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RESEARCH ARTICLE

Sustainable development and ecological modernization – the limits to a hegemonic policy knowledge

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The implementation problems of effective global environmental politics have essentially to do with the fact that approaches to and the knowledge about sustainability remain sectoralized. There is a gap between the dominant or even hegemonic forms of environmental policy knowledge which are embodied in the concept of sustainable development, on the one hand, and the socially dominant forms of environmental knowledge concerning the appropriation of nature on the other. Until now, the policy knowledge of sustainable development has not been able to question the main assumptions and to shape existing practices of dominant forms of the appropriation of nature. This is shown along five crucial dimensions; of particular importance is the existence of the so-called valorization paradigm. Theoretically, the article is informed by the theory of societal relationships with nature and it focuses on the role of knowledge in social reproduction, innovation, and transformation.

Keywords: policy knowledge; environmental knowledge; global environmental politics; sustainable development; ecological modernization; societal relationships with nature

Introduction

The enormous public attention that accompanies international gatherings like the Conference of the Parties to the Framework Convention on Climate Change (FCCC) shows that, on the one hand, global environmental problems have been and continue to be at the top of the global political agenda. The publication of the Stern Report and the Fourth Report of the Intergovernmental Panel on Climate Change produced an enormous international debate and put the question of climate policies at the centre-stage of political deliberation (Stern 2006, IPCC 2007). Sharply growing energy and food crises in 2008 also caused intense debates and the development of political strategies (FAO 2008). The erosion of biodiversity is not such a hot political topic in the countries of the so-called Global North, but it is a major issue in many societies of the Global South (e.g. when local farmers depend heavily on biological diversity in agriculture) and at the international level.

The politicization of environmental issues has a longer trajectory. It started in the 1960s and 1970s when the degradation of rivers and air became an issue of public debate. State agencies started to implement local policies like in the River Ruhr

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region in Germany and studies on environmental degradation and resource depletion were published. Furthermore, in some countries an environmental movement emerged in order to criticize the dominant forms of energy or food production, the degradation of the quality of life in cities, and the quality of rivers.

Important in the social sciences was the identification of a “risk-society” with its central assumption that the growing domination of bio-physical processes does not lead to more control. Rather, it rebounds in the destruction of nature and in ever greater dependence on the results and secondary effects of the domination of nature (Beck 1992). Another prominent insight was that environmental problems could be socially recognized through “ecological communication”, i.e. that society is alarmed about ecological problems but does not have the means of prognosis and practical guidance (Luhmann 1989).

Apart from many local, regional, and national actions that were undertaken as well as specific international policies (Axelrod et al. 2005, Lipschutz 2004), it took, however, another two decades to create institutions that were able to deal with the ecological crisis in a comprehensive way. The United Nations Conference on Environment and Development (UNCED) was organized and took place in June 1992 in Rio de Janeiro. Besides that institutional dimension, “Rio 1992” was important because the concept of sustainable development and the related one of sustainability was instituted to give legitimation and direction to debates and politics. In that sense, the recent politicization of the ecological crisis is much more a re-politicization that refers to already existing institutional settings and bodies of knowledge.

On the other hand, in recent years it has become clear that public and intergovernmental policies have not been able to cope with this growing acknowledgement of necessary politics. In addition to the studies quoted at the beginning of the article, the implementation problems were especially recognized with the publication of the United Nations Millennium Ecosystem Assessment in 2005. This poses the question of why it is so difficult to transform societal practices and norms in order to overcome the destructive development model which itself seems to become globalized within the global middle classes of the OECD and emerging countries. There is a vast literature on that point. However, the implementation problems are not at stake here.

In this article I want to focus on a specific aspect of socio-ecological innovation and transformation, i.e. on forms of knowledge. I argue that there is a gap between the dominant or even hegemonic forms of environmental policy knowledge, which are embodied in the concept of sustainable development, on the one hand, and the socially dominant forms of environmental knowledge concerning the appropriation of nature on the other. While there is an enormous body of knowledge on sustainability and sustainable development, we need to understand why and how other, non-sustainable forms of societal knowledge and related practices largely predominate.

I aim to show how selectively and domination-shaped a specific form of environmental policy knowledge emerged in the last 20 years: the knowledge of sustainable development. This hegemonic policy knowledge about environmental problems and how they are dealt with is Western and thus oriented towards technical and technological solutions.

**Contextualizing my argument**

The context of my argument is the following: environmental politics is taking place, problems are being acknowledged, institutions are changing and knowledge about
problems and possible solutions is being created. The “environmental question” has become important and the question of whether environmental politics takes place is no longer the point, but rather how and to what extent. If we consider the forms of environmental politics, one aspect becomes important: environmental politics is embedded in complex and domination-shaped societal relations and, because of this, a critical understanding of the latter is crucial in order to understand the socio-ecological crisis. Four dimensions of this process are important and often neglected in many analyses. Under conditions of the modern capitalist world market and related politics there is a tendency, first, to transform elements of and knowledge about nature into marketable products and, second, that for its politically mediated protection, market mechanisms tend to predominate (like in climate politics). Third, from a general perspective, we can call the actual societal relationships with nature forms of a reflexive domination of nature (on the concept of societal relationships with nature, see Görg 2003, Görg and Brand 2006, Becker and Jahn 2006).

