introduced a degree of ecological and gender-sensitive change, real obstacles prevent structural changes to social systems to ensure that equality and feminist concerns are routinely part of environmental decision making, and ecofeminist theoreticians and activists continue to expose these concerns.

Acknowledgements

I would like to acknowledge the European Commission Directorate General – Environment for funding Study Contract B4-3040/2002/343154/MAR/A2, and Anna Batchelor, Brunel University, who collected the UK data on which some of this paper is based.

Notes

- 1 Ecofeminism as a neologism was conceived by Francoise D'Eubonne to signify the conjoining of radical ecological and feminist thinking in a variety of perspectives, which sought to eliminate gender inequalities and hierarchies in a way that valued the environment and articulated parallels between women's and environmental exploitation.
- 2 The reason for focusing on the European Union and its member states is twofold: firstly, European Union policy has been committed to gender mainstreaming for 8 years, which gives a certain perspective from which to consider its efficacy; secondly, the author's own research is focused on Europe, and specifically on gender mainstreaming in environmental policy.
- 3 UNDAW has defined this as 'the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy of making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality' (Rai 2003).
- 4 Study into 'Gender-differentiated impacts of municipal waste management planning in the European Union' from The Commission of the European Communities, Directorate General – Environment.
- 5 The policy documents scrutinized since the 'Gender mainstreaming policy guidance' was published were 'Planning policy guidance note 10: planning and waste management' (1999); 'Waste strategy 2000 for England and Wales'; 'Strategic planning for sustainable waste management: guidance on option development and appraisal' (2002).
- 6 For details about WEN, contact info@wen.org.uk.

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**United Nations
Division for the Advancement of Women (DAW)
International Strategy for Disaster Reduction (ISDR)
Expert Group Meeting on
“Environmental management and the mitigation of natural disasters:
a gender perspective”
6-9 November 2001
Ankara, Turkey**

Gender and Environment: Lessons to Learn

**Prepared by
Irene Dankelman ***

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Acknowledgements

This article is based on experiences and studies of many people: thank you all for sharing those with us. A special word of thanks to the communities and women who enable us to understand reality of life and the consequences of our endeavours better. Jeroen Dankelman, many thanks for helping me with the drawing of the figures for this article.

1. Introduction

People live in a livelihood with all its specific environmental, human, social, economic and cultural characteristics. (Scoones, 1998) Everywhere the physical environment differs. But also the set-up of society is very differentiated: there are women and men, young and older people, people from different classes, castes, and religious and cultural backgrounds. This article focuses on the differentiated relationships between men and women and their environments. It is based on own experiences and studies - mainly in India and other countries in the world, literature and documentation.

Internationally the attention for gender and environment issues has grown significantly during the past decades. After the first UN Conference on Environment and Human Settlements in Stockholm in 1972, the Women's Decade (1975-1985) started. That found its conclusion during the UN Conference on Women in Nairobi in 1985 and the parallel NGO Forum. At both these occasions for the first time attention was asked for women's position in relation to environment and natural resources at the international level. During the process for the preparations of the UN Conference on Environment and Development (UNCED), Rio 1992, many women's organizations and individuals played a major role in putting gender issues on the agenda and finally in Agenda 21. It was underlined that environmental sustainability for life on this planet was unthinkable without considering the women who make up more than one-half of the world's population. At the World Summit for Social Development, in Copenhagen in 1995, women were able to bring worldwide attention to the fact that the majority of people living in poverty are women and that the majority of women are poor. It was highlighted there, that women must be involved in decision-making to bring about the necessary changes. (Friedlander, 1996)

The Fourth UN Women's Conference in Beijing (September 1995) resulted in the 'Platform for Action' - which was in 1998 endorsed by 70% of the world's 187 governments that adopted this agenda for action. (WEDO, 1998) A special section (K) is included in the 'Platform for Action' on Women and the Environment. It calls upon governments (at all levels), international organizations, NGOs and private sector institutions, (1) to involve women actively in environmental decision-making at all levels, (2) to integrate gender concerns and perspectives in policies and programs for sustainable development, and (3) strengthen or establish mechanisms at the national, regional and international levels to assess the impact of development and environmental policies on women. (United Nations, 1995)

Many development organizations already focus for more than three decades on specific theme-areas, such as gender, human rights and environment, in order to promote sustainable development for people, communities and countries. In each of these areas initiatives are supported and promoted; such as support to women's organizations, gender sensitization processes within organizations, sustainable land-use-activities or environment and development legislation, awareness-raising, advocacy and lobbying.

The reality in which people live, shows, however, that these issues can not be dealt with in an isolated or purely sectoral way. In life you can not separate social and physical

aspects. Therefore, it is very important and relevant to also work on these issues in an integrated way, looking at the linkages (and non-linkages) which exist. It is in a country like India, for example, that already in the 1970s - beginning 1980s several efforts took place, which made linkages between these themes more visible: the activities of the Chipko-movement in the Garhwal and neighboring regions of the Himalaya, in which many women participated in an environmental struggle, or the State of India's Environment report (CSE, 1985) which described the actual relationships between women and the Indian environment. Already in the 18th century some women under leadership of Amrita Sen had actively involved themselves in an environmental struggle for survival in Gujarat (India). In Cape Verde, which was struck by severe droughts, by the end of the 1970s it were women who were growing half a million seedlings a year. Because most of the men work away from the islands, replanting has been left to the women and children. With their work, much of the hillsides had been terraced and replanted, and many low-lying sandy areas planted out with shrubs. (FAO, 1986?) The Acao Democrática Femina Gaúcha in Brazil was originally a women's organization focusing on social and educational issues. But as from 1974 the organization put environment high on its agenda: so even that it had become the Friends of the Earth Brazil. (Dankelman & Davidson, 1988)

This article looks at gender relations in resources use and management, at the implications of environmental degradation for gender differentiation and the steps taken to cope with these. '**Gender**' is in this context defined as a sociological indication of comparative relations between (male and female) sexes. 'Gender and Development' considers the interdependent nature of women's and men's positions in society (Barrig & Wehkamp, 1994). The current Gender and Development approach is not only concerned with women, but with the social construction of gender and the assignment of specific roles, responsibilities, and expectations to women and men. (Matiza, 1993).

It should be underlined from the beginning that although the focus of this article will be on gender aspects in resources use and management and women prove to be - often neglected - key players in that, care for the environment should not be added to the long list of care tasks for which women are already responsible. Women's roles are all the time related to those of men. The type of work women carry out and their responsibilities and rights are determined by gender relations. (NEDA, 1997-1) Agarwal warns that the fact that women within their own socio-economic classes occupy different positions from men is related to gender-roles and not to an inborn affinity with the environment. (Agarwal, 1992) Wickramasinghe (1994) stresses that it is mainly a material interest in the well-being of their families which motivates women to become active in environmental struggles.

2. Gender differentiation in resources use and management.

A peasant woman from India explained to us, development workers, policy makers and academics, some time ago in Hyderabad ¹:

“Life is a whole - it is a circle.

That which destroys the circle is threatening life.

That which restores the circle will bring life.“ (CWDS, 1991)

As many recent studies have indicated, women play a predominant role in the management and use of natural resources at the local level. As Joan Davidson describes it, women are often responsible for the *primary environmental care* (Davidson & Myers, 1992). It is of course dangerous to generalize about the position of women; there are many differences according to society or community, class, caste, and age. But what is obvious, all over the world, is the gender differentiation that exists in relation to the management of natural resources.

In her very clear article on ecological transitions and the changing context of women's work in tribal India Geeta Menon (1991) describes **work** as the active, labor-based interaction of human beings with the material world. Historically this interaction has been intricately based upon the natural environments in which human populations survived, since nature and natural resources and processes represented that material world. She distinguishes major areas of human work: food procurement (incl. food gathering/collection and production); the protection of life, property and territory; and childbearing/rearing (incl. maintenance of basic health standards). Extension activities of these areas are: food processing and distribution, house construction, fencing and care of livestock, maintenance of sanitation and physical cleanliness. The traditional tribal economy was based on a division of labor along gender lines.

2.1 Women maintaining the food chain.

Food gathering was primarily a female responsibility. According to feminist contentions, e.g. in the writings of Ester Boserup (1989) it is argued that it was actually ‘woman-the-gatherer’ who was a source of sustained food supply (and not ‘man-the-hunter’). Her activities, among which were the gathering of fruits, nuts, edible leaves, flowers, mushrooms, roots and tubers, medicinal herbs etc. provided daily sustenance, while meat was merely a supplementary food item. Studies on present-day gather-hunter communities show that vegetable foods and fish make up 60 to 80 percent of the total calorie intake of the community.

Women play a major role in **food collection**. The Brahui women in the Noza sub-watershed in Balochistan, Pakistan, go out in early spring. Walking in groups or sometimes alone they collect tiny edible plants and mushrooms. The plants are green and succulent and all lumped together as ‘spinach’ even though each plant has its own name. These spring greens are sometimes life saving and provide much needed nourishment after a long winter of not enough to eat. Medicinal plants are flowering from May through June. Then small groups of women walk in the early mornings to

¹ During the National Peasant Women Summit on Environment, which was held in Hyderabad, August 26-30, 1991. This was a meeting of poor peasant women and policy-makers, academics and development workers, as a preparation for UNCED, with the objective to give voice to women's concerns. It was organised by the Centre for Women's Development Studies (Delhi) and UNIFEM.

collect medicinal plants. In a FAO supported project they went out for walks to identify these plants. Women participating in the activity expressed their desire to record the collected information. One of them, Zer Malik, said:

“We want our daughters to be able to see how much knowledge their ‘illiterate’ mothers actually possessed. Our daughters are not so interested in traditional remedies and are turning more and more to modern allopathic medicine.” (FAO, 1997-1)

Women still play an important role in **fishing** communities. Sometimes they go out fishing themselves, but more often it is they who handle the preservation and marketing (Steady, 1985, 47-50). Other water organisms like cockles, are being used and managed by women.

According to Ester Boserup (1989) and others, women - daily dealing with vegetable foods and wild seeds to experiment by way of planting the seeds - have played a major role in the revolutionary innovation from gathering into production of food, through slash-and-burn cultivation. Because food collection required a thorough knowledge of plant and animal growth, maturation and fruition or reproduction, women have been credited with the discovery of domestication and cultivation of plants and animals and invented selective breeding. They discovered propagation by shoots and cuttings, seed selection and the construction of seedling beds. The following inventions are credited to women in cultivation: the use of ash as fertilizer, the creation of work tools such as the hoe, spade, shovel and simple plough; fallowing and crop rotation; mulching, terracing, contour planting, irrigation and land recuperation through tree planting. Eight out of the most important cereals (worldwide) were all domesticated by women: wheat, rice, barley, oats, sorghum, millet and rye (Stanley, 1982). Sir Alfred Howard in his ‘An Agricultural Testament’ of 1940, underlined that he saw in India’s peasant a knowledge of farming far more advanced than that of the West. In this landuse women played an essential role.

In a study on women’s roles in **food production** in villages in the Garhwal Himalaya (Shiva et al, 1990) it became obvious that women played a major role in natural farming, the farming which is based on sustainable flows of fertility from forests and farm animals to croplands. These food systems have always included the forest and animal systems in their processes. Women’s work in agriculture has traditionally been work in integrating forestry and animal husbandry in farming. The internally recycled resources provide the necessary inputs for seeds, soil moisture, soil nutrients, and pest control.

In Africa women produce 80% of the consumed food, in Asia this percentage is 60% and in Latin America 40%. According to the FAO women make up 45% of the total agricultural labor force throughout Asia. This includes work in subsistence farming as well as on export-oriented farms and plantations. But it was also concluded that women often work longer days on the fields than men, by as much as 43%. In the Noza sub-watershed in Pakistan, an average working day for a Brahui woman is seventeen hours long during the productive season. (FAO, 1997-1) Singh (1988) describes women’s contribution in animal husbandry in Northern India as follows: the woman harvests the crops and stakes the hay for domestic animals, she transports the leaf fodder, and

bedding material over long distances on difficult terrain, she grazes the cattle on distant grazing lands, carries animals to water sources for water, takes care of young calves, milks the animals, cleans the animal shed and executes all other activities related to animal husbandry, except ploughing, castration, purchase and sale. Especially the collection of fodder - leaves, herbs, grasses - is almost exclusively a women's task, and that of children - often girls.

But also in other agricultural activities her role is evident. Bhata and Singh (1987) showed that women in the hill agriculture of Himachal Pradesh do 37% of the work in sowing, 59% in interculture, 66% in harvesting, 59% in trenching and 69% in tending the animals. And all this apart from all the household chores, which include the collection of fuel and water. Women work also in irrigated agriculture: a Grameen Krishi Foundation project in North-West Bangladesh showed that women carry out about 50 percent of all tasks in rice production; they even contribute for 50 percent in the presumably male task of irrigation. (Jordans, 1997) Singh (1988) accounts that a pair of bullocks works for 1,604 hours, a man for 1,212 and a woman 3,485 hours in a year on a one hectare farm in the Indian Himalaya.

Women know a lot about the cultivation practices of indigenous varieties of crops, for example women rice growers in central Libena (India). During an experiment the women identified 25 indigenous rice stalks with at most two or three errors; not only describing the different varieties, but also mentioning other features, such as the ease with which the husk can be removed, the length of time required to cook and suitability to different ecological conditions. The men could hardly get two or more correct answers. In a small sample participatory study with women hill farmers in Dehra Dun, Shiva was provided with not less than 145 species of forest plants that women have knowledge of and which they utilize. (Shiva and Dankelman, 1992) The Brahui women in the Noza sub-watershed (Pakistan) identified 35 medicinal plants during field walks. (FAO, 1997-1)

In irrigated agriculture large quantities of water are used. Women's rights to water for agriculture vary enormously. In the Andes women are allowed to participate in the construction of irrigation systems and thus to establish rights to irrigation water. However, men dominate the written registration process and decision-making bodies. In Tanzania, by contrast, women are prohibited from operating water infrastructure facilities. (NEDA, 1997-2)

2.2 Household chores.

According to Menon (1991), because of the fact that one of the three major areas of human work, childbearing and rearing, is exclusively assigned to women, not only elements like the provision of health services and sanitation/hygienic measures, but also related aspects, like the provision of household energy and water are among women's responsibilities. This is not only true in rural, but often also in urban situations.

Women, and with them girls, are almost the exclusive suppliers of **water** for household use. They also play a predominant role in the provision of water for animals, crop growing, and food processing. It is often women who decide often where to collect

water, how to draw, transport, and store it, what water sources should be used for which purposes, and how to purify drinking water. Women often make a disproportionately high contribution to the provision of water for family consumption compared with men. Male family members rarely help in the often heavy and time-consuming task of water transportation, and then only if they have bicycles or carts. They have acquired specialized knowledge in the field of local water management and use. It is a knowledge they share, especially with their daughters and with each other. Because many other tasks women perform - such as washing clothes and dishes, cleaning houses and latrines, and attending to personal hygiene, women have established specific ways of reusing waste water to conserve supplies.

Most domestic **energy** comes directly from biomass sources. Woodfuels (both firewood and charcoal) and other biofuels, such as animal and crop residues, form the only source of energy for about two billion people, while some 1.5 to 2 billion have no access to electricity. (UNDP, 1998) Although, in spite of price increases, oil consumption and electricity production (especially from hydro sources) have increased, poor households - even in the city - still depend on biomass sources for their energy supply. Although men sometimes may share the task, women have the primary responsibility for meeting household energy needs through fuel collection, preparation (e.g. chopping and drying) and use (cooking and tending the fire). Children, especially girls, take part in many of these tasks. All these tasks may take many hours per day.

Nearly 73% of women in Asia concentrate on obtaining fuelwood, food and fodder from the nearby forests: 64% in Nepal, 84% in the Philippines and 84% in Sri Lanka. (Wickramasinghe, 1994) Men in the Uttar Pradesh hills (India) are found to break the traditional division of labor only by fetching fuel and fodder when the productivity of women's labor is high, for example on irrigated land. When domestic fuel becomes more commercialized and collection is oriented towards large-scale organized sale and charcoal making, men's participation increases. But so long as technology and marketing are absent, the task of fuel gathering is regulated to women. Women can carry loads up to 35 kilograms over distances as much as ten kilometers from home. The weight largely exceeds the maximum weights of 20 kilograms permissible by law in many countries.

In many so-called traditional societies women have played and continue to play an important role in the construction and management of **human shelters** and infrastructure (Steady, 1993). Households closely reflect the conditions of the surrounding physical environment, and it is women, often assisted by female children, who bear the responsibility for protecting members of their households, especially the young, aged, and infirm, from pollution, poor sanitation, and natural disasters, and the risks inherent in poor housing conditions. Women may spend as many as twenty hours a day in the home, especially in secluded societies. In many cases, human activities in human shelters and the physical infrastructure supporting them, such as roads, water, energy, food, and sanitation systems, have come to depend on women's unpaid labor. The responsibility of maintaining a clean and safe household environment, including waste management, still falls primarily on women's shoulders.

2.3 Income generation.

Based on UNDP estimates female economic activity is 68% as compared to male rates; this is 64% in developing countries and 79% in industrial countries. However, female unpaid family workers make up 58% of the total of family workers. (UNDP, 1998) The percentage of self-employed women in the informal sector in Asia is 60 percent. Most women work out of necessity and contribute in an economically important way to the maintenance of their household.