Fourth, and central for my argument, it must be noted that environmental problems do not exist objectively and nor do environmental policies. Instead material or bio-physical dysfunctions are constructed and represented socially as problems – or very often not as problems but certain practices are normalized despite the fact that people die, soil erodes and air is polluted (Görg 2003, Hajer 1995, Fischer 2000). The social constitution of problems and the process of dealing with them depend on different forms of knowledge and they take place in a political, economic and cultural context.

For my main argument it is important that I do not argue that sustainable development is a hegemonic project of the dominant drivers of globalization, but rather sustainable development is hegemonic in the specific policy field of environmental politics. Socially, i.e. in a much broader sense, hegemony is the ongoing and even intensified valorization paradigm of societal relationships with nature (Brand et al. 2008; on the neoliberalizing of nature, see the overviews of Castree 2008a, 2008b; on its eventual post-neoliberalizing, Brand 2009). This is widely shared among and practiced daily by transnational corporations appropriating resources, consumers accepting and reproducing specific consumption patterns and governments that support more or less the valorization paradigm by developing legal frameworks, funding research or encouraging private companies to go into specific markets. The valorization paradigm implies at the level of international environmental politics that there is little conflict among different governments (in the Global North and South) that nature has to be appropriated. Conflicts emerge about the how, i.e. the adequate sharing of benefits arising from the use of nature (oil and other resource prices, the commodification of genetic resources, the role of intellectual property rights and activities to reduce greenhouse gas emissions). The valorization paradigm is complemented by moral, sometimes alarmist, appeals from intellectuals like Al Gore and even private firms and their associations themselves, which articulate environmental concerns and potential economic problems (insurance companies play a prominent role here). Many NGOs – being convinced or using it as suitable way to be politically heard – support a strategy of “protection through utilization”. Therefore, it is not surprising that the “calls for urgent action” have little policy relevance with respect to an innovative shaping of the dynamics of modern capitalism and its globalization (on the “post-political” and “post-democratic” catastrophism in climate change politics, cf. Swyngedouw 2010).
The next section gives a brief, albeit not comprehensive, sketch of the role of knowledge in policy processes. Then I distinguish environmental knowledge in a broad sense from the policy knowledge of sustainable development. In the main section of this article I outline the main dimensions of that policy knowledge and refer to some hidden aspects. My argument is that the policy knowledge of sustainable development remains weak as long as it does not question the dominant processes of globalized capitalist development, which reduce sustainable development largely to a strategy of ecological modernization or to mere symbolic politics. Finally, in the concluding remarks, I will present some tentative thoughts about an emerging issue in the global debate on sustainable development, i.e. environmental justice and necessary socio-ecological controversies, which could open the way for undermining the hegemonic policy knowledge on sustainable development.

**The role of knowledge in policy processes**

For a long time and especially in policy analysis, knowledge was – and still is – equated with scientific knowledge, which should lead to more rationalistic policies. Knowledge and politics were seen as two different spheres (Caglar 2009, pp. 44–46). Later on, causal-analytical approaches were developed in order to understand policy change in relation to shifting ideas or paradigms (Hall 1993), wherein change was explained through external factors like party politics. Another approach focused on advocacy coalitions and corresponding belief systems of actors in different institutions like public administration or associations (Sabatier 1993, on epistemic communities, cf. the fifth section of this article).3

Criticizing the rationalist and positivist assumptions of policy analysis and the dichotomy of knowledge and policy, a broad current in policy analysis has developed since the 1990s that focuses more on language and argumentation as essential for the policy process and, therefore, also for policy analysis (Hajer and Wagenaar 2003a, Fischer, 2003, Gottweis 2007, Saretzki 2008; on the role of scientific knowledge in policy processes cf. Vadrot et al. 2010). In feminist studies, the concept of gender knowledge became important in order to conceptualize this important assumption (Andresen and Dölling 2005). Close to this and in light of increasing governance processes, policy analyses were fostered that dealt with questions of deliberation, participation, and democracy (Hajer and Wagenaar 2003b, Saretzki 2008).

It seems that describing these kinds of policy analysis as being “interpretive” is the most common denominator, i.e. approaches which focus on communication and argumentation, deliberation and participation as well as the role of knowledge (another unifying concept might be “post-positivist”). Apart from the analysis of political decisions and the implementation of programs, reflection of this kind of analysis and the perspective of a democratization of the policy process itself are important.

Other important assumptions of interpretive policy analysis include the radical uncertainty and complexity of the actual world, which go hand in hand with the democratization of knowledge and further justify the critique of the prominent status of expert knowledge in rationalist policy analysis approaches, the related “advocacy research”, and the rejection of the assumed process by which experts create knowledge for elites (Fischer 1990, pp. 348–351). Interpretive policy analysis is based on the assumption that different social groups conceive the world in different terms and that there is a growing awareness of interdependence, hence the need for
collaboration in networks and the increasing importance of trust and identity in politics (Hajer and Wagenaar 2003b, pp. 10–13).