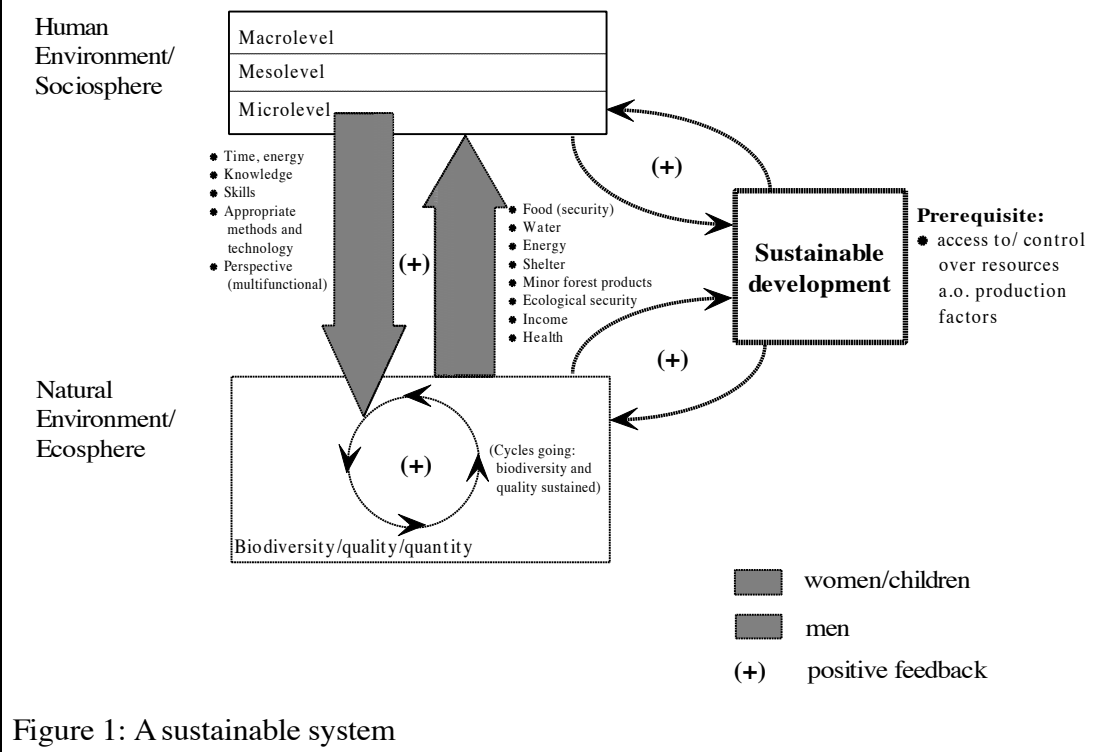
Many of the informal income generation activities in which women are involved are directly or indirectly dependent on natural resources, such as energy sources, non-timber forest products (ntfps), crops and water. Activities are, for example, plantation work (incl. spraying of pesticides), processing and selling of food products, brick making, handicraft, pottery, spinning and weaving. Headloading for sale in urban areas and charcoal preparation and marketing are important income-generating activities for women in certain regions. But also in small and bigger industrial estates, such as leather tanning, workers, including many women, are directly exposed to the environmental conditions of, for example, water and air.

2.4 Conclusions: management and use of resources.

In all the activities described above women and children play a major role by input of their work, energy and expertise. Through these activities they contribute substantially to family's food security, health, production and income generation. All these activities depend almost directly on natural resources, the physical environmental and ecological functions (and ecosystems). The natural resources and physical environment form the basis of a sustainable livelihood system, in which basic human needs are met in the short and long run. Therefore the conclusion is right that often women's work is related to the natural environment and environmental conditions. Although men also perform several tasks in the above mentioned fields, their time and energy input is often substantially less than that of women. This is particularly the case in the growing number of part-time or permanent female-headed households. In some areas in Zimbabwe the percentage of female-headed households is already more than 60%. (NEDA, 1997-1)

One could speak of a **gender differentiation** in the use and management of natural resources and environments. It has been proved by several studies that women, because of the (traditional) division of labor, play also a major role in the sustainable use and management of forest ecosystems, of agricultural land, of water and energy resources and of the environment of human settlements. This role has often been neglected.

The position of women/children and men in natural resources management



In **figure 1** a sustainable system has been outlined. In this a distinction has been made between the human environment, or **sociosphere**, and the natural environment, or **ecosphere**. In the sociosphere a micro- (or grassroots), meso- and macro-level have been distinguished to indicate that the processes taking place at the macro-level are not necessarily the same as those that work through at the microlevel, but that these levels do interact with each other.

In the ecosphere a large quantity and diversity of plant and animal species and varieties, as well as agro-ecosystems, are present. The physical environment - water, soils, and air - have a quality and quantity that sustains life forms, including human life. The components of the ecosphere are related and interact via ecological cycles. Both the sociosphere and the ecosphere show a dynamic balance within themselves and with each other. People contribute energy, time, knowledge and skills, their perspectives, and appropriate cultivation and/or management practices and technology to manage the ecosphere, or livelihood system, and to yield from it what is necessary for the family's subsistence. This means not only resources such as food, water, energy, non-timber forest products, and shelter, but also the generation of ecological security, health and income for the family.

In this situation one could speak about sustainable development: there exists a positive interaction between the different factors, components, and levels of the eco- and socio-sphere, and there is a dynamic balance between that which is asked from the agro-

ecosphere, that which is provided by it, and that which is regenerated. Because of their work and responsibilities, women and children play a key role in maintaining that balance.

2.5 Conditions/critical factors:

Many factors have an influence on these environment-related tasks of women and children, and therefore have an impact on women's work-burden, physical/psychological stress and autonomy. Apart from the division of labor, tasks and responsibilities, critical factors are in this respect:

- their access to and control over (natural) resources - of good quality, such as land, trees, water;
- their access to and control over other means of production, such as income/credit, appropriate technology;
- their access to training and education;
- their active participation and involvement;
- their decision-making power and social status/power, e.g. resource management and use, production and produce;
- their freedom of organization.

These critical factors are not only essential at micro- (or household) level, but also at meso- and macro-levels.

So, not only sociological and power, economic and technological, but also environmental conditions have their influence on women's (and children's) work and lives. This is true most directly in rural situations, but also in urban environments one can observe these aspects. Particularly when it concerns people who live in poverty and/or are marginalized because they depend to a larger extent on freely available (natural) resources.

3. Women's work faces environmental problems.

All over the Southern and Northern regions of the world, many women and children face the problem of environmental degradation and deterioration. Often external developments - like commercialization, export-orientation, structural adjustment programs, external debts, international trade and pricing policies, privatization of community or common resources - result in over-exploitation and/or pollution of natural resources (such as forests, grazing ground, agricultural lands, water resources or fishing grounds). These processes were often characterized by re-direction of uses of land and other resources from community-based to private resources, extraction activities (such as logging and mining), and introduction of non-sustainable technologies (agricultural and industrial). This results in scarcity of resources, degradation of their quality and diversity, disruption of ecological functions - such as retaining water- and pollution of water, soil and air. (Goldman, 1997)

According to an FAO analysis, deforestation was concentrated in the developing world, which lost nearly 200 million hectares between 1980 and 1995. Because of reforestation and plantation efforts the net loss was assessed at some 180 million hectares, or 12 million hectares per year. In the majority of countries that FAO surveyed, deforestation rates have actually increased since 1990. (FAO, 1997)

An indication of this reality is the distance covered for forest produce by the tribals in India: over the past 20 years the difference is more than 6 kms. Because of denudation and government controls placed over remaining forests (e.g. reserves), the area available for slash-and-burn has been reduced. Land in Orissa which had a rotation system of eighteen years, is now re-cultivated every three years. This situation of scarcity and over-exploitation has eroded traditional norms that prevented the occurrence of over-exploitation.. Whereas in normal circumstances work culture is organized to ensure both immediate survival and long-term survival, when immediate survival itself is threatened, the relevance of long-term survival of the community often diminishes.

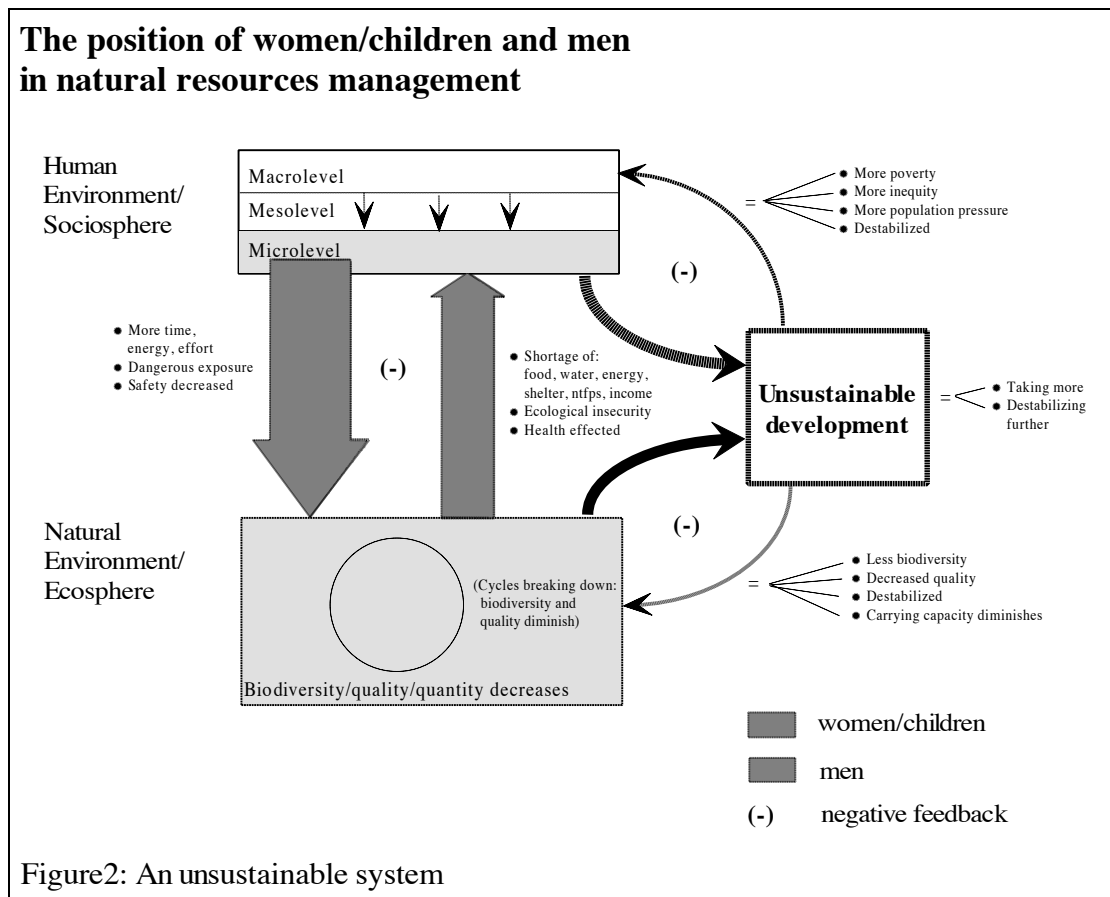


Figure 2 shows what happens when the system becomes unsustainable, both at the level of the ecosphere and the sociosphere. At the level of the ecosphere, more resources are taken than can be regenerated, resulting in a decline of biodiversity. The ecological cycles in the system get destabilized, which means that ecological processes

involving natural resources such as water, soil, and species are disturbed. As well, more pollution is added to the system than it can handle. In other words, its quality diminishes.

At the same time it is observed that the sociosphere becomes destabilized. Inequity among people increases, as does poverty, and the dynamic social relationships between levels (macro and micro) and among levels (within a society, family etc.) gets disturbed. Social dysfunctioning and cultural discontinuity occur. At social level such developments are also reflected in changing power relations at gender level. Women's access to and control over (natural) resources and technology gets often more limited than that of male members of household. In these situations women lose control and are being marginalized and excluded even more.

In this situation, which is often the reality of today, women and children have to put in more time, energy and effort into meeting their family's basic needs for natural resources, security and health. However, as the ecosphere cannot supply enough and the natural cycles that sustain life are disturbed, this task becomes more difficult and sometimes even impossible. Because they have to walk longer distances over rough or disturbed terrain - sometimes overnight - women's work and life become unsafe. With the forests receding 4-8 km, most village women have to walk for at least one hour and in many cases up to two hours each way in the Ganjam areas in India. (Fernandes & Menon, 1987) In parts of the Himalayas and the African Sahel women and children spend 100 to 300 days a year on gathering fuelwood now. (Wickramasinghe, 1994) A study executed in Nepal learned that in a degrading environment, with forest cover going down by more than a half in the past 20 years, heavy rainfall and land slides and floods, particularly girls lives have been adversely effected. Whereas development programs were started to enable more girls to attend primary schools, the scarcity of natural resources and the time and energy needed in collecting and managing these, even resulted in a decrease in girls' school enrollment. (Johnson et al, 1995)

“ You people in the cities do not know how village women like use have to slog. As the farmer forces his bullocks to labor, poverty forces us to labor all the time..... One side is getting inflated while the other is shrinking. The section that is shrinking is getting destroyed.” (CWDS, 1991)

While women's work in the traditional economic activities became more difficult, the addition of new roles in settled agriculture and wage labor has placed an immense extra responsibility on their shoulders. While more had been added, none has been taken away. Women's workload becomes altogether too great because they have to combine their - more difficult - 'main' and 'extension' tasks with their traditional ones, such as child-rearing. In Sri Lanka expansion of commercial agriculture, such as tobacco, in village economies has increased the pressure on women and created dependence on food from the market and the necessity to earn money for this by working as laborers for wages 20-30% lower than those of men. High consumption of fuelwood in curing tobacco has increased land degradation and the pressure on resources: about 4,000 kg of fuelwood is used for curing 1,000 kg of tobacco. Women's sleeping time in peak agriculture seasons was reduced to about five hours, and about

40-50% of the families did not use boiled water due to the lack of fuelwood.
(Wickramasinghe, 1994)

A major alternative for men under such circumstances is migration. Migration itself has become a status ascribing factor for men, whereas women have to take over the economic tasks of the husband in his absence. Often resources, including food, are already scarce. In such cases she may rely on wage labor, apart from her other tasks and responsibilities. This all results in a tremendous pressure on women. In Diourbel in Senegal male-outmigration was a logical response to the modernization of agriculture and declining food security. While women are concerned about the changing environment around them, they are in a weak position to do anything about it. (David, 1995)

Research in Garhwal (India) reveals that the shift from subsistence to commercial agriculture, through the introduction of cash crops and the market economy, has led to a reduction in women's sphere of influence and an increasing dependence of women on men for extension services, purchase of seeds and handling of tools and money. The disappearance of indigenous forests has meant that women have to walk further to collect forest products. Women's crucial role in agriculture is gradually diminished by the introduction of new agro-technology and new crop varieties, which are aimed at male farmers. The same trend can be observed in forestry. Women's role becomes more and more that of a laborer as she loses her control over production and access to resources. (Shiva et al, 1990)

“ Our gomal (pasture) lands, even our village tanks are not safe from the greed of the well-to-do. They have conspired with the panchyat and the government officials, and converted these to private farms, or houses. Our Mahila Sanghas do not have access to these common lands, or we would develop them for the sue of everyone in the village. Women need fuel and fodder - common lands should be under the management of our Sanghas, and not used for private profit by industry or farmers.”
Gangamma, peasant woman from Dharwad District, Karnataka. (CWDS, 1991)

The increasing water scarcity places a major burden on women's lives. In Sri Lanka in a study area 60% of the natural springs have completely disappeared, and the wtaer level is lowering. Women have to walk 1 to 1.5 km to the valleys to fetch a pot of drinking water; this is an extremely hard task due to the difficult terrain and narrow food paths. (Wickramasinghe, 1994) Despite their major responsibility in the field of water management several factors restrict women's influence over this area of their lives. Male heads of household often decide where to build the family home, without necessarily considering the distance to water sources. As well, depending on caste or religious group, there are ownership limits restricting women's access to water sources. There are few or no public water points in slums and on the outskirts of cities. Women have to collect the water from sources outside the city or have to buy it from vendors, whose prices can be high. In segregated communities women are not allowed to be seen in public. Their daughters often bear the burden of water collection. (NEDA-2, 1997)

In agriculture replacement of local varieties with new, introduced high-yielding ones (HYVs) leads to resource scarcity in the farming system. The shift, for example, from

local pulses to introduced soybean implies a shift from domestic to industrial food processing, displacing women from their local resources. Current agricultural research concentrates heavily on increasing the yield of only certain parts of a crop, often those which can be commercially marketed. Traditional potato and mustard varieties provide, for example, fresh leaf vegetables in mountain diets. The HYVs of these crops do not. In the Herwal valley (India), where the women used to grow many indigenous varieties of rice, the HYVs are completely directed at men and at commercial interests. Dwarf varieties which are promoted through the Green Revolution reduce the straw available for fodder and fertilizer, which are essential components of women's sustainable agricultural systems. A reduction in straw leads to a reduction in organic matter, thus contributing to declining soil fertility.

Weeding is predominantly women's work. Increased fertilizer use that is intrinsically required by HYVs has stimulated weed growth dramatically, further increasing women's work burden. On the other hand extensive use of pesticides in agriculture is posing major health problems for sprayers, producers and packers. In Malaysia many women work in the plantation sector and spray pesticides. They complain of sore eyes, skin ashes, burnt fingernails and disruption of the menstruation period. Some mothers exposed to pesticides during early pregnancy get deformed children or they even loose their unborn babies. Veena, one of the sprayers:

“I have been spraying pesticides for the past 20 years. I spray paraquat all time. It is so strong that the odour makes me sick most of the time. In the beginning, I used to cry. Now my only main problem is nose bleed and chest pain. I also have bad stomach pain.” (Arumugam, 1992)

Dairy development schemes aimed at the marketing of milk have led to a monopolization by rich land owners of fodder resources of village commons and the denial of access to poorer women to collect fodder. As a Haryan woman put it, “Now I have to steal the grass for my buffalo and when the landlord catches me, he beats me.” (Dankelman & Davidson, 1988) Local people, esp. women, often have difficulty in managing the cross-bred animals, as their feed and other requirements are quite different from that of the indigenous cattle. The concentrate feeds required by the new cattle, change the composition of cow dung, making it unsuitable for use in managing soil structure. (Shiva & Dankelman, 1992)

In inner-city areas, many of the poorest people live close to industrial areas which suffer high levels of pollution. Women predominate among urban people in poverty. Control of community resources in urban areas - for example water pumps - tends to be by men, who may marginalize women's need for resources. Also many local laws are against women. For example, in Nairobi it is forbidden to gather wood within the city limits. Women are not cutting down the trees, but are taking the wood that has already fallen: they need it for cooking and heating. Now they have to go far outside the city to collect wood or have to take it away under cover, risking a high fine. (Oxfam, 1996)

As the quality of the ecosystem decreases and pollution increases the users, including women and children are more exposed to dangerous substances and toxic chemicals, for example where housing sites are situated close to polluting and dangerous industrial

estates, waste dumps or open drains/sewers, in small-scale industries, but also on agricultural land. In the slums around the aluminium company industrial area in the Dhankanal district of Orissa (India) -for example -, live entire families, which have migrated from another district of the State. Women told that they had migrated because the households owned little or no settled agricultural land, fuelwood was getting scarce as well, and life under such circumstances had become very hard. But now they live in a very polluted area. (Menon, 1991)

One of the major problems women face in human settlements is - apart from lack of access to (legal) land, waste management and sanitation problems - the fact that many settlements of poor households are situated on dangerous sites, e.g. which are vulnerable to landslides or flooding, but also in the direct surroundings of dangerous industries. The Bhopal disaster of 1985 showed the disastrous effects of such situations on people living in poverty, esp. women and children.

Increasingly, full maintenance of most homes is becoming dependent on the combined income of women and men. Because of the existing division of tasks, women also face the greatest risks of disease from handling contaminated products (including water) within the household. Furthermore, the majority of people seeking refuge from environmentally degraded homelands are often women and children. While living in squatter settlements and slums is bad for everybody and the air may be polluted for anyone, one cannot fail to appreciate the fact that women often face a heavier burden of maintaining deteriorating homesteads and protecting themselves and their children

Also indoor pollution poses major problems on women's health. As the household food preparers, women are often exposed to high levels of smoke for long periods. The majority of the 2.2 million deaths every year from indoor air pollution occur among women. (WRI et al, 1998)

Summarizing, as productivity of the ecosystem declines, shortages of basic supplies, such as food, water, minor forest products, and energy occur. Shelter possibilities worsen and income generation possibilities diminish. Ecological insecurity, caused by conditions such as fluctuations in water availability and erosion, increases. The families and the community suffer directly. Women and children, whose burdens have become heavier and who are more vulnerable, risk worsening health. The ecological destabilization reinforces social dysfunctioning, poverty, and inequality among classes, ages and sexes.

On the other hand, pressure on the ecosystem increases as more people are made to depend on a less productive (eco)system. This further diminishes the carrying capacity and reinforces environmental destabilization. In other words, the interaction between the actors and elements in the system becomes negative.

The main cause behind environmental and social destabilization is an unsustainable development trend - through which process more is taken from both systems than can be regenerated and more is destabilized than can be recovered. (see figure 2) A driving force behind unsustainable development trends is an economy based on profits, which is stimulated by increased and unequal production and consumption. These processes

not only promote inequality between countries and regions, but also reinforce differences and inequality within countries, whereby the rich get richer and the poor lose their access and rights to and their control over (productive) resources. many of these development processes are not culturally adjusted. (UNDP, 1998)

In figure 2 these external and internal processes are indicated as the pressure from the macro- on the micro-level. Another aspect of unsustainable development is the introduction of inappropriate science, planning and technology, which is not location-specific and is based on a constant flow of external inputs, expertise, polluting substances, and energy and water intensity. The institutional aspects are also important: an unsustainable system is often very much top-down directed, excluding local communities and members of households from decision-making processes.

3.2 Conclusion: critical factors.

In this paragraph it has been shown how unsustainable and unjust developments are fueled by unequal power relations, needs and perspectives, at all levels of society. Consequences are reflected not only in the environmental field, but also at social level, in **increased gender differentiation** in use and management of natural resources changes, often adversely affecting women and with them: children. The burden of environmental degradation places extra burdens on women's shoulders, affecting their work and lives.

Summarizing, critical factors in this respect are:

- loss of access to and control over natural resources and (eco)systems of good quality², e.g. land (also in urban situations), water, energy sources, minor forest products, but also seeds and biodiversity;
- loss of their access to and control over other sources of production, such as technology, knowledge, training;
- loss of decision-making power, e.g. on joint resources management;
- more restrictions on women's organization.

Apart from these factors, for the users an unsustainable system is characterized by:

- increased time- and energy input, and walking distances in order to meet basic family needs, resulting in overburdening (too much at once and/or too much over a too long period);
- increased efforts to meet production needs;
- increased shortages of basic resources (food, water, fuel etc) for day-to-day family needs and activities;
- increased direct exposure to unsafe situations and dangerous substances;
- breakdown of educational and income generation opportunities (lack of resources and time), resulting in decline of income;
- overuse of marginal resources enforcing the cycle of environmental degradation and poverty;
- ecological and social insecurity.

² This could be caused by scarcity of natural resources, but also because of re-allocation of resources and systems towards, for example, commercial targets.

These effects mean that:

- work burdens increase tremendously;
- health, survival and welfare are affected adversely;
- development opportunities are limited;
- women's autonomy and status diminishes.

These are all aspects which are essential to tackle in order to sustain people's livelihood systems.

4. Coping strategies of women.

People, including women, develop strategies to handle the problems described above. Many of these strategies depend on the local ecological and cultural context. Some of the coping strategies are:

- More time, effort, and energy is put into work. However, there are limits to how much time a person can spend.
- Women start specific activities aimed at making available more natural resources and increasing the supply. Examples of these include women taking the initiative in tree planting and reforestation and forest-conservation activities. They establish kitchen gardens near their houses, install water points, and regenerate degraded land (e.g. waste land development).
- They economize the use of resources. A common strategy is, for example, shifting to other food-products, which need less cooking-time (often these products are less nutritious), limiting the number of cooked meals or the boiling of water (with all its health consequences). Another possibility is the use of energy/resources-saving devices. These are not always introduced on request of the users themselves and women are not always adequately consulted in the planning and implementation of these projects.
- Another issue which has been taken up by (groups of) women is recycling. In situations of water scarcity, for example, they manage to recycle and reuse water for several purposes.
- Women also look into using alternatives such as solar and wind energy for cooking, switching to alternative crops, or changing planting patterns or technology. When the natural resource base becomes too limited, a common strategy is to look into alternative means of income earning.
- Organization: women, who are already used to working together in the field or collection of natural products, start sharing the problems they face with each other and looking for solutions. Groups might be formed or already existing women's organizations take up the environmental issues in their livelihoods.

- Women organize to prevent pollution or they clean up waste sites. Examples can be found in the waste-disposal activities as those started by a collective of unemployed women, such as in Bamako (Mali) As consumers women, especially the richer and well-off women, can play a powerful role in the promotion of environmentally sound products and their production, such as in Malaysia and South east Asia.
- Women organize against environmental degradation and pollution by protesting against developments that threaten their resource base and livelihoods. In addition to protest demonstrations, they use non-violent means of opposition and blockades to stop such activities as deforestation and mining, dam-construction, industrial activities and theft of their intellectual property frights.
- Cultural expressions such as songs and poems, have been created by women to reflect their environmental concerns.

“ Embrace our trees,
 Save them from being felled,
 The property of our hills
 Save it from being looted. “ (Chipko song)

5. Other actions needed.

Again it should be underlined that it should not be exclusively the responsibility of women to change unsustainable livelihoods into sustainable ones. Women should not be seen as instruments for environmental regeneration and conservation, but as equal partners in those processes. Environmental management is far more the direct responsibility of those in power at national, international and local level and of other development actors, including donors, NGOs and the private sector.

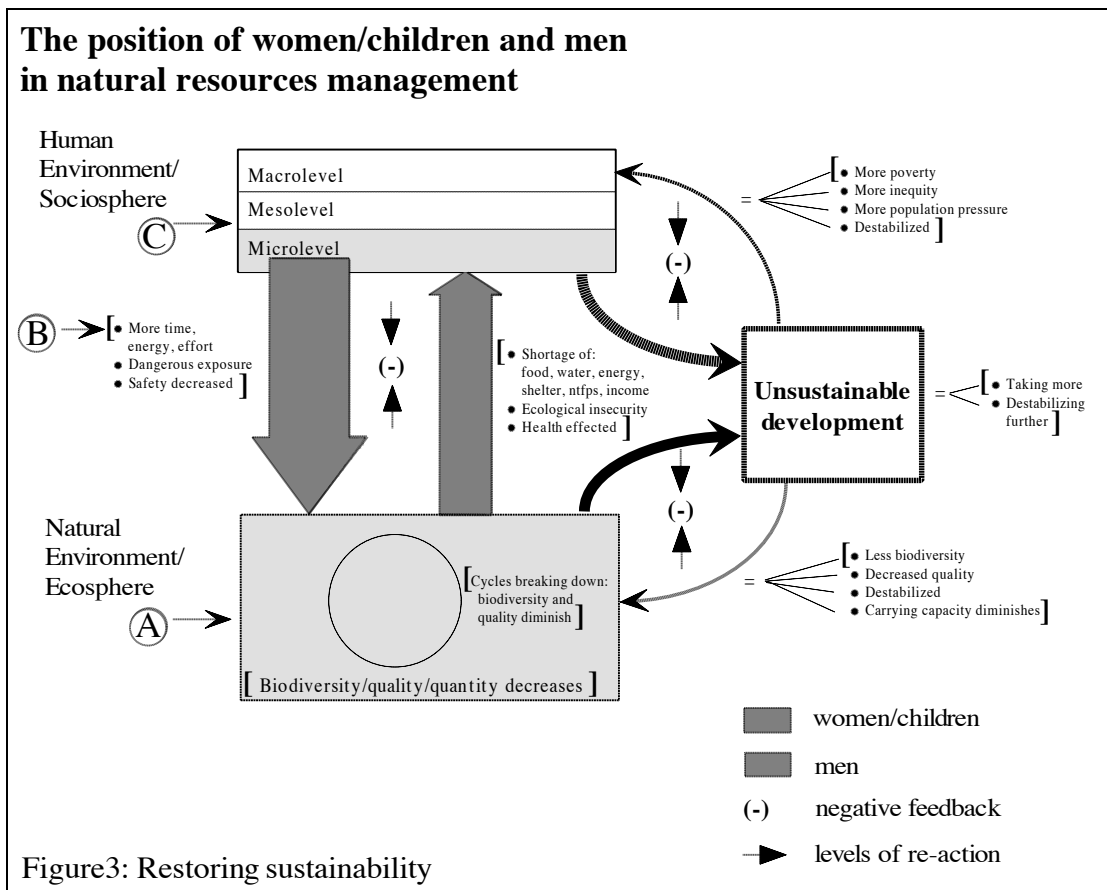


Figure 3 indicates on which levels rectifying actions are being taken to restore sustainability, equality and justice. These focus on the following levels:

- (1) The natural environment or **ecosphere**, in such ways as:
 - increasing the supply of natural resources, by reforestation, external inputs and nature conservation;
 - re-establishing the system and ecological cycles by land rehabilitation, erosion control, water management, ecological farming, multicropping and increase of biodiversity;
 - increasing the quality of the environment by waste and pollution treatment and sanitation, and the introduction of less polluting processes and products.
- (2) Support to **women (and children)** by lightening their burdens and broadening their options, in such ways as:
 - introducing time- and energy-saving devices;
 - developing vocational and natural resources training and educational programs;
 - increasing their access to and control over production factors, e.g. promoting changes in land tenure (rural and urban);
 - providing alternative income possibilities.
- (3) Promoting changes at the **sociosphere**, in such ways as:
 - gender sensitization, at all levels of society;

- introduction and use of participatory approaches and management systems (e.g. joint forest management, water committees);
- institutional and legal changes so as to improve women's decision-making power over resources organization and development;
- promotion of environmental awareness.

As important as each of these activities is, they will all be a constant struggle as long as major causes behind unsustainable development are not eradicated. Fundamental changes are necessary at the national and international development level, such as:

- restructuring international economy and trade relationships;
- fundamental approach of debt problems and changes of conditions of structural adjustment policies;
- introduction of appropriate science and technologies;
- reduce and minimize inequalities in consumption levels;
- information sharing (including access to private sector information);
- increasing access to and control over resources by local users, and giving them rights to those resources;
- empowerment of local people, with specific attention to women and children.

It is necessary not only to focus on one of the above mentioned areas, but to see that improvements are made at **all levels**. This does not necessarily mean that one organization should tackle all of them, but that there is a coverage of all these areas by different actors and that their activities are coordinated.

A very important **prerequisite** is:

- that in each of these areas there is enough understanding and recognition of both environmental, social - including gender-, and macro-aspects.

This means, for example, that while undertaking activities at the ecosphere level, the actor should look at gender-specific aspects. What is good for the environment is not automatically good for women; and that which is good for women does not automatically improve the environment (NEDA, 1997-1) Activities, for example, in the area of sustainable land-use do not necessarily improve women's position; these even could add to women's work-burden. However, in Bangladesh an evaluation showed that women themselves appreciated sustainable land-use activities very much, as these increased their access to and control over resources and ways of production, and also their social status. (DGIS/Novib, 1994) This underlines the need for self-determination of project and program activities by target groups, especially women. In that respect the use of participatory methods, such as participatory technology development (PTD) and participatory rural appraisal (PRA) could be very important instruments (Guijt, 1993).

At **organisational level** several improvements can be made to enable the integrated approach as described above:

- There is a need for **basic understanding** at the organizational level of relationships between gender-development and the natural/physical environment/natural resources base.

- **Capacity-building** at organizational level on gender-environment.
- Use/adaptation of specific **approaches and tools**, e.g. gender/environment analysis, participatory methods, indicators on gender/environment, integration of these in planning, monitoring and evaluation.
- More **coordination** and **cooperation** between organizations working in the field of environment, gender and women's empowerment, and between grassroots women, NGOs, government agencies, academia, etc.
- Specific **activities/pilot projects** in the field of gender-environment, like projects on women's empowerment in sustainable land-use, promoting women's access to land and other natural resources (e.g. through joint forest management), capacity building of women's organizations on environmental advocacy and lobbying, development of livelihood alternatives for women living in seriously degraded environments.

6. Conclusion

Sustainable development asks for a focus on both environmental and social aspects and their inter-linkages. The structured relationship between men and women in society shapes the functions that the environment and natural resources have for both genders, as well as the role that both women and men play in environmental use and management. These dynamics became visible in the reality of communities lives, beginning 1980s. They led to the realization that our efforts towards sustainable development and work in the environmental field need a gender-differentiated and participatory approach. On the other hand it made clear that women's empowerment needs an understanding of the physical context in which people live.

Many different efforts at international and local levels, studies and publications on gender and environmental subjects have been developed since the past 15 years. The variety is big: from field level studies on specific subjects, to theoretical frameworks and guidelines to help integrating gender and environmental aspects. However extensive this information is, still much has to be done to bring lessons together, build basic understanding, and create bridges between the environmental and social, including gender, approaches in national and international institutions.

In the near future much more attention will be needed for the rights aspects of the women-men-environment linkages. Women's rights are recognized as human rights, but among the economic, social and cultural rights also the right to a healthy environment and natural resources base has to be recognized explicitly. Apart from quantitative also a quality focus is needed when looking at access to and control over resources. Concepts like 'ecological footprints' and sustainable livelihoods are useful approaches for a gender-specific sustainable development policy. Intellectual property rights and privatization will be high on the gender and environment action agenda in the near future. Biodiversity and cultural diversity will be valued more and more.

It is important to look more specifically to the interrelationship between age, gender and environment, thereby focusing on the specific roles and positions of girls and of older women. In all our considerations inter-generational aspects will need much more

attention. Apart from equality, it is that focus which urges us to build bridges between social, economic and environmental perspectives.

“Our land is a land of rivers...Our strength is in our being together. We are no longer alone and no longer in the background. We are no longer invisible. We decided not to keep anyone in our village illiterate and we succeeded. Now, we have also decided to take part in elections to get power and decision-making into our own hands.” Julehka Begum, a peasant woman from Gaibandha, Bangladesh (Mazumdar, 1992)

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ABBREVIATIONS

CSE	Centre for Science and Environment, India
CWDS	Centre for Women and Development Studies, India
FAO	Food and Agriculture Organisation of the United Nations
HYVs	high-yielding varieties
ILO	International Labour Organisation
NEDA	Netherlands Development Assistance
NGO	non-governmental organization
ntfps	non timber forest products
UN	United Nations
UNDP	United Nations Development Programme
U.P.	Uttar Pradesh (India)
WRI	World Resources Institute, Washington

Gender, Environment and Climate Change: Understanding the Linkages

Irene Dankelman and Willy Jansen

This chapter looks into the dynamic relationships between gender and environment, as manifestations of the interconnectedness between the socio- and the eco-sphere. It will introduce some theoretical reflections on these linkages, and give insight into major trends and developments since the 1980s. Implications for understanding gender-climate change nexuses will be highlighted throughout this chapter and will be explored in more detail in the chapters that follow.

Introduction

In order to understand gender-specific causes and impacts of climatic variability and changes, as well as related coping and adaptation strategies, we will first look into human dimensions of natural resource use and management. In order to understand the importance of the gender dimensions in environmental management and knowledge development, a thorough assessment of the gender-specific aspects of environmental conditions is necessary.

That environmental use and management and social relationships are closely linked is clearly demonstrated in the daily lives of millions of local women and men. It is in their lives and livelihoods that the eco-sphere and socio-sphere interact with each other. These interactions are gender-specific.

Over the past two decades, much has been written about the gender-specific roles in environmental use and management. As many studies and publications have indicated, women and men worldwide play diverse roles in the use and management of natural resources at a local level and carry diverse responsibilities and rights, including access to and control over natural resources.

In her article on ecological transitions and the changing context of women's work in tribal India, Menon (1991) introduced the concept of 'work' as a determining factor for gender dimensions in environment. She describes 'work' as active, labour-based interactions of human beings with the material world. Historically this interaction has been intricately based upon the natural environments in which communities lived and survived, since nature and natural resources and processes represented the material world on which human survival and well-being depended (Owen, 1998). Such resource-dependent livelihoods are still abundant throughout the world, not only in rural but also in urban settings (Slater and Twyman, 2003) (see Chapter 4). Menon distinguishes the following major areas of human work in those communities: food procurement, including food gathering and production; the protection of life, property and territory, including the collection of water, energy sources and fodder; and childbearing and rearing, including the maintenance of basic health standards and collection of medicinal plants. In most of these tasks, women play a predominant role and in performing these they interact directly with the natural environment. Important categories are production, reproduction and distribution of resources and rights. Based on these interactions Davidson et al (1992) describe the specific roles of women in local communities as providers of 'primary environmental care'. Already in her book *Male and Female* of 1949 (reprint 2001), Margaret Mead underlined that traditional tribal economies show a division of labour along gender lines. Many of the gender specific tasks and responsibilities are directly interfering with and dependent on the natural environment. Gender-specific divisions of labour related to the environment are still visible in modern societies: women and men perform different tasks and carry diverse responsibilities. However, in many cases women are disadvantaged compared to men with regard to land and water rights, and rights over other (natural) resources. Their access to and control over such resources are often dependent on their spouses and their relationships with other males in the community. The decision-making power of local women is also limited in comparison to that of men. So it is in their divisions of labour, responsibilities and rights that human relationships with the environment and natural resources are gendered, and power relationships are important determinants in that respect. Such situations are not static but change over time depending on circumstances at local, meso- and macro-level.

Authors from the eco-feminist school assign an intrinsic and emotional relationship between women and the environment. Eco-feminism emerged in the 1970s and 1980s. The term was introduced by Françoise d'Eaubonne in her book *Le Féminisme ou la Mort*, published in 1974. Eco-feminists, such as Carolyn Merchant (1980) argue that women are

closer to nature than men, while men are closer to culture. Many eco-feminists see a connection between male domination of nature and male domination over women, stemming from the period of so-called scientific and cultural Enlightenment. Vandana Shiva, Indian physicist and activist, underlined in her book *Staying Alive: Women, Ecology and Development* (1988) that paternalistic, colonial and neo-colonial forces and values very often have marginalized women's knowledge. It is male dominated 'mal-development' – often assigned to 'white' men – which has caused major social and environmental problems. Although these alignments are based on the interaction that is reflected in women's and men's daily work in the natural environment, also other social roles – such as those of caretaker, childbearer and raiser – are ascribed as major contributors to the gender-specific roles of women and men in relation to natural resources and the environment.

The assumption that women are closer to nature and men closer to culture was not only defended by eco-feminists. Ortner (1974) recognized this association as a pervasive ideology in many societies and criticized it not only as essentialist, but also saw it as the ideological underpinning of gender inequality as in many of these societies culture was valued over nature, and men thus over women. Later critics of eco-feminism, such as Braidotti (1993) and Agarwal (1998) underline that eco-feminists primarily have focused on ideological, essentialist arguments and have failed to address power and economic differences as important sources of dominance. They argue that many eco-feminists do not differentiate women themselves by class, ethnicity and caste, nor recognize that concepts of nature, culture and gender vary across different cultures and localities. Agarwal (1998) suggests an alternative concept, namely that of 'feminist environmentalism'. Her approach is similar to what Rocheleau et al (1996) have called 'feminist political ecology'. This concept insists that the link between women and the environment should be seen as structured and shaped by a given gender and class/caste/race organization of production, reproduction and distribution. According to their views, the class-gender effects of environmental change are manifested as pressures on women's time, income, nutrition and health, social support networks and knowledge (Agarwal, 1998, 2000). In the next section such elements and relationships will be highlighted.

Enhancing food security

In many sectors, including the environmental, women's roles and responsibilities as food providers are frequently overlooked and

underestimated. According to several researchers and writers, such as Dahlberg (1983), Owen (1998) and Howard (2003), it was actually 'woman-the-gatherer' who was the primary source of sustained food supply for local prehistoric communities – and not 'man-the-hunter'. Women's activities – among which were the gathering of fruits, nuts, edible leaves, flowers, mushrooms, roots, shoots, tubers, biomass energy and medicinal plants – provided daily sustenance. Meat was merely a supplementary food item, except for in the Arctic region where it was much more important (Lee and De Vore, 1968).

Women in many communities around the world still play an important role in biodiversity use for household sustenance through food collection. For example, the Brahui women in the Noza sub-watershed in Baluchistan, Pakistan, go out in early spring after the cold winters (FAO, 1997). Walking in groups or sometimes alone, they collect tiny edible plants and mushrooms. The plants are green and succulent and all lumped together as 'spinach' even though each plant has its own name. These spring greens are sometimes life-saving and provide much needed nourishment after a long winter of food deficits. When medicinal plants are flowering between May and June, small groups of women walk in the early mornings to collect these plants. In a Food and Agriculture Organization of the United Nations (FAO) supported project in the area, women participating in the walks expressed their desire to record their collected information and knowledge of plants. Zer Malik, one of the women, said: 'We want our daughters to be able to see how much knowledge their illiterate mothers actually possess' (FAO, 1997, p6).

Women dealing with wild seeds and vegetable crops have played important roles in the revolutionary innovation from gathering into the production of food. Because food collection requires a thorough knowledge of plant growth and animal life, maturation and fruition or reproduction, women have been credited with the discovery, domestication and cultivation of plants and animals and the intervention in selective breeding. According to several scholars they discovered the propagation of shoots and cuttings, seed selection and the construction of seed beds (Murdock and White, 1969; Stanley, 1981; Owen, 1998).

Stanley (1981) has credited the following interventions in cultivation to women: the use of ash as fertilizer; the creation of work tools such as the hoe, spade, shovel and simple plough; fallowing and crop rotation; mulching, terracing, contour planting, irrigation and land recuperation through tree planting. According to the same author, eight of the most important cereals worldwide are all domesticated by women: wheat, rice, maize, barley, oats, sorghum, millet and rye. Sir Albert Howard underlines in *An Agricultural Testament* of 1940, that he saw in India's peasants a

knowledge of farming far more advanced than that of the West. In that land-use women played an essential role.

In studies on women's roles in food production in villages in the Garhwal Himalaya in India (Shiva et al, 1990; Kelkar and Tshering, 2004; Meuffels, 2006), it became clear that women are important actors in local farming that is based on sustainable flows of fertility from forests and farm animals to croplands. These century-old food production systems have always included and integrated forests as well as farm animals in the crop cultivation process. The internally recycled resources provide the necessary inputs for seeds, soil moisture, soil nutrients and pest control.

Singh (1988) described women's extensive contribution in animal husbandry in Northern India as follows: the woman harvests the crops and stakes the hay for domestic animals. She transports the leaf fodder and bedding material over long distances on difficult terrain. She grazes the cattle on distant grazing lands, brings animals to water sources, takes care of the young calves, milks the animals and cleans the animal shed. Particularly the collection of fodder leaves, herbs and grasses is almost exclusively a women's task, assisted by children, often girls. Male responsibilities are mainly in the ploughing, castration, purchase and sale of farm animals.

Next to men, women also work in irrigated agriculture: a Grameen Krishi Foundation project in northwest Bangladesh showed that women carry out about 50 per cent of all tasks in rice production. They even account for 50 per cent in the presumably male task of irrigation (Jordans and Zwarteveen, 1997). However, women's rights to water for agriculture vary enormously. In the Andes, women were allowed to participate in the construction of irrigation systems and thus to establish rights to irrigation water. But men dominated the written registration processes and decision-making bodies (NEDA, 1997). In Tanzania, by contrast, women were prohibited from operating water infrastructure facilities (NEDA, 1997).

According to the FAO (2009), rural women are the main producers of the world's staple crops – for example in southeast Asia they provide 90 per cent of labour in rice cultivation and in Pakistan 50 per cent of rural women cultivate wheat. Their contribution to secondary crop production, such as vegetables, is even greater. Women make up 51 per cent of the total agricultural labour force. This includes work in subsistence farming as well as export-oriented farms and plantations (FAO, 2009). In Burkina Faso, 95 per cent of women work in subsistence farming and in the informal sector. In El Salvador the gender division of labour differs according to crops and type of activity: male farmers are primarily responsible for cash cropping, whereas women are responsible for food production, especially basic grains, vegetables and fruits (FAO, 2009). Another characteristic is that in many countries women work longer hours than men, and earn less

(UNFPA, 2002). Singh (1987) accounts that in a year a pair of bullocks works for 1064 hours on a 1ha farm in the Indian Himalayas, a man for 1212 hours and a woman for 3485 hours. In the Noza sub-watershed in Pakistan, an average working day for a Brahui woman is 17 hours long during the productive season (FAO, 1997, p3). In four countries in sub-Saharan Africa – Burkina Faso, Nigeria, Kenya and Zambia – women's average daily time investment in agricultural work was 467 minutes a day, whereas men's time investment accounted for 371 minutes a day (Saito et al, 1994, p18).

Through their daily work, women have developed a profound knowledge of the wild plants and animals used, as well as the indigenous varieties of crops. For example, women rice growers in central Liberia, India, identified 100 indigenous rice varieties with two or three errors at most, not only describing the different varieties, but also mentioning other features, such as the ease with which the husk can be removed, the length of time required to cook, and their suitability for different ecological conditions (Shiva and Dankelman, 1992, p46). In a small sample participatory study with women hill farmers in Dehra Dun, India, Shiva was provided with no less than 145 species of forest plants that women have knowledge of and which they utilize. External forestry experts could only name 24 species (Shiva and Dankelman, 1992, p46). The Brahui women in the Noza sub-watershed, Pakistan, were able to identify 35 medicinal plants during field walks (FAO, 1997, p10). In the book *Women & Plants: Gender Relations in Biodiversity Management and Conservation* (2003), edited by Patricia Howard, numerous cases are presented of women's plant knowledge and involvement in plant use and conservation worldwide; in Mexico, Venezuela, North America, Zimbabwe, Swaziland, Mali, Turkey, Italy, Nepal, Thailand, China and Papua New Guinea.

Also in fishing communities there is a strong gender division of labour and next to men women play an important role. Although fishing is predominantly a male occupation that exposes them to dangerous situations at sea or other water bodies, occasionally women go out fishing themselves. More often they handle the preservation and marketing of fish (Oracion, 2001). Between 50–70 per cent of pre and post-harvest activities in fishing communities are done by women, and their per capita income derived from fish marketing and processing is in fact often higher than the per capita income of their husbands and sons from fish capture (Nozawa, 1998). Fisherwomen are mainly responsible for the preparations of the fishing trip – including the mending and boat building – fish processing and selling, while men often do the actual fishing. Water and firewood hauling, necessary for fish drying, are also mainly carried out by women (Aguilar and Castañeda, 2001; Williams et al, 2006). Other

Box 2.1 *Weather, climate and food production*

Local conditions, particularly weather and climatic circumstances, determine to a large extent the productivity of land and water resources. Not only are these therefore important determinants of people's food security, but they impact also on women's and men's work, tasks and responsibilities in those systems. Water availability and precipitation, salinity, air temperatures, and wind currents determine if the weather and climate is favourable for food production. Drought, caused by absence of rainfall and high temperatures (evaporation), can cause failure of harvests and result in famine. On the other hand, flooding can be important for the replenishment of nutrients for crop production, however, too much flooding causes damage and destruction of crops and harvests. Not only the mean temperature of the air but also extremes such as freezing, and periodicity, determine crop production. Such conditions not only influence plant life, but also that of cattle, other animals and disease vectors. Water temperatures and composition are important for life forms in the water and therefore for the health of coral reefs and fishes, determining fishing opportunities. All these conditions can have a positive and negative influence on women's work as food producers, and the lives and health of local communities.

water organisms such as shellfish and prawns are often being collected and managed by women (Pijnappels, 2006). However, their decision making power and access to technical training and development assistance in the sector is limited. The Second Global Symposium on Gender and Fisheries of the Asian Fisheries Society that took place in 2007, offered a solid base for understanding gender differentiated roles and development needs in fisheries and aquaculture. Several research papers reported that enhanced women's contributions add value to the sector (Williams et al, 2006; Choo et al, 2008).

Household chores: Reproductive tasks

Because of the fact that one of the major areas of human work, childbearing and rearing, is predominantly assigned to women, Menon (1991) and others argue that not only tasks such as the provision of health services and hygienic measures, but also related aspects, such as the provision of household energy and water, are primary among women's responsibilities. This is not only true in rural, but often also in urban situations (see Chapter 4).

In many societies, women and often girls are exclusive suppliers of water for household use: they collect every litre of water for cooking, bathing, cleaning, maintaining health and hygiene. They also play a predominant role in the provision of water for animals, crop growing and food processing. It is often women who decide where to collect water, how to draw, transport and store it, what water sources should be used for which purposes and how to purify drinking water. They make a disproportionately high contribution to the provision of water for family consumption compared to male members of households (GWA, 2003). In segregated communities, where women are not allowed to be seen in public, daughters often bear the burden of water collection (NEDA, 1997). Male family members rarely assist in the often heavy and time-consuming task of water transportation for family use, and usually only then if they have bicycles or carts. Through their work, women have acquired specialized knowledge in the area of local water management and use. It is a knowledge they primarily share with their daughters and each other. Because of other tasks they perform, such as the washing of clothes and dishes, cleaning houses and latrines, and attending to personal hygiene, in several regions women have established specific ways for reusing waste water to conserve supplies (Dankelman and Davidson, 1988; GWA, 2003). Sometimes women's needs for water can be in direct conflict with those of men: for example, food production can be an important source of family food and women's income, but women's access to irrigation for such production is minimal as this sector is dominated by male members of the household (UNDP, 2002).

Most domestic energy comes directly from biomass sources. Wood fuels – both in the form of firewood and charcoal – and other biofuels, such as animal and crop residues, form the only source of energy for about 2 billion people, and some 1.5–2 billion have no access to electricity. Globally fuelwood production was at about 1.8 billion cubic metres in 2005, an increase of more than 6 per cent since 1990 and of 30 per cent since 1970 (FAO, 2007). Today more wood is used for fuel than for any other purpose and the requirement for fuelwood – 5 per cent of global energy consumption – is increasing rather than decreasing (Forsyth, 2005, p260). In urban areas there is a transition from high wood use to fuels such as gas and electricity, with charcoal as the principal fuel that people shift to first from fuelwood (CIFOR, 2003; Arnold et al, 2003). Poor households, even in cities, still depend almost exclusively on biomass sources for their energy supply, but they are often least likely to have fair access to the resources (Arnold et al, 2003). Although men sometimes share the task of household energy supply – particularly if resources are commercialized – in many communities women have the primary responsibility for meeting household energy needs through fuel collection, preparation (such as

chopping and drying) and use, including tending the fire and cooking. All these tasks may take many hours per day, depending on the ecological circumstances and access to biomass resources.

The majority of rural women in Asia, Africa and Latin America obtain fuel wood, food and fodder from nearby forests and woodlots. Children's role is often an extension of their mothers' work, assisting with fuel collection, fuel preparation, cooking and fire-tending, the latter mainly by female children (Cecelski, 1985; Forsyth, 2005). Men in the Garhwal hills of the Himalayas, India, are found to break the traditional division of labour only by fetching fuel and fodder when the productivity of women's labour is high, for example on irrigated land. When domestic fuel becomes more commercialized and collection is oriented towards large-scale organized sale and charcoal making, men's participation increases. But as long as technology and marketing are limited or absent, the task of fuel gathering is regulated by women. Often they carry loads up to 35kg or more over distances as much as 10km from home. The weight largely exceeds the maximum weight of 20kg permissible for women by law in many countries (ILO, 1967; WHO, 2004, 2006). Indoor air pollution from biomass fuel and exposure to domestic smoke while cooking, causes major health problems, including chronic respiratory disorders, particularly in women (Chen et al, 1990; WHO, 2004, 2006).

In many so-called traditional societies, women have played and continue to play an important role alongside men in the construction and management of human shelters and infrastructure (Steady, 1993; de Vries and Keuzenkamp, 2000). Households closely reflect the conditions of the surrounding physical environment and it is women, often assisted by female children, who bear the responsibility for protecting members of their households, especially the young and aged, from pollution, poor sanitation, natural disasters and the risks inherent to poor housing conditions (WHO, 2004). Women may spend as many as 20 hours a day at home, especially in secluded societies. In many cases, activities in human shelters and physical infrastructure come to depend on women's unpaid labour. The responsibility of maintaining a clean and safe household environment, including waste management, still falls primarily on women's shoulders. Poor women are also engaged in activities such as waste picking from dump sites and waste salvaging tasks (Muller and Schienberg, 1998; Bulle, 1999).

Income generation: Productive work

Women made up 40.5 per cent of the global labour force in 2008 (ILO, 2009a, p9). Gender inequality remains an issue within the labour market globally, as women suffer multiple disadvantages in terms of

Box 2.2 *Weather conditions and access to water and other natural resources*

Precipitation, its volume and its seasonality – together with other physical and vegetation conditions – determine to a great extent if people are living in arid or more wet circumstances. Access to water of good quality and the absence of extreme weather events impact on women's work in providing water for the household or irrigation purposes. Water quality, including its salinity, also determines to a great extent whether the available water can be used. Salinity can be determined by high evaporation and influx of sea water.

Productivity of vegetation, on the other hand, depends on soil, water and weather conditions; this is not only true for food production but of course also for natural vegetation, including pasture and forest growth. In turn the (adequate) availability of natural resources and non-timber forest products (NTFPs) – for biomass energy, fodder for livestock, medicinal and other uses – impacts on women's work and that of their children. Even for the production of electricity, including hydroelectricity, abundant water is used. Particularly smallholders, subsistence farmers, pastoralists and artisanal fisherfolk are likely to suffer complex and localized impacts of climate change (IPCC WG2, 2007).

access to labour markets and freedom to choose to work. Throughout the developing world, vulnerable employment, such as own-account workers or contributing family members, is generally a larger source of employment for women (52.7 per cent) than for men (ILO, 2009a, p11). A majority of women in the developing world (except for northern Africa) are disproportionately represented in informal employment – outside agriculture, as street vendors, waste collectors, home-based producers, garment workers and domestic workers (Chen et al, 2005; Chant and Pedewell, 2008; WIEGO, 2009). Much of this work is hidden and does not show up in statistics because it is illegal – such as prostitution – or culturally not categorized as income-generating work (Jansen, 2004). In sub-Saharan Africa and South Asia the agricultural sector makes up more than 60 per cent of all female employment (ILO, 2009a, p9). Women are entering the global formal workforce in record numbers, but they still face higher unemployment rates and lower wages and represent the majority of the 1.2 billion poor workers, and 630 million workers who are living in extreme poverty (ILO, 2009b). The conditions under which many women work and the access women have to employment and productive resources, can differ considerably from men's, with lack of safety nets, inadequate

Box 2.3 *Weather, climate and employment*

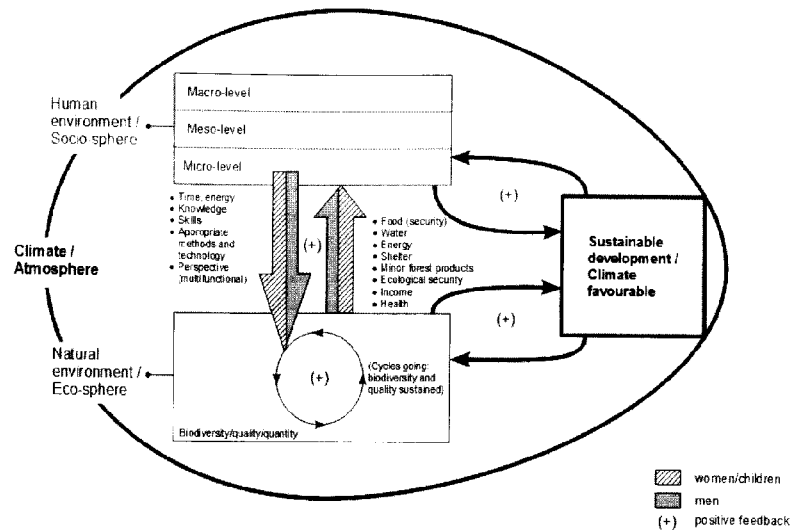
Many income-generating activities in which women and men are involved, particularly those in the informal sectors, are indirectly or directly dependent on the availability of raw materials, energy and water resources. The dependency of the agricultural sector has already been described above. This means that all food-based processing and trading sectors, in which many women earn their incomes, depend on weather conditions. Similarly, activities such as brick making and artisan work depend directly on the availability of raw materials, such as NTFPs and biomass energy sources. Many commercial estates, in which men and women find employment, use large amounts of water, energy and raw materials from agriculture or nature. In many cases, availability of these resources depends on weather and climatic conditions. For example, in an interview with women farmers in Guyana it was found that their pineapple growth and related industry was suffering from the prolonged droughts (WEDO/UNIFEM, 2010).

remuneration, unsafe conditions and disrespect of fundamental human rights (UNFPA, 2006; ILO, 2009a). Informal work has expanded and appeared in new forms in the context of globalization, neo-liberalism and cross-border and rural–urban migration (Chant and Pedwell, 2008).

Many of the informal income generation activities in which women are involved are directly or indirectly dependent on natural resources, such as energy sources, NTFPs, crops and water. Activities include, for example, agricultural and plantation work, processing and selling of food products, brick making, handicrafts, pottery, spinning, weaving and sewing (Jansen, 2007). Head loading of fuel wood for sale in urban areas and the preparation and marketing of charcoal are important income-generating activities for women in certain regions. In industries such as leather tanning, workers – including many women – are directly exposed to the environmental conditions of water and air. Occupational health issues are often a major concern, particularly for the health situation of poor women workers worldwide (WHIO, 2004).

Analysis: Sustainable management and use of resources

In all activities described above, men and women play an important role by inputting their work, energy and expertise. Through these activities women



Source: Adapted from Dankelman (2007); technical design Jeroen Dankelman

Figure 2.1 A sustainable system: Gender aspects of natural resources management and climate (change)

contribute substantially to their families' security of food, health, energy, shelter, production and income. All these activities depend on natural resources, the physical environment and ecological functions and services. Rural women's work in particular is therefore often directly related to the natural environment and environmental conditions. Although men also perform tasks in the above-mentioned fields, their input of time and energy is often substantially less than that of women. In this way, rural women in many countries maintain to a large extent – alongside men – the interface between the socio-sphere and eco-sphere.

In Figure 2.1, an environmentally sustainable system is presented. As has been shown above, this does not automatically mean that the system is socially just and prosperous; even in these situations poverty levels can be high and inequality between and within the sexes and different classes, castes, ethnicities and ages can prevail. This is certainly the case for the growing number of female-headed households.

In the figure, a distinction has been made between the human environment or the socio-sphere, and the natural environment, or the eco-sphere. In the socio-sphere, different levels are distinguished to differentiate between the processes taking place at macro-level – for example at international level, at meso-level (such as national policies)

and at micro-level – in the realities where local people actually live. All these levels interact with each other, and within each level, social interactions take place based on local circumstances and power dynamics. As Leach (1992) and Rocheleau (1995) have underlined, women's roles in these interactions are not fixed and should not be generalized.

In a healthy eco-sphere, an abundance of natural resources and large diversity of plant and animal species and varieties, as well as (agro-) ecosystems are present. The physical environment – including water, soils and air – has a quality and quantity that sustains diverse life forms, including human life. The components of the eco-sphere are related to and interact through ecological cycles. Both the socio-sphere and eco-sphere show a dynamic balance within themselves and with each other. Local people contribute energy, time, knowledge and skills, and cultivation and management practices – as well as technologies to manage the eco-sphere, or livelihood system. This way they yield from the system what is necessary for the family's and community's subsistence on the short and longer term, such as food, water, energy, NTFPs, medicines and shelter. The ecosystems provide a diversity of goods, and regulating and supporting ecosystem services contribute to human health, well-being and livelihood (UN Millennium Project, 2005; Millennium Ecosystem Assessment, 2003).

This way, one could speak about an ecologically sustainable system: there exists a positive interaction between the different factors, components and levels of the eco-sphere and socio-sphere, and there is a dynamic balance between that which is used from the (agro-)ecosystem, that which is provided by it, and its regeneration (or buffer) capacity. Because of their tasks, work, knowledge and expertise, local women, men and even children play an important role in maintaining that balance.

Conditions and critical factors

Many factors have an influence on these environment-related tasks of women, men, and children, and therefore have an impact on their work-burden, physical and psychological stress and autonomy. Apart from the division of labour, tasks and responsibilities, critical factors are:

- Access to and control over (natural) resources of good quality, such as land, water and trees.
- Access to and control over other means of production, such as income, credit, and appropriate technologies.
- Access to education and training.
- Social status and decision-making power, regarding resource management and use, production and produce.

- Participation and involvement in social processes and freedom of organization.

These critical factors are not only essential at micro-level within households and communities, but also at meso and macro-levels.

Apart from economic, cultural and technological circumstances and power structures, environmental conditions also have their influence on women's and men's work and lives.

This is true most directly in rural situations, but these aspects can also be observed in urban environments. Particularly when it concerns people who live in poverty and who are marginalized because they depend to a large extent on freely available resources (see Chapter 4).

People facing environmental problems

All over the world, local communities face problems of environmental degradation and deterioration. These problems are as old as humanity, but have increased over time in magnitude and intensity. Seager (1993) argues that an understanding of these environmental problems needs to be rooted in an analysis of the social, cultural and political institutions that are responsible for environmental distress. Like Shiva (1988), she underlines that the institutional culture responsible for most of the environmental calamities in the last century is primarily a masculinist culture. Of course both men and women have participated in this culture, but women's voices and decision-making power have been more limited and restricted.

Often developments such as commercialization, export-orientation, international trade and pricing policies, external debt, structural adjustment programmes, political and armed conflicts, as well as increasing consumption and population pressures have resulted in over-exploitation or pollution of natural resources. Such processes are characterized by redirection of uses of community land and other resources (including forests, grazing grounds and water sources), extraction activities (including logging and mining) and introduction of non-sustainable agricultural and industrial processes and infrastructure. This results in scarcity of common resources, degradation of their quality and diversity, and disruption of ecological functions, such as retaining and pollution of water, soil and air (Hardin, 1968; Goldman, 1997; Radkau, 2008). It is often women – and with them children – whose lives and positions are the hardest hit by such developments.

Figure 2.2 shows what happens when a system becomes unsustainable, both at the level of the eco-sphere and the socio-sphere. At the level of the eco-sphere, more resources are taken than can be regenerated, resulting

in a decline in biodiversity. The ecological cycles in the system become destabilized – ecological processes and services involving natural resources, such as water, soil and biodiversity, get disturbed. More pollution is added to the system than it can handle; in other words, the ecological quality diminishes.

At the same time it is observed that the socio-sphere becomes more destabilized. A degrading environment is an important driver in the increase of poverty and inequity. This is also reflected in changing power relationships in society, community and family, among genders. Women's access to and control over natural resources and technology generally decreases more than that of male members of households. Women often lose control over resources, production and management, and become more marginalized and excluded.

In these situations, which are becoming more and more common, community members, especially women, have to put more time, energy and effort into meeting their families' basic needs for natural resources, security, and health. However, as the eco-sphere cannot supply enough and the natural cycles that sustain life are disturbed, this task becomes more difficult and sometimes even impossible. Because women have to walk longer distances, often over rough or disturbed terrain, women's work and life becomes more insecure. In Sri Lanka, it was found that women spend

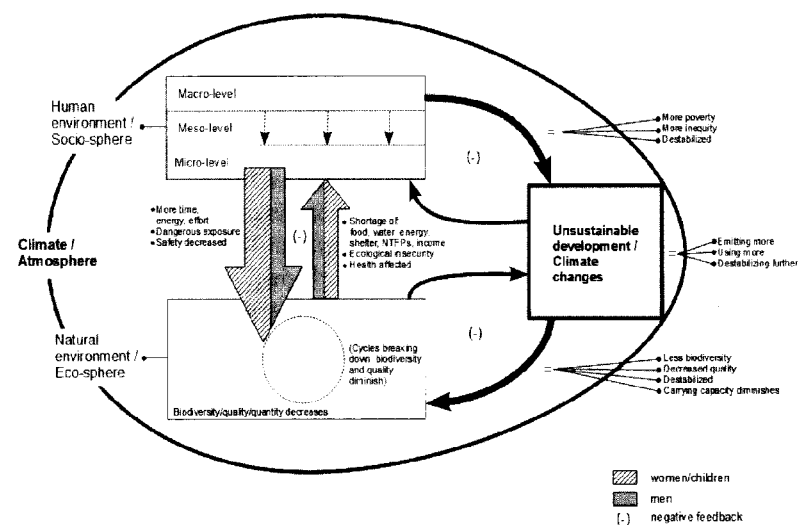


Figure 2.2 An unsustainable system: Gender aspects of natural resources management and climate (change)

Source: Adapted from Dankelman (2007), technical design Jeroen Dankelman

Box 2.4 *Climate change impacts on people's livelihoods*

As climate change manifests itself in weather extremes and disasters, casualties in the lives of women and men, injuries and health impacts are direct manifestations of these problems. As has been widely observed, climatic changes not only impact directly on people's lives, but also affect the security of their livelihoods in all its forms, including their food security, water security (see Box 2.5), energy security, security of shelter and ecological security. In all these aspects, impacts for women and men are different, with the most vulnerable suffering the severest impact. Finally, climate change impacts differently on the dignity of women and men, jeopardizing their human rights (such as the increase of violence against women because of increased stress factors), lack of education and training opportunities, and active participation and involvement in policies and actions (see Chapter 3).

9–15 hours per week gathering fuelwood, over distances ranging from 0.5–3.5km, carrying bundles weighing 28–34kg per trip (Wickramasinghe, 1994, p32). In Baluchistan, Pakistan, each woman spends an average of 15 hours per week on fuelwood collection in summer and even more in the winter (Imran, 2002, p57). In Northern Kenya women gather firewood about three days per week. The average weekly time spent on fuelwood gathering was 8.2 hours, but in the more arid sites up to 10.5 hours per week were spent with loads up to 45kg per trip (McPeak, 2002, pp7–8). A study executed in Nepal learned that a degrading environment, with the forest cover going down by more than half in the past 20 years and accompanying erosion, landslides and flooding, particularly affected girls' lives and opportunities. Whereas a myriad of development programmes had been initiated to enable more girls to attend primary schools, the scarcity of natural resources and the time and energy needed in collecting and managing these, even resulted in a decrease in girls' school enrolment (Johnson et al, 1995).

You people in the cities do not know how village women like us have to slog. As the farmer forces his bullocks to labour, poverty forces us to labour all the time. One side is getting inflated while the other is shrinking. The section that is shrinking is getting destroyed.
(peasant woman from Bangladesh; Mazumdar, 1994, p17)

Climatic changes are not only hitting women, men are also forced to adapt. Malin Jennings of the Arctic Indigenous Climate Change Ethnographies

(ICCE) underlines that the warmer climate has made survival harder particularly for male Inuit hunters in Greenland: 'Hunters used to be the pinnacle of society but this is no longer the case. Their skills and expertise have been rendered useless, and this is creating social problems' (Jennings, in Parbring, 2009, p1).

A major alternative strategy primarily for men under circumstances of severe resource scarcity is migration. With resources already being scarce, women in the communities have to take over production tasks from their husbands. In such cases they may have to rely on wage labour, apart from other tasks and responsibilities, resulting in a tremendous pressure. In Diourbel, Senegal, male out-migration was a logical response to the modernization of agriculture and declining food security. While women in the region are concerned about the changing environment around them, they are in a weaker position to do anything about it (David, 1995).

Migration puts also men under pressure, as they have to find sources of income quickly to make up for losses or insufficiencies in livelihood, and are compelled to live away from their families (Leduc, 2009; Hunter and David, 2009). 'I don't want to leave this place,' said Gaurpodomando, a fisherman in Harinagar, Bangladesh, suffering from the declines in catch year after year. 'I don't want to leave this country. I love this place' (in Friedman, 2009).

In a study of three villages in Burkina Faso, it was found that wild plants made up 21 per cent of the diet and were an important source of Vitamin A. The work of collecting these plants in the forests, which are 8–10km from the villages, is 85 per cent done by women and young girls. Seasonality is an important factor in women's time use, but also environmental degradation. As time taken to obtain these wild plants increases due to environmental change, the wild foods are used less and less, causing dietary deficiencies, particularly in families with inadequate cash resources to supplement their diets (Awumbila and Momsen, 1995, p338).

The use of toxic chemicals in agriculture poses serious health threats for labourers, particularly women. Weeding is predominantly a women's task. Extensive use of pesticides in agriculture is posing major health problems for sprayers, producers and packers. In Malaysia, many women work in the plantation sector and spray pesticides. They complain of sore eyes, skin rashes, burnt fingernails and disruption of the menstrual cycle. Some mothers exposed to pesticides during early pregnancy give birth to deformed children or even lose their unborn children (Arumugam, 1992; UBINIG, 2003).

We know that pesticide is harmful. When we mix the pesticide in the water it expands like boiling milk. It reacts in our body in the

same way. We observe that birds and animals are dying. We women do not want to use pesticides because we love our chicken, cows and goats like our family. (Jamila Khatun of Raini Karmakar para village in Bangladesh, in UBINIG, 2003, p12)

He cries all the time. I can't go out to work. It would be impossible to have a job and take care of my son. We have to make do with the tiny amount of money (we have). (Jayanthi, mother of Harshith, a boy from India who has become mentally and physically challenged because of aerial spraying of endosulfan, in Rengam et al, 2007, p65).

According to the UN, the number of people without improved drinking water has dropped below 1 billion, whereas 2.5 billion people lack access to basic sanitation (UNICEF/WHO, 2008, p2). Although the world seems to be ahead of schedule in meeting the 2015 drinking water target of the Millennium Development Goals (MDGs), there are still 884 million people worldwide who rely on unimproved water sources for their drinking, cooking, bathing and other domestic activities; of these, 84 per cent live in rural areas (UN, 2009, p48). About 80 per cent of those lacking access to drinking water live in sub-Saharan Africa, eastern and southern Asia.

According to the UN: 'Imbalances between availability and demand, the degradation of groundwater and surface water quality, intersectoral competition, interregional and international conflicts, all bring water issues to the fore' (UN-Water, 2006, p2). Today agriculture accounts for 70 per cent of all water-use globally, and up to 95 per cent in several developing countries (UN-Water, 2006, p6). Water use increased sixfold during the 20th century, which is more than twice the rate of population growth (UN-WAPP, 2006, p173). It is estimated that about two thirds of the world's population, or about 5.5 billion people, will face moderate or severe water stress in 2025 (UN-Water, 2006).

In many of the countries under water stress, women walk 1–4 hours per day over long distances to fetch water. In some mountainous regions in East Africa, for example, women spend up to 24 per cent of their caloric intake in collecting water (Lewis et al, 1994, p12). Despite their major responsibility in the field of water management, several factors restrict women's influence over this area of their lives. Male heads of household often decide where to build the family home, without necessarily considering the distance to water sources. In many cases, water rights are linked to land rights, restricting women's access to water sources as well. Often there are few or no public water points in slums and on the outskirts of cities, and in several regions there is a threat caused by privatization of water services

Box 2.5 Climate change and access to water

Climate change causes increased variability, exacerbating spatial and temporal variability of water resources. The serious deterioration of aquatic ecosystems contributes to these problems (UN-WAPP, 2006). The impacts of climate change on freshwater systems and their management are mainly due to the observed and projected increases in temperature, evaporation, sea level and precipitation variability. Semi-arid and arid areas are particularly exposed to the impacts of climatic change on freshwater, while higher water temperatures, increased precipitation intensity and longer periods of low flows are likely to exacerbate many forms of water pollution, with all its consequences for ecosystems and human health (IPCC WG2, 2007). Scarcity of clean water and unreliability of the supply will be major challenges for women and girls, as they are main suppliers of drinking water in many areas around the world.

(WEDO, 2003). In those instances, women have to collect the water from other sources, buy it from the provider or from vendors, whose prices can be high – making water an unaffordable resource.

Organic and inorganic contamination of water sources causes major health problems, particularly for those who are in direct contact with the polluted water – often women and children. In inner city areas, many of the poorest people live close to industrial areas, suffering high levels of pollution. Women predominate among urban people in poverty. Apart from lack of access to (legal) land, they face inadequate waste management, as well as water and sanitation problems. Many settlements of the poor are situated on dangerous sites that are vulnerable to landslides or flooding, or in the direct surroundings of hazardous industries. As pollution in many urban areas increases, the users and workers are more exposed to dangerous substances and toxic chemicals. This happens where housing sites are situated close to polluting and dangerous industrial estates, waste dumps or open drains and sewers. The Bhopal disaster of 1985 showed the disastrous effects of such situations on people, particularly women and children, living around the industrial plant of Union Carbide. Women told Menon (1991) that they had migrated to this industrial area because the households owned little or no agricultural land any more, fuelwood was getting scarce and life under such circumstances had become very hard. But now, living in such a polluted area, they face other severe problems.

While living in squatter areas and slums is bad for everybody and polluted air and water threaten the health of every inhabitant, women face great risks from exposure and handling of contaminated water, waste and

other products, because of existing division of tasks and responsibilities. Also indoor air pollution poses a major problem for women's and children's health in particular. As the meal preparers, women are often exposed to high levels of smoke from open fires or stoves for long periods. The majority of 1.5 million deaths and of the 2.7 per cent of the global burden of disease from indoor air pollution every year occur among women (WHO, 2006).

Summarizing, as productivity of the ecosystem declines, shortages of basic supplies, such as food, water, energy sources and forest products occur. Livelihood security worsens and income generation possibilities diminish. Ecological insecurity increases and local communities suffer directly. The burdens on local communities, particularly on women and children, become heavier and their health and livelihood opportunities are threatened. Global warming contributes to the resurgence of diseases, such as malaria and Japanese encephalitis, and intensifies respiratory and water-borne diseases (Leduc, 2009). Ecological destabilization reinforces social dysfunctioning, poverty and inequality among classes, ages and sexes.

Pressure on the ecosystem increases, as more people are made dependent on less productive (eco)systems. This further diminishes the carrying capacity of the system, and reinforces environmental destabilization. In other words, the interaction between the actors and elements in the system becomes negative.

The main drivers behind environmental and related social destabilization is an unsustainable development trend, that takes more from both ecological and social systems than can be regenerated and is more destabilized than can be recovered (see Figure 2.2). A driving force behind unsustainable development trends is an economy based on short-term profits, stimulating increased and unequal production and consumption. These processes not only promote inequality between countries and regions, whereby the rich get richer and the poor lose their rights to and control over (productive) resources. Many of these development processes are not culturally adjusted.

In Figure 2.2, these external and internal processes are indicated by the pressure from the macro-level on the micro-level. Another aspect of unsustainable development is the introduction of inappropriate planning and technologies: these are not location-specific and are based on a constant flow of external inputs and expertise, as well as resource, energy and water intensity. Institutional – or governance – aspects also play a role: an unsustainable system often concentrates wealth and power, while marginalizing and excluding local communities, members of households (particularly women) and minority groups from decision-making processes. These processes do not impact every woman and man in the same

way. It is important to not only recognize differences between women and men, but also to see the disparities between groups of different race, ethnicity, social status and age.

The convergence of global crises in recent years (such as the financial crisis), increasing commodity and energy prices at global markets, and environmental degradation and climate-related disasters, increase global hardship and insecurity. According to Sha Zukang (2009), UN Under-Secretary-General for Economic and Social Affairs, historically economic recessions have placed disproportionate burdens on women, as they are more likely to be in more vulnerable jobs, to be underemployed or without paid jobs, lack social protection and have limited access to and control over economic and financial resources. The UN Special Rapporteur on 'Violence against Women: Its Causes and Consequences', Yakin Ertürk (2009), stated that women and girls in developed and developing countries are particularly affected by these crises due to job cuts, loss of livelihoods, increased responsibilities in all spheres of their lives, and the increased risk of societal and domestic violence.

Climate change exacerbates existing inequalities and slows progress toward gender equality. Gender equality is a prerequisite for sustainable development and poverty reduction. But inequalities are magnified by climate change. (Lorena Aguilar, International Union for Conservation of Nature, in World Bank, 2008, p42)

Critical factors

The above text indicates how unequal power relations, needs and perspectives, at all levels of society, fuel unsustainable and unjust developments. Consequences are reflected not only in the environmental field but also at a social level, in increased inequality and gender differentiation in use and management of natural resources, and in environmental change that adversely affects particularly women and children. The consequences of environmental degradation place extra burdens on women's – and girls' – shoulders, affecting their work, their health and their lives. Summarizing, critical factors in this respect are:

- Loss of access to and control over natural resources and (eco)systems of good quality, such as land, water, energy sources and minor forest products, but also seeds and biodiversity, particularly affecting women.
- Loss of women's access to and control over other sources of production, such as knowledge, technology, schooling and training.

- Loss of decision-making power, for example on joint resources management and common property.

Apart from these factors, for users an unsustainable (eco)system is characterized by:

- Increased need for time and energy input, and longer walking distances in order to meet basic family needs, resulting in overburdening and time poverty (World Bank, 2006).
- Increased effort needed to meet production needs.
- Increased shortages of basic resources – such as food, water and fuel – for day-to-day family needs and activities.
- Increased – and more direct – exposure to unsafe situations and dangerous substances.
- Breakdown of educational and income-generation opportunities due to lack of time, resources and labour.
- Restrictions on (women's) organization.
- Overuse of marginal resources – reinforcing the cycle of environmental degradation and poverty.
- Ecological and social insecurity, as well as vulnerability to natural disasters.

All this means that:

- Work burdens increase significantly.
- Health, survival and welfare are adversely affected.
- Poverty increases.
- Development opportunities become limited.
- People's autonomy and decision-making power declines.

All these factors have to be tackled in order to sustain people's livelihood systems and increase gender equality as they particularly affect women.

Coping strategies

Communities develop strategies to handle the problems described above. Many of these strategies depend on the local ecological, social and cultural context, and not all of these are sustainable themselves. Some of the coping strategies local women and men apply are:

- More time, effort and energy are put into work, particularly by local women. However, there are limits to how much time and effort one person can spend, particularly when this occurs over longer periods.
- Specific activities aimed at making available more natural resources and increasing their supply. Examples are women's initiatives in tree-planting and reforestation, as well as forest conservation activities. Kitchen gardens, installation of water points and regeneration of degraded land and watersheds, all through the active participation of women.
- People economize on the use of resources. A common strategy is, for example, shifting to other food products that need less cooking time (often these products are less nutritious), limiting the number of cooked meals or the boiling of water – with all its health consequences. Another possibility is the use of energy-saving or resource-saving devices. Many cases are known in which these technologies are introduced without adequately consulting women as users in their planning and implementation.
- Another issue, which has been taken up by some (groups of) women is reuse and recycling. In situations of water scarcity, for example, they manage to recycle and reuse water for several purposes.
- Communities also look into using alternatives, such as solar energy for cooking, switching to alternative crops or changing planting patterns or technologies. When the natural resource base becomes too limited to sustain livelihoods, a common strategy is to look into alternative means of income generation.
- Women in particular get organized. Already used to working together in the field or in the collection of natural resources, they share with each other the problems they face and look into solutions. Groups might be formed, or pre-existing women's organizations take up the environmental issues in their livelihoods.
- Prevention of pollution or cleaning up waste sites is another strategy local women and men use. Examples are waste-disposal activities, such as those started by a collective of unemployed women, such as in Bamako, Mali (Traoré et al, 2003).
- As consumers and producers, women can play powerful roles in the promotion of environmentally sound products and production processes. This is an issue throughout the world, particularly in high income countries, such as in Europe and North America.
- Local women and men organize to protest against environmental degradation and pollution, developments that threaten their resource base and livelihoods. In addition to holding protest demonstrations and campaigns, they often use non-violent means of opposition and blockades to stop such activities.

- In order to reflect their environmental and social concerns, many local women and men have created songs, poems and other forms of cultural expression. These can be powerful sources of inspiration in their struggles for sustenance of their livelihoods: 'Embrace our trees, save them from being felled. The property of our hills, save them from being looted.' (Chipko song, India)

Other actions needed

It should be strongly emphasized that it is certainly not the exclusive responsibility of local women, and in particular not of those that live in poverty, to change unsustainable livelihoods into more sustainable and socially just ones. Women should not (just) be seen as instruments for environmental regeneration and conservation or as passive recipients of development aid, but as equal partners in those processes. Environmental management is far more the direct responsibility of men and women in power at international, national and local levels, and of other development actors, including donors, the private sector and non-governmental organizations (NGOs).

Figure 2.3 indicates on which levels rectifying actions are presently being taken to restore sustainability, equality and justice.

These levels and interventions are as follows:

- A. The natural environment or eco-sphere is preserved, in such ways as:
- Increasing the supply of natural resources, by reforestation, external inputs, and nature conservation.
 - Regenerating the system and ecological cycles by land rehabilitation, erosion control, water management, ecological farming, multicropping and increase of biodiversity through management measures.
 - Increasing the quality of the environment by the introduction of non-polluting processes and products, as well as waste and pollution treatment, sewage and sanitation.
- B. Support to local communities, particularly women and children, by lightening their burdens and broadening their options, in such ways as:
- Introducing time and energy-saving devices.
 - Developing vocational and natural management training and educational programmes, and promoting enrolment and participation.
 - Increasing their access and control over production factors, for example by promoting changes in land tenure and legislation, access to credit and other financial facilities.

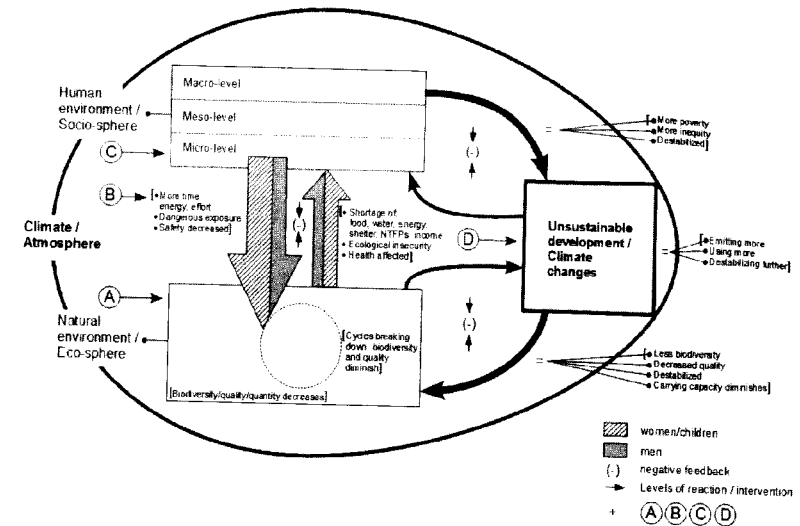


Figure 2.3 Restoring sustainability: Gender aspects of natural resources management and climate (change)

Source: Adapted from Dankelman (2007), technical design Jeroen Dankelman

- Promoting alternative income-generating and employment opportunities.
- C. Promoting institutional changes at the socio-sphere level, in such ways as:
 - Enhancement of participatory approaches and management systems, ensuring the effective participation of community members, particularly women.
 - Institutional and legal changes to improve women's decision-making powers and rights to and organization of resources.
 - Gender mainstreaming in organizations dealing with environmental issues and sustainable development.
 - Promotion of environmental and social awareness at all levels of society.

Fundamental changes

D. As important as each of these activities are, they will remain a constant struggle as long as major drivers of unsustainable development are not tackled. Fundamental changes are needed at regional, national and international development levels, such as:

- Systematic analysis of the convergence of present crises, including the financial and environmental crises, as well as restructuring international economies, capital flows and trade relationships.
- Promotion of sustainable production and consumption processes.
- Redistribution of wealth.
- Respect of human rights.
- Increased access to and control over resources by local users and safeguarding of intellectual property rights, including access and benefit sharing with regard to biodiversity.
- Promotion of science for sustainability – in combination with local knowledge systems – and pro-poor technologies.
- Application of Rio principles, including ‘the precautionary approach’, ‘common but differentiated responsibilities’, and ‘the polluter pays principle’ (Rio Declaration on Environment and Development, 1992).
- Access to and sharing of information, including access to private sector information.
- Empowerment of local people, with specific attention to women and youth, indigenous groups, and minorities.
- Ensuring access to health services and cheap and safe medicines.
- Ensuring women’s and men’s sexual and reproductive rights, including their access to reproductive health services.
- Prevention and resolution of international, regional and local conflicts and wars that jeopardize natural resources and are often fuelled by conflicts over such resources.

All these measures need a gender-specific perspective and approach.

It is necessary not only to focus on one of the levels mentioned above (A, B, C and D), but to ensure that interventions take place and improvements are made at all levels – in a combined effort. Such an integrated approach does not necessarily mean that one organization or institution should tackle all these levels, but that there is coverage of all these aspects by different actors and that their activities are well-coordinated. An important prerequisite is therefore that in each of these areas there is enough awareness, understanding and recognition of both environmental and social aspects – including gender – as well as macroeconomic and political aspects.

This means, for example, that while undertaking activities at the eco-sphere level, the actor should also look into the social and gender aspects in order to prevent negative backlashes on gender equality and to ensure contribution to its enhancement. It is important to be aware that what is good for the environment is not automatically good for specific social groups, such as women. And that what is good for women does not

Box 2.6 *Women’s roles in climate change mitigation and adaptation*

Climate change policies and actions are necessary to mitigate climatic changes, and to adapt to those changes that are already occurring and cannot be prevented. Important lessons can be learned from disaster risk reduction, and management. A crucial lesson is that women’s active involvement in the development and implementation are important prerequisites to ensure that mitigation and adaptation policies, mechanisms and practices benefit local men as well as women. Also, in the design and promotion of mitigating strategies, women can play a crucial role, for example, in promoting more sustainable lifestyles, education and raising awareness. Therefore women have organized globally to have their voices be heard in international negotiations, and at national and local levels (see Chapters 7 and 8).

automatically improve the environment (NEDA, 1997). Activities, for example, in the area of sustainable land-use, do not necessarily improve women’s lives in the short term; these could even add to their work-burden as the work could be more labour-intensive. On the other hand, a more sustainable system could significantly improve women’s and men’s livelihoods. An evaluation in Bangladesh, for example, showed that women themselves appreciated sustainable land-use activities, as these increased their access to and control over resources and ways of production, as well as their social status (DGIS and Novib, 1994). Similarly, nature conservation measures can exclude local communities from access to important resources (UNEP, 2005), whereas women can also be important drivers of and actors in nature conservation activities. This underlines the need for active involvement and participation of local communities, especially women, in environment activities. In order to promote such an approach, the International Union for Conservation of Nature (IUCN) has developed a series of participatory methodologies to enhance equity in conservation and environmental management (Aguilar et al, 2002).

At organizational level, several measures are needed to enhance an integrated approach and to promote gender mainstreaming in environment:

- Basic understanding of the relationship between gender, environment and development, as well as of the relevance of gender-specific approaches in environmental work.
- Capacity-building, including training, on gender and environment.
- Use of gender-specific approaches, tools and instruments, such as gender-environment analysis, participatory methods, gender-specific

environmental data, criteria and indicators, gender budgeting and gender-specific monitoring and evaluation.

- Cooperation and coordination between organizations and departments working in the field of environment, sustainable development, gender equality and women's empowerment. In these efforts grassroots women, NGOs, government agencies, and academia should also be involved.
- Development and support of activities in the field of gender and environment, such as projects on women's empowerment in sustainable energy technologies, promotion of women's access to and control over land and other natural resources, capacity-building of local organizations and development of livelihood alternatives for women and their families living in seriously degraded or threatened environments.

Conclusions

This chapter has emphasized that the interactions between humans and their environment are intense, complex and gender-differentiated. Local women and men interact in diverse ways with their environment, and the environmental functions and ecological services are often different for women and men. Environmental change has gender-differentiated impacts and might even increase gender inequality and burdens on women. Although gender equality is not a prerequisite for environmental sustainability *per se*, it significantly contributes to environmental conservation and management, as women's rich contributions and potentials in this area can manifest themselves optimally. On the other hand, environmental sustainability generally makes women's lives easier and opens opportunities for full development. However, it is not automatically a guarantee for gender equality. Other forms of social differentiation such as class, ethnicity, religion and age, are important determinants as well, and also need specific attention, alongside gender issues.

Sustainable development requires a focus on both environmental and social aspects of societies and the interlinkages between both domains. The structural relationship between women and men in society shapes the functions that the environment and natural resources have for both genders, as well as the role that women and men play in environmental use and management. These dynamics are visible in the realities in which rural and urban communities live. This leads to the realization that efforts towards sustainable development and environmental conservation need a gender-specific and participatory approach. On the other hand, it also makes clear that, in order to enhance gender equality and to empower local women and men, an understanding of the physical context in which people live is

Box 2.7 Climate change and gender call for an integrated approach

In the complex web of relationships between communities and their environment, climate change is a multiplier of environmental changes and has major impacts on the environmental functions and services on which women and men depend and with which they interact. These impacts and consequences are not gender-neutral and often affect women and girls in a more direct or severe way in their roles, responsibilities and opportunities. At the same time, experiences of women and men in coping with and adapting to sudden and gradual environmental stress and climatic changes can be valuable contributions to dealing with these.

The present-day and future challenges of climate change call for an integrated, interdisciplinary approach in which not only technical-environmental aspects are covered, but that also clearly take into consideration the social context and conditions in which these processes take place. Women and men – of diverse age, class and ethnicity – have different needs, priorities and possibilities in mitigating and adapting to climatic changes. Therefore climate change policies, mechanisms and actions can be more effective and enhance equality if they take into account gender aspects in their development, planning and implementation, and lead to empowerment of local communities and local women in particular.

needed. It calls for an integrated, holistic approach that focuses not only on improving the situation in specific domains, but also invests in improving the inter-linkages between those domains. As has been indicated by Capra (1975) it is actually the quality of the relationships that determines the quality of a complex system. Therefore, not only multidisciplinary but also interdisciplinary approaches are needed in order to promote sustainable development at a local level, where people actually live.

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Climate Change, Human Security and Gender¹

Irene Dankelman

This chapter develops an analysis of the relationship between climate change, human security and gender issues. It describes how climate change and human security are inter-related. It will then focus on gender implications, examining the gender aspects of (natural) disasters and the impacts of climate change on human security, particularly on women's vulnerability. Furthermore, this chapter explores the role that many women play in strengthening human security when climatic changes occur. Based on these explorations, an analytical framework on gender, climate change and human security is presented and discussed at the end of this chapter.

Climate change and human security

Climatic changes result in a variety of direct problems, including increased frequency of extreme weather events, flooding, storms, drought, desertification, increases in sea temperatures, cold and heatwaves, the melting of glaciers and permafrost. In the long run, the rise in sea levels and abrupt changes in currents pose major threats to coastal areas, ecosystems and geophysical cycles. These developments have significant ecological, social, economic and political impacts, including effects on biodiversity, food production, water availability, intensification of wildfires, mud-streams, bleaching of corals and changes in epidemic vectors.

The 2007–2008 Human Development Report: *Fighting Climate Change: Human Solidarity in a Divided World* (UNDP, 2007a) concludes that climate change threatens progress towards development itself and also progress towards meeting the 2000 UN Millennium Development Goals (MDGs) in particular. According to the report, climatic changes will undermine the raising of the Human Development Index in many countries (UNDP, 2007a). This perspective moves climate change away from a purely technical subject and brings it to the centre of (sustainable) development policies and strategies.

GRETA GAARD

New Directions for Ecofeminism: Toward a More Feminist Ecocriticism

In both Simon Estok's provocative essay, "Theorizing in a Space of Ambivalent Openness: Ecocriticism and Ecophobia" (2009), as well as Joni Adamson and Scott Slovic's "The Shoulders We Stand On: An Introduction to Ethnicity and Ecocriticism" (2009), we are offered two readings of ecocritical history, suggesting real or desired relations among various ecocritical perspectives. In these discussions, feminism is variously referenced—sometimes it is implied or addressed, other times it is backgrounded, omitted, or even distorted. Similarly, in the two book-length introductions to ecocriticism to date, Lawrence Buell's *The Future of Environmental Criticism* (2005) and Greg Garrard's *Ecocriticism* (2004), the retelling of ecocritical roots and developments marginalizes both feminist and ecofeminist literary perspectives. Such presentations (and misrepresentations) of feminist scholarship by collegial ecocritics warn of a larger potential for misreading or omission by broader audiences, hence the importance of both correcting the historical record and actively contributing to the future of ecocriticism. In this essay, I would like to suggest at least seven new directions, or continued developments, for ecofeminist and feminist ecocritics.¹

Narrating Ecocritical History

The first task for feminist ecocritics involves recuperating the large history of feminist ecocriticism, and the contributions of ecofeminist literary criticism within ecocritical thinking. According to Lawrence Buell's *The Future of Environmental Criticism*, ecofeminism has been "one of the catalysts" for "the environmental turn in literary studies" (11). Yet Buell's historical narrative of environmental literary criticism curiously backgrounds or omits ecofeminism, both from his "wave" version of history and from his dual-axis mapping of ecocentric/biocentric and environmental health/social justice viewpoints.² To lay the foundation for *The Future of Environmental Criticism*, Buell's history suggests that ecocriticism's "first wave . . . concerned itself with conventional nature writing and conservation-oriented environmentalism," while "second wave" ecocriticism "redefines the environment in terms of the seventeen Principles of Environmental Justice and concerns itself with 'issues of environmental welfare and equity'" (Buell 112, 115, qtd. in Adamson and Slovic 6). Accepting Buell's narrative, Adamson and Slovic describe "a new third wave of ecocriticism, which recognizes ethnic and national particularities and yet transcends ethnic and national boundaries . . . explor[ing] all facets of human experience from an environmental viewpoint" (6–7). At first glance, this narrative seems to have some descriptive power—until one asks, where are the analytical frameworks for gender, species, and sexuality? They do not appear. Buell's chapter describing the history of environmental criticism in terms of the dual-axis of environmental concern provides a five-page section addressing gender as a "complication" (108), revealing the unfortunate possibility that the framework of this historical narrative advanced is otherwise "free" of the complications of gender—in other words, despite good intentions, feminism receives scant attention in Buell's descriptions of ecocriticism's history, present, or future.

Nonetheless, of the two book-length introductions to ecocriticism to date, Buell's is the more inclusive of ecofeminisms: Greg Garrard's *Ecocriticism*, though devoting at least ten pages to ecofeminism throughout the book, still omits ecofeminist literary criticism from any mention in the index. Moreover, Garrard misrepresents ecofeminists as agreeing with the Gaia hypothesis while simultaneously citing ecofeminist literary criticism such as Patrick D. Murphy's that disproves his assertion, and omits entirely from the "Animals" chapter any references to not just the most prominent feminist scholarship—the feminist ecocritical work of Carol Adams in linking sex and species, as Estok observes—but also the numerous feminists and

ecofeminists whose work has explored the sexism/speciesism nexus since the 1980s: Deane Curtin, [Josephine Donovan](#), Greta Gaard, Lori Gruen, Ronnie Zoe Hawkins, Marti Kheel, Brian Luke, Deborah Slicer, and others ([Gaard](#), “Vegetarian Ecofeminism”). What could be described as canonical works of feminist ecocriticism—Kolodny’s *The Lay of the Land* (1975) and *The Land Before Her* (1984); Norwood’s *Made from This Earth: American Women and Nature* (1993); Murphy’s *Literature, Nature, Other: Ecofeminist Critiques* (1995); Westling’s *The Green Breast of the New World* (1996); Gates’s *Kindred Nature: Victorian and Edwardian Women Embrace the Living World* (1997); Stein’s *Shifting the Ground: American Women Writers’ Revisions of Nature, Gender, and Race* (1997); Gaard and Murphy’s *Ecofeminist Literary Criticism* (1998); Alaimo’s *Undomesticated Ground* (2000)—receive scant attention, if any.

These omissions in ecocritical scholarship are not merely a bibliographic matter of failing to *cite* feminist scholarship, but signify a more profound conceptual failure to *grapple with the issues* being raised by that scholarship as *feminist*, a failure made more egregious when the same ideas are later celebrated when presented via non-feminist sources. For example, the animal studies groundwork of vegan feminists and ecofeminists is barely mentioned in the currently celebrated field of posthumanism, yet feminist scholarship both pre-dates and helpfully complicates that work: consider, most recently, how [Adams \(2010\)](#) augments [Cary Wolfe’s \(2003\)](#) complication of the human/animal binary with categories not just of Wolfe’s humanized human, animalized human, humanized animal, and animalized animal, but also *animalized woman* and *feminized animal*, terms that foreground the gender/species/ecology connections that are so relevant to ecocriticism.

Omissions and distortions of feminist ecocriticism are one part of the problem; appropriation is another.

Buell’s “wave” narrative of ecocritical history inadvertently appropriates at the same time as it erases feminist narratives of feminist theoretical and historical developments. In these feminist “wave” narratives, liberal feminism was described as feminism’s “first wave,” and “second wave” feminism was seen as the feminisms that emerged from the social movements of the 1960s: radical feminism, cultural feminism, lesbian feminism, Marxist feminism, socialist feminism, maternalist feminism, Black feminism (or womanism, after [Alice Walker](#)), and the proliferation of feminisms developed by women of color, whose theories effectively rejected the “wave” narrative of feminist history for its exclusive focus on white women, and created in its place more diverse narratives of

history foregrounding the intersections of race, class, gender, and sexuality. “Third wave” feminism is currently understood as the post-1990 feminisms of hybridity and intersectional identities, whose cutting edge has been articulated by biracial, bicultural, and/or bisexual feminists who are not afraid of combining work, motherhood (witness the zine, *Hip Mama*), and “the master’s tools” (with no apology to Audre Lorde) if and when they find such tools strategically useful.

Feminists have developed two primary critiques of this “wave” narrative: first, it defines feminist history exclusively in terms of white women’s activities and philosophies, erasing the histories of indigenous women, African-American women, Chicanas, Asian-Americans, and other feminists who allegedly just “pop up” and make amendments after Euro-American feminists have laid the groundwork of feminism’s first two waves. A second problem with this “wave” narrative of feminisms is that it offers no place for ecological feminisms, an erasure that is still evident in the majority of introductory Women’s Studies, Gender Studies, and Queer Studies textbooks. Like feminisms developed by women of color, ecological feminism is neither a second- nor a third-wave feminism; it has been present in various forms from the start of feminism in the nineteenth century, articulated through the work of women gardeners, botanists, illustrators, animal rights and animal welfare advocates, outdoors-women, scientists, and writers (Anderson and Edwards; Donovan; Gates; Norwood; Stein; Westling). [Eco]Womanism—initiated through Alice Walker’s essay, “In Search of Our Mother’s Gardens” (1974), and taken up by many others—also has a substantial history that is conspicuously absent from “wave” histories as well.³

In sum, then, feminists and ecocritics utilizing feminism’s “wave” metaphor will inadvertently erase the history of ecological feminism and feminisms of color from both feminism and ecocriticism alike. Given such inaccuracies, we would do well to find a different metaphor for describing the developments of ecocritical history—one that includes the contributions of feminisms in its framework, not just as a footnote or augmentation—so that the future of ecocriticism may rest on firmer ground, and the new developments of ecocritical perspectives on sexuality, psychology, and species may flourish by drawing from deeper historical roots.⁴ Buell as well as Adamson and Slovic agree: an inclusive narrative of ecocritical history will recognize that each development contains, moves forward, augments, and interrogates the developments that precede it. Ecocriticism is expanding beyond—but must not erase—its origins and multiple, continued developments.

Feminist, Ecofeminist, and Environmental Justice Criticism

Although feminism, ecofeminism, and environmental justice are complementary theories and movements, they are also discrete movements with different primary foci, and diverse points of conflict, at least among activists; all three have influenced developments in postcolonial ecocriticism, material feminisms, and “new” ecofeminisms. In *The Lay of the Land* and *The Land Before Her*, Annette Kolodny’s important work exposing the “continued repetition of the land-as-woman symbolization in American life and letters” (ix) provided the roots for feminist ecocriticism. Two decades later, beginning with a proposed panel for the annual convention of the Modern Language Association in 1995, ecofeminist literary criticism formally emerged through the work of Patrick D. Murphy’s *Literature, Nature, Other: Ecofeminist Critiques* (1995), Greta Gaard and Patrick D. Murphy’s co-edited volume, *Ecofeminist Literary Criticism* (1998), and Glynis Carr’s edited volume, *New Essays in Ecofeminist Literary Criticism* (2000). At the ASLE conference in Kalamazoo, Michigan, it was ecofeminists who circulated the call to organize a critique of the overwhelmingly white, heterosexual, male-dominated program keynotes; it was feminists who sparked the Diversity Caucus, and feminists who took on the leadership. Out of a commitment to grassroots democracy and inclusiveness, no one proposed naming the caucus “feminist,” based on the radically democratic belief that the inclusive ecocritical future we envisioned would be larger than any single link in the chain of equivalences (Mouffe; Sandilands, *The Good-Natured Feminist*). The unforeseen consequence of that decision is that the feminist and ecofeminist presence has become unnamed, invisible, and all but erased from the Diversity Caucus—paradoxically at the same time that feminists and ecofeminists have been the earliest proponents and primary midwives of environmental justice ecocriticism, as Buell acknowledges (*Future* 112).

The tensions within these ecocritical approaches have origins in the activisms they reflect: real tensions exist between ecofeminist and environmental justice activists. Many ecofeminisms (but not all—consider WomanEarth Feminist Peace Institute’s focus on addressing race within feminisms [Sturgeon 77–111]) initially foregrounded gender, species, and sexuality; environmental justice initially foregrounded race and class. Theoretical developments in both fields have embraced an intersectional approach that professes to resist privileging any single category of analysis (Armbruster and Wallace; Huggan and Tiffin). One would think that, given the larger framework of postcolonial ecocriticism and its symmetries with

ecofeminism and environmental justice, activists in these fields would see one another as allies, since ecofeminist values oppose all forms of hierarchy and domination, and environmental justice is a movement challenging the continued colonization of nature and marginalized humans, and powered by women at the grassroots, though its theory was initially articulated by men in leadership or in academe (i.e. Robert Bullard, Richard Hofrichter, Devon Peña). Yet cooperation and collaboration have not always been easy.

Even among ecofeminists, economic elites such as Karen Warren in the United States and Vandana Shiva in India have been located in such a way as to be able to name and to theorize the activist work of grassroots women; nonetheless, due to race and class privilege, along with a commitment to praxis, ecofeminism has been a theory and movement largely articulated by the activists themselves, many of whom have also been scholars and writers. Ecofeminists have tended to be some combination of identities that may include first-world, white, middle-class, vegan or vegetarian, lesbian or bisexual identities. Spokespeople for environmental justice women activists have tended to be women of color, working class, heterosexual, and/or omnivores. Thus, multi-directional tensions about homophobia, speciesism, classism, and racism have precluded many real, on-the-ground alliances.

In this context, to discuss a “sexual justice branch” of environmental justice as if it were a *fait accompli*—as suggested in Adamson and Slovic’s 2009 essay—is not only inaccurate but wildly optimistic. The fact that Rachel Stein’s edited collection *New Perspectives on Environmental Justice* (2004) foregrounds sexuality has more to do with the growing understanding of intersectionalism among academic ecocritics (and in Stein’s volume, specifically, those ecocritics are feminists and ecofeminists) than it does with the real attitudes of activists in these movements.

Rather than despair, I would like to build on Adamson and Slovic’s wild optimism.

Ecofeminism and Sexual Justice

An ecofeminist theory of sexual justice has already taken root in Rachel Stein’s strategic attempt to reframe sexuality studies within the context of environmental justice ecocriticism, and in the lesbian-specific ecocriticism developed by Catriona Sandilands. Greta Gaard’s “Toward a Queer Ecofeminism” explores the intersections of ecofeminism and queer theory and her more recent work, “Reproductive Technology, or Reproductive Justice? An Ecofeminist

Environmental Justice Perspective on the Rhetoric of Choice," on reproductive justice and environmental health provide additional augmentation: examining the political and ecological dimensions of reproductive technologies and ideologies from an ecofeminist perspective, her work emphasizes the importance of developing an ecological and reproductive justice focus within the environmental justice movement (a movement that has already addressed connections between environmental pollutants, animal health, and women's breast milk). Another ecological feminist text, Sandra Steingraber's *Having Faith: An Ecologist's Journey to Motherhood* (2003) has introduced an exploration of connections between fetal and environmental health through the nine months of pregnancy and beyond through breastfeeding (though her text unfortunately accepts and builds upon animal experimentation studies without comment about the mothers and infants of those species, whether they were used for these experiments, or will benefit from the suffering of their kind). Noel Sturgeon's *Environmentalism in Popular Culture* (2009) includes a delightfully funny and incisive chapter on "Penguin Family Values" juxtaposing explorations of both the film "The March of the Penguins" and Christian furor over the gay penguins in the New York City zoo from a "feminist environmental justice" ecocritical standpoint. Catriona Mortimer-Sandilands and Bruce Erickson's forthcoming volume on *Queer Ecologies* (2010) promises to build on and advance these earlier works.

Advancing these foundations, a feminist ecocritical focus on sexual justice could explore not just the relationship between gay cruising areas and inner-city wilderness sites, bathrooms, or public parks; in other words, it could explore more than intersections of place and sexualities, as queer geographers such as Larry Knopp, Doreen Massey, Joni Seager, and others are already doing quite competently. It could address queer nature writing in works such as Jeanne DuPrau's *The Earth House* (1992), Jan Zita Grover's *North Enough: AIDS and Other Clearcuts* (1997), Gretchen Legler's *All the Powerful Invisible Things* (1995) or *On the Ice* (2005), and the three anthologies on queer identity and place in the United States (Berg and Freeman; Forrest and Van Buskirk; Herron and Willis). More broadly, a feminist ecocritical focus on sexual justice could bring an intersectional approach to the study of sexualities and environments: it could examine the situation faced by the women of Ciudad Juarez, who have suffered sexual violence in the deserts surrounding a town whose economic base has been built on men's illicit trafficking in drugs and women's exhaustive, toxic, and exploitative overwork in the maquiladoras, where women workers are forced to take birth

control pills as a condition of their employment, and fired without pay for pregnancy; it could examine the documentary film on these issues, "Señorita Extraviada," from an ecocritical perspective. It could link ecocritical interrogations of "wilderness" and the murders of Matthew Shepard, the gay youth lured to a mountaintop outside of Laramie, Wyoming, where he was tortured, beaten, and left to die; the murder of Rebecca Wight and the trauma to her partner, Claudia Bremer, in 1988, and the murder attacks on Julianne Williams and Lollie Winans in 1996, both lesbian couples assaulted while backpacking on the Appalachian Trail that runs north-south along the eastern United States. A feminist ecocritical focus on sexual justice could examine the paintings of Georgia O'Keefe, her animal bones, desert skies, and critically regarded sexual imagery; it could read Mary Austin's desert narratives, *Land of Little Rain*, in connection with her own ideas about reproductive freedom. It could use foundational feminist theory such as Peggy McIntosh's "White Privilege and Male Privilege" (1988) which includes a section on heterosexual privilege in its conclusion, and explore connections among white privilege, heterosexual privilege, and species privilege as exemplified in ecocritical theory: for example, in examining the 2010 BP oil "spill" in the Gulf of Mexico, it could explore ways that viewing the images of oiled pelicans, ducks, and other sea birds as potentially *gay* animals transforms our perception of birds and ecodisaster alike. Finally, it could ask questions about whose sexual freedom, and whose sexual justice, are suitable topics for ecocritical inquiry: women? queers? other animal species? For if feminists advocate sexual justice for only one group of females, what legitimacy will this theory have if it ignores sexual justice for females of a different race, class, nationality, sexuality, or species?

Interspecies Eco/Feminist Ecocriticism

The preceding ruminations are inspired and have been heartened by Simon Estok's provocative observations that "the commodification of nature and of sexual minorities are similar," and that this "commodification of nature and of sexual minorities means othering difference and space" (214). Homophobia is part of that fear of the erotic named by Amber Hollibaugh as "erotophobia," a fear of eroticism that categorizes queer sexualities with animal sexualities (Gaard 1997). Erotophobia is thus a component of ecophobia, for as Estok observes, "ecophobia is rooted in and dependent on anthropocentric arrogance and speciesism" (216); thus, it is "difficult to take seriously . . . the ecocritic who theorizes brilliantly on a stomach full of roast

beef on rye" (217). In the near future, ecofeminism and feminist ecocriticisms will need to articulate an interspecies focus within ecocriticism, bringing forward the vegetarian and vegan feminist threads that have been a developing part of feminist and ecological feminist theories since the nineteenth century. Feminist ecocriticism's method may adapt the five operations Val Plumwood describes as creating the Master Model, an alienated identity of dominance that is at the core of western thought: backgrounding, radical exclusion, incorporation, instrumentalism, and homogenization (42–56). In ecocritical readings, this interspecies feminist ecocritical perspective could ask questions such as the following: how does this text handle the problem of speaking for other species? Does the text depict other animal species as passive agents who need human saviors, or does the text depict the agency of other animal species? If species differences are used as metaphor, what are the implications for the actual lives of non-human animal species? If speciesism is implicit in the text, how does that perspective shape definitions of humanity, nature, and human–nature relations? What kinds of social and ecological relations (i.e. communalism, reciprocity, dominance) are identified as central to human survival?

Already, the work of Simon Estok and Timothy Morton offers intersectional approaches to understanding the linked oppression of "nature," non-dominant species, sexualities, and genders. "Ecophobia is rooted in and dependent on anthropocentric arrogance and speciesism," Estok explains, and an ecocriticism that responds to ecophobia will advance a "confluent theorizing," discussing environment "alongside discussions of race and gender and sexuality" (216–17). Just as feminism and ecofeminism's approach to building inclusive theory has been to start with the most marginalized perspectives, as [hooks](#) and [Warren](#) have done, [Morton](#) argues that "an ecological approach [will] surely identify with the losers, with the 'subhuman' rather than the superman" ("Ecologocentricism" 80). Morton's work elides the human/nonhuman animal barrier, arguing that "ecology without Nature regards all beings as people, while not restricting the idea of 'people' to human beings as such. There is no Nature, only people, some of whom are human beings" ("Ecologocentricism" 77). This claim echoes Alice Walker's 1983 essay eliding the crisp distinctions of race, species, gender, and nature: in "Everything Is a Human Being," Walker advances a nuanced analysis of oppression that acknowledges the ways that disadvantaged as well as progressive groups can still be oppressors, and concludes that "Earth itself has become the nigger of the world" (147). Such writing can boldly

advance ecocriticism, linking queer theory, critical animal theory, postcolonial ecocriticism, womanism, and feminism alike.

Cross-Cultural Ecofeminist and Feminist Ecocriticisms

Initially articulated by anti-nuclear feminist activists in the United States and Britain, ecofeminism has been developed in many countries and cultures of the west—primarily European, North American, Australia, and some Latin American countries. Ecocritics in Asia have been receptive to ecofeminisms, but apart from Vandana Shiva, the development of a culturally rooted ecofeminist politic, a feminist or ecofeminist literary criticism in Asian, South American, or African contexts has yet to occur. Ecofeminists have already suggested strategies for developing ecofeminism cross-culturally, distinguishing between the ethical contents and contexts of eco-justice problems in order to avoid false dualisms and to remember the various layers of ethical relationships, historical and environmental contexts, and the ways that these variables are constantly in flux. Most importantly, ecofeminists should seek out, build relationships with, and support cultural border-crossers whose values and goals coincide with the values and goals of feminism and ecofeminism (Gaard, “Tools for a Cross-Cultural Feminist Ethics” 1–26).

One example of this theory in practice occurred in a summer 2009 graduate seminar on ecofeminist literary criticism at Tamkang University in Taipei, where students were quick to point out the different cultural beliefs that would be useful to developing a vegetarian ecological feminism in Taiwan. Given the Taiwanese cultural contexts of Buddhism, Taoism, and Confucianism rather than Christianity, a philosophical reframing would be more strategically helpful in exploring connections of gender and species in Asian cultures. For example, concepts such as the Precept of Non-Harming/Not Killing, as well as the virtue of compassion for all living beings have already been used as bases for Buddhist vegetarianism. There is also the Buddhist belief in the six directions of reincarnation, which suggests that the beings humans eat (if we eat other animal bodies) may once have been our family—and this belief resonates with the suggestion from western vegetarian ecofeminism that eating meat can be seen as a form of cannibalism, particularly for those who reject the human/non-human animal dualism. Along with these more culturally based beliefs, students suggested the concerns about world hunger, environmental degradation, and the risks to human health all brought about by industrialized animal food production would be rhetorically persuasive in Taiwan, just as these points are

issues of concern in the west. Feminist ecocriticism is well positioned to interrogate the interaction of these spiritual and cultural beliefs with feminist and ecofeminist ethics cross-culturally, for when cultural contexts vary, the meaning of the ethical contents may vary as well.

Certainly, there is more work to be done on other branches and cultural contexts of feminist ecocriticism, examining literary and cultural texts in terms of environmental health, place and identity, the meaning and practice of activism, and the rhetorical strategies best suited for developing and communicating feminist and ecofeminist perspectives in specific cultural contexts. In this regard, the work of Chia-ju Chang (2009) offers great promise in developing a Buddhist feminist ecocritical perspective on Taiwanese literature and culture.

Feminist Ecopsychology

For too long, ecopsychology has been dominated by deep ecology, and has retained the race, class, gender, sexuality, and first-world bias of a theory developed largely by economically elite, heterosexual white men—and this ecopsychology has influenced ecocriticism as well. Starting from a different critical foundation, a feminist ecopsychology would build on the early work of feminist psychologists—i.e. Jean Baker Miller's *Toward a New Psychology of Women* (1987), Carol Gilligan's *In a Different Voice* (1982), Mary Belenky's *Women's Ways of Knowing* (1986), and Stephanie Lahar's "Toward an Expanded View of Nature in Women's Psychology" (1988/89)—and explore the ways that a feminist relational identity is developed in conjunction with connections not just to humans but also to place, plants, and species alike. Already, ecological feminists have developed interspecies ecopsychology through the practice of attentive listening to the other (Donovan 167–94) and resisting gender as well as species stereotypes. In *Aftershock: Confronting Trauma in a Violent World* (2007), ecofeminist vegan activist patrice jones has articulated the intersections between post-traumatic stress syndrome (PTSD) experienced by animals in captivity, and by those who work to free them. Cofounder of the Eastern Shore Sanctuary for factory-farmed chickens, ducks, geese, and other birds, Jones's work rehabilitating fighting roosters has proven surprisingly successful, as it challenges received notions about gender, species, and violence ("Harbingers"; "Roosters, Hawks, and Dawgs"). In her startling essay, "Mothers with Monkeywrenches: Feminist Imperatives and the Animal Liberation Front," jones explains:

Cockfighting is a feminist issue. Sex role stereotypes hurt both human and non-human animals. In cockfighting, the natural behavior of roosters is perverted in order to force them to act out human ideas about masculinity. The birds are traumatized and then deliberately placed in harm's way so that their handlers can feel like big men. They die in stylized spectacles of masculinity that have nothing to do with natural bird behavior and everything to do with human ideas about gender. Meanwhile, human boys are also traumatized in order to make them conform to cultural ideas of masculinity. Those who do not distort themselves into stereotypes of "masculinity" may find themselves "gay bashed" to death. (141)

Jones's work is joined by that of Gay Bradshaw, who in *Elephants on the Edge: What Animals Teach Us About Humanity* (2009) has written about PTSD in parrots and elephants alike, and has been instrumental in founding the International Association for Animal Trauma Recovery, a professional society for health care providers, sanctuary professionals, conservation scientists, students, and others dedicated to animal care and the creation of a world built on species parity. Bradshaw's work explores the minds, emotions, and lives of elephants, describing the breakdown of elephant society and individual traumatization that results from wars, poaching, starvation, and habitat loss. Bradshaw advocates ecosystemic and ecopsychological approaches for healing elephants, creating sanctuary for elephants and addressing the social and environmental crises caused by human injustices. Ecocritical approaches that now rely on deep ecological premises could be enriched by this new feminist approach to ecopsychology.

Place Studies and Ecofeminist Ecoregionalism

The current interest in "place studies" seems to have pre-empted earlier concerns about bioregionalism and "the nature of home" that have been foundational issues in ecofeminism. Ursula Heise claims that "the character of the local has changed fundamentally through processes of globalization" ("Local" 132)—and to the extent that this is true, it is rarely for the better. The localities of third world communities have been pillaged, resourced and outsourced, as well as polluted and degraded in the process of globalization; "cosmopolitanism" accrues primarily to the urban elites who benefit from globalization. Adamson and Slovic cite Heise's claim that

“environmentalist thinking must shift the core of its cultural imagination from a sense of place to a less territorial and more systemic sense of planet” (14), and in Heise’s *Sense of Place and Sense of Planet* (2008), she proposes the concept of “eco-cosmopolitanism” which Adamson and Slovic describe as “shorthand” for envisioning “conceptual connections between environmentalism and ecocriticism, on the one hand, and theories of globalization, transnationalism, and cosmopolitanism, on the other” (17–18). How does this ecocosmopolitanism account for real material and economic power differences across race, class, gender, and species—communities that are central to ecofeminist and feminist ecocritical concerns? As Adamson and Slovic acknowledge, there are numerous “reasons why ethnic literatures that explore the crucial connections between place and formulations of ethnic identity . . . continue to have value for those engaged in a ‘whole-earth way of thinking’” (14), and their special issue of *MELUS* includes essays confirming that “even in the face of the large-scale effects of globalization, human relationships to specific places and to other-than-human beings can and should be maintained” (17). Unlike global elites, non-dominant communities of human and nonhuman animals, along with their environments, experience the effects of globalization on the local level, and organize or suffer and die locally. How can these discussions of ecocosmopolitanism and environmental justice be enriched by recuperating the history of feminist and ecofeminist perspectives on place, home, and bioregion?

In the anthology *Home! A Bioregional Reader* (1990), Judith Plant first developed the connections between bioregionalism and ecofeminism. Both perspectives value “all our relations” with nature and with humankind, and both value home—yet they define this term in different ways. Bioregionalists say “find a place and stay there,” but “home has been a very isolated place for women” (21), Plant observes, particularly in heteropatriarchal societies, which have traditionally undervalued the “private” sphere that includes both home and women. Domestic life has meant that some—women, children, slaves, servants, and nonhuman animals—are subservient to others, and what goes on at home is unimportant compared with the public sphere, where politics and economics take place, and a person’s worth is gauged in monetary terms. Thus, gender, sexuality, class, race, and species are all inflected in definitions of “home.”

Other ecofeminists such as Fike and Kerr also note the similarities between ecofeminism and bioregionalism: both value interconnections, and emphasize inter-identity as a strategic intervention in the self-other dualisms of western culture; both perspectives are

committed to restructuring power and challenging unequal power relationships; they share the goal of transforming economic, political, and institutional structures, basing these more on natural ecological processes; both revalue the "natural," reconnecting and grounding humans in place (bioregionalists) or focusing on the body as a moral agent (ecofeminists); both theories are grounded in action for the defense of threatened areas and oppressed groups; both share the commitment to valuing cultural and biological diversity, and use such diversities as the starting point for actions and analyses. Bioregionalists recognize the need for place-specific politics, economics, and lifestyles, ones that are flexible and adaptable to the needs of a particular region. Ecofeminists strive to evolve structures that respect difference without universalizing. Both perspectives emphasize that how we make changes (process/means) is as important as what changes we make (goal/ends). Both agree there is no separating the personal from the political. Finally, both perspectives value spirituality, and seek new as well as traditional forms of earth-based spirituality.

Even with these commonalities, "bioregionalism needs to incorporate the radicalizing influence of ecofeminism . . . [and] consciously work against racism, homophobia and other forms of discrimination" (Fike and Kerr 24). Bioregionalism's limitations are many: for example, work to encourage local economic self-sufficiency will be undermined if it ignores the fact that around the world, women are paid lower wages than men, people of color earn less than whites, and families supported by single mothers are among the poorest. Protecting agricultural land and supporting local farmers must not assume all farmers are male, since the majority of the world's small farmers are women, who produce up to 90% of Africa's food supply but receive only 10% of food aid ("[Women Farmers](#)"). Bioregionalism's commitment to nonviolence must recognize the gendered and racialized nature of inter-human violence, and challenge violence against women and other oppressed people if it hopes to create a genuinely nonviolent society. Finally, these definitions of "home" must not remove men from the roles of nurturing and caring, or perpetuate the burden of homemaking as exclusive to women. "Home" needs to be understood as "a set of relationships, a series of contextual experiences," and a place of connection where one lives physically, where one is emotionally connected, and where one is part of a community of beings.

Building on these theoretical foundations, an ecofeminist ecoregionalism, articulated in the works of Cochrane and Murphy, for example, advances the analyses of those feminisms, bioregionalisms,

and social movements of “globalization from below” (Appadurai 3). It recognizes the power of community-based economics, local and sustainable agricultural systems freed from animal-based agribusiness, and locally led ecotourism ventures. It advocates fair trade products, local governance, and confederated systems of decision-making, information-sharing, and human rights. Feminists have seen the limitations of localism, which can devolve into provincialism, prejudice, and institutionalized oppression; we recognize there is no “going back” to a pre-technological, pre-modern era of edenic tranquility (if such ever existed), and we reject romantic views of subsistence economies that rely on the back-breaking labor of women, peasants, and other marginalized groups, leaving little or no time for art, creativity, and democratic participation in crafting public policies as Cochrane has argued (“They Aren’t Really Poor”; “Sustainability of Tradition?” 178–88).

In the penultimate chapter of her book, *Environmental Culture: The Ecological Crisis of Reason* (2002), Val Plumwood—a philosopher-activist whose work has been central to ecofeminist thought—explores the alienation from place-attachment that is widely shared across modern cultures. “Mobility rules modernity,” Plumwood argues, producing alienation and exploitation on many levels, local to global (231). As an antidote to alienation, Plumwood suggests that we “belong to the land as much as the land belongs to [us],” a belonging and identity that is articulated in “the essentially narrative terms of naming and interpreting the land, of telling its story in ways that show a deep and loving acquaintance with it and a history of dialogical interaction” (230). Admittedly, such narratives “often leave unidentified and unchallenged the larger structural obstacles to developing a place-sensitive society and culture” (232)—structural obstacles that Plumwood defines in the fragmentation and commodification of land as private property, rationalist culture, socioeconomic processes and systems that simultaneously rely on and disavow the role of the “body” (human and animal, material and ecological support bases in the long-denied counter-sphere of “nature”). Queer nature writing offers one strategy for naming and resisting these processes, as exemplified in Jane Rule’s *The Young in One Another’s Arms*, a work that, in the words of Mortimer-Sandilands, “both challenges heteronormative articulations of family, community, and urban/rural space with nature and refuses, queerly, to replace one destructive certainty with another, ecotopian one” (461). In these and other works, ecofeminist and queer ecocritical perspectives on bioregionalism add tremendous critical power to ecocriticism’s analyses of place, identity, and narrative.

In the leap from bioregionalism to globalization and place studies, then, a number of questions remain. What different meanings are invoked by the terms “place,” “place studies,” and “home”? Does the term “place” create an object, separating the subject for greater mobility; does it create a “landscape” or “ground” to the “figure” of the privileged human self? The relational inter-identity that is the starting point of ecofeminism conceives environment and identity as co-constituted, and “home” as a socially constructed location, an act of place-and-identity co-creation that takes time, energy, and commitment: as Andrew Gorman-Murray’s exploration of “Masculinity and the Home” (2008) affirms, “as one ‘makes home,’ one accumulates a sense of self” (369). Caring relations are particular and specific, and while the “whole” may be an accumulation of particulars, ecofeminists have cautioned against the erasure of individual differences in a homogenizing whole—a problem that can be understood by examining the “whole earth image.”

Ecofeminists have argued that NASA’s whole earth image of the planet from space creates not only a physical distance, but a psychic detachment as well (Garb 264–78). In this image, we earthlings become mere observers, not participants. This whole earth image depicts earth as an object of art, seen from such a distance that we do not see such simultaneously personal and political experiences as military occupation, death, sexual assault, deep sea oil drilling, aerial gunning of wolves, toxic waste, social injustice, human and inter-species oppression. In other words, this perspective does not provide a standpoint for understanding eco-justice problems, and thus cannot lead us to holistic eco-justice solutions, either: “the ‘global view’ cannot adequately depict environmental problems because the impacts of these problems vary with class, gender, age, and race” (Litfin 38). Perhaps the most dangerous implication of this “God’s eye view” from space is its valorization of space exploration, and the idea that extraterrestrialism is viable: the whole earth view is “a rearward view of the earth, a view seen as we leave” (Garb 272). It supports the myth that we can live apart from the earth, that we are not, in the most profound sense, earthlings. Seen from an ecofeminist perspective, the space program is “an oversized literalization of the masculine transcendent idea, an attempt to achieve selfhood freed not only from gravity but from all it represents: the pull of the Earth, of mater, dependence on the mother, the body” (Garb 272). The resonant detachment of both ecoglobalism and the whole earth image offers fruitful ground for feminist ecocritical explorations.

Conclusion

Resisting the desire to invite all ecocritics to the next ASLE conference in Bloomington, where we can hold hands and sing “Kumbayah” around a minimum-impact campfire (Hampton and Cole), I nonetheless propose that we move forward as a community practicing a more informed awareness of “all our relations” (LaDuke), one that articulates a common civility, and persists in advancing all ecocriticisms’ shared commitment to praxis. I am concerned with the *ad feminam* claims that ecofeminist and feminist ecocritical perspectives are “strident,” “anachronistic,” or “parochial.”⁵ Such name-calling generally functions to denounce the theorist without substantially engaging with her theory, and is not conducive to building ecocritical community; anti-feminist name-calling may indicate the speaker’s own lack of familiarity or even hostility to feminist perspectives. I find it revealing that these antifeminist charges are leveled against Yaakov Jerome Garb, Patrick D. Murphy, and Simon Estok, men who understand that the intersectional analysis of nature, gender, race, class, species, and sexuality is not confined to an essentialist definition of feminism or ecofeminism, but rather offers a strategic conceptual approach toward bringing about the social justice, economic and ecological democracy needed to solve environmental crises in the present moment. From the beginning, one of the shared aims of ecocritics has been our commitment to praxis: teaching, studying, and writing about literary and cultural texts in ways that both educate and respond to “the troubling awareness that we have reached an age of environmental limits” (Glotfelty and Fromm xx). To advance our praxis, ecocritics interested in place studies, eco-globalism, and eco-cosmopolitanism can draw on the work of feminists, ecofeminists, and environmental justice activists and others around the world who are writing, filming, painting, singing, dancing, performing, organizing, and in other ways challenging ecophobia, economic globalization, and corporate governance by working to build local, sustainable economies; participating in local politics; influencing the development of sustainable transportation, affordable housing, community-owned banks, systems and structures for agricultural and inter-species justice; pursuing socially responsible investing opportunities as well as equal marriage rights, and safe and affordable healthcare for all.

The relevance of these concepts for ecocritics may be very pragmatic: we can ask, what travels with a world-traveling ecocritic? Do we foster genuinely democratic cross-cultural dialogues, or do we spread ideological, cultural, and economic colonization? Is the

ecological cost of our travel in terms of global warming, garbage, and consumption truly offset by the economic infusions we may offer to local economies, or the literature and ideas we bring to local cultures? Do ecocritics contribute to the liberation or the overconsumption of all species?

Our failure to accurately and inclusively describe the past will surely limit our capacity to envision potential maps for viable futures. In ecocriticism's future developments, feminism and ecofeminism have much to offer.⁶

NOTES

1. I use the terms "ecofeminist literary criticism" and "feminist ecocriticism" interchangeably, since detailing the nuanced distinctions between these perspectives is the subject of another forthcoming essay. Both approaches have longstanding histories within ecocriticism. The misrepresentation of ecofeminism as an exclusively essentialist standpoint, and the subsequent difficulty of reclaiming a mislabeled term, has redirected new feminist scholars away from ecofeminism, and led many formerly ecofeminist writers to eschew this self-descriptor and to advance their thinking within frameworks such as environmental justice (e.g. Stein's *New Perspectives on Environmental Justice: Gender, Sexuality, and Activism* or Sturgeon's *Environmentalism in Popular Culture: Gender, Race, Sexuality, and the Politics of the Natural*), queer ecocriticism (e.g. Mortimer-Sandilands's *Queer Ecologies: Sex, Nature, Politics, Desire*), material feminism (Alaimo and Hekman's *Material Feminisms*), or simply feminist ecocriticism (e.g. Alaimo's *Undomesticated Ground: Recasting Nature as Feminist Space* or Stein's *Shifting the Ground: American Women Writers' Revisions of Nature, Gender, and Race*). Some feminists continue to use the term "ecofeminism" in the hope of recuperating both the term and the critical history it represents. All these ecological feminist standpoints share an intersectional approach that foregrounds nature, gender, race, class, and sexuality, though not all of these standpoints address species.

2. Buell self-reflectively critiques his own use of the "wave" model, insisting that it "should not . . . be taken as implying a tidy distinct succession. Most currents set in motion by early ecocriticism continue to run strong . . ." and for this reason, the term "'palimpsest' would be a better metaphor than 'wave'" (17). Despite this qualification, Buell continues to use the "wave" metaphor, and his narrative is being picked up and repeated by prominent ecocritics, hence the necessity for a clarifying dialogue about this suddenly hegemonic version of ecocritical developments.

3. As Anthony Lioi observes, "the 'eco-' was implicit in womanism from the beginning" (23), and the term has inspired a whole field of theology, developed by Delores Williams, Karen Baker-Fletcher, Shamara Shantu Riley, and Ada Maria Isasi-Diaz, among others. Indeed, ecofeminist such as Adams *Ecofeminism and the Sacred* and [eco]womanist spiritualities are also excluded

from the “wave” narrative and these perspectives provide ground for further ecocritical developments.

4. For example, Peggy McIntosh’s classic model, “Interactive Phases of Curricular Revision: A Feminist Perspective” (1983), describes disciplinary transformation in five stages, using the field of history as an example: phase 1, “womanless history,” is the standard straight white elite male canon; phase 2, “woman IN history,” gives us the exceptional and elite women who become tokens in an otherwise dominant narrative. In phase 3, “woman as a problem, absence, or anomaly in history,” the transformative influence of including women has begun to reshape the canon and redefine the discipline; race, class, gender, and sexuality must now be considered. By phase 4, “woman AS history,” special courses, texts, seminars, and terminology focus exclusively on women (and by extension to ecocriticism, on queers, writers of color, working class writers, etc.); and the goal is phase 5, “history revisioned to include us all”—a goal for ecocriticism that (one hopes) needs no further explanation. McIntosh’s feminist framework of disciplinary transformation from the 1980s describes a trajectory toward increasing inclusion—a trajectory that may or may not describe the narratives of ecocritical history. McIntosh’s framework illustrates one of many alternative paradigms feminists and ecofeminists working in ecocriticism might bring to bear in describing ecocriticism’s developments, creating a multiple-layered framework capable of including not just conventional nature writing and conservation-oriented environmentalism, but also writings that challenge the very definition of “nature” and “environment,” feminist and ecofeminist literary criticisms, environmental justice ecocriticism, and the postcolonial ecocriticisms as presented in Adamson and Slovic’s 2009 issue of *MELUS* as well as in Huggan and Tiffin’s *Postcolonial Ecocriticism: Literature, Animals, Environment* (2010).

5. Garb’s critique of NASA’s whole-earth image was labeled “strident” (Heise, *Sense*, 211–12 n.4) as was Estok’s theory of ecophobia (Robisch 702); Murphy’s “basic ecological vocabulary” was called “anachronistic” (Garrard 175); Estok’s “linking ecocriticism to queer theory” has also been called “parochial” (Robisch 699), a paradox indeed, when such linkage expands rather than constricts ecocriticism.

6. An earlier version of this essay was presented at a conference on “The Future of Ecocriticism,” held at Tamkang University, Taiwan, July 15–19, 2009. I am grateful to Peter Huang, who originally assigned me this title and topic, and to later readers—Simon Estok, Patrice Jones, Anthony Lioi, Catriona Mortimer-Sandilands, Scott Slovic, and the anonymous reviewers at *ISLE*—whose constructive criticism improved my argument enormously.

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