A basic premise is that action is guided more through knowledge than through interests, i.e. the constitution of interests is heavily intertwined with meaning, interpretation and persuasion. Post-structuralist approaches of interpretive policy analysis in the tradition of Foucault argue that knowledge and power are co-constituted; they produce truth effects and subjects constitute themselves through those processes (Gottweis 2007). The focus of analysis is, therefore, how meaning and reality are produced and create certain regularities (the genealogic part of Foucault; one could add the archaeologic dimension of the discourse constituting rules; Caglar 2009, pp. 62–70). Policies are performative processes attempting to organize and to fix the meaning of political events and developments, of (new) policy fields, and of how specific boundaries and storylines are established (Hajer 2008). The rules on how meanings are produced as well as the meanings themselves and their contexts need to be investigated. Hierarchies and power are important because they determine what can be said and what cannot.

What can we get out of this overview for the following argument? Knowledge creates meaning, social and political problems, reality and action – and it is contested. Socially relevant knowledge embraces different forms of collective knowledge and creates evidence about identities and interpersonal relations, divisions of labor, adequate state policies and the “right” forms of the appropriation and protection of nature. The production and meaning of knowledge is linked to asymmetric societal divisions of labor (especially, but not exclusively, the division between mental and manual work). Specific forms of production and living are more acknowledged than others and privileged through the state – and intergovernmental structures and processes – as well as its legal and material system. Therefore, the state is part of what is “right” and “true”, determines which political and social orientations are plausible, and it is part of the construction of identities, i.e. the “mode of existence” (Maihofer 1995).

Finally, different forms of knowledge exist in hierachical or asymmetric relationships. One important aspect of hegemonic – not only dominant – knowledge is to integrate asymmetrically differing or even opposing forms of knowledge. If relationships with nature are linked to different forms of knowledge, and if knowledge is considered to be inherent to belief systems, institutions, and practices, then the question needs to be asked as to which form of knowledge is diffused and becomes dominant or hegemonic as “universal” and which knowledge is seen as peripheral or even marginal and therefore “local”, ignored and forgotten (Singer 2005, p. 215).

Environmental knowledge

Production and consumption patterns, labor, housing, public services and state policies are constituted through societal relationships with nature that shape them. Environmental knowledge is about the “true” and “right” forms of the appropriation of non-human nature – and to a lesser degree its conservation (which is also a form of [non-]appropriation), i.e. societal relationships with nature, and the role of “nature” for societies in general. The socially accepted “rules” in modern societies of adequate societal relationships with nature are to dominate nature and to exploit it and usually to “externalize” the negative consequences of the appropriation of
nature (e.g. removing sites of dirty industries out of relevant societal attention). This implies the “right” functioning of political institutions and economic entities; of international, class-related, gendered and racialized divisions of labor; of production and consumption patterns; of various understandings of progress and economic growth; and of the specific subjectivities related to the domination of nature. Other relationships with nature are considered as pre-modern or traditional. The knowledge about nature is not neutral but closely linked to the appropriation of nature. It is related to socio-economic developments including globalization, the export and cash-crop orientation of the agricultural sector in many countries, and the program of the Western-rationalist domination of the world.

Modern societal relationships with nature are produced and mediated through techno-sciences. Dominant forms of environmental knowledge – especially scientific knowledge – represent themselves as universal and transboundary. However, modern science and technology are based on Western rationality which assumes universal processes and contents of knowledge. Through its development, Western science was able to constitute itself as a universal, modern and superior knowledge system. Other cultures are represented as “native”, territorially-bound and culturally homogeneous (Singer 2005, pp. 219–220).

The most dynamic science – life sciences, especially genetic engineering and nanotechnologies – is highly normative and related to far-reaching promises concerning the deletion of hunger and the “battle” against sickness. Modern techno-science is global in its character because the research and development of the most advanced forms of appropriating nature take place under highly competitive conditions on a global scale, i.e. among globally-oriented research institutes and companies which are mostly located in industrialized countries. Local and situated (“traditional”) knowledge exists and is also more or less acknowledged, but it is clearly inferior to Western modern and especially techno-scientific knowledge (Singer 2005). This has consequences for international environmental politics. Moreover, it needs to be acknowledged that state and intergovernmental politics cannot intervene in the “transformation core” (Becker and Wehling 1993) of techno-scientific developments.

The andocentric concept of nature is that of societal domination of nature and of dualisms like culture–nature and men–women (Merchant 1995, Mies and Shiva 1993, Singer 2005; on different variants of eco-feminism, see Vinz 2005). The gendered division of labor, for instance, shapes and is shaped by historically specific societal relationships with nature where, according to tendency, food is prepared and care work is usually done by women and, in the case of environmental degradation, responsibility is mainly assumed by women whereas access to resources and assets is mainly reserved for men.

Societal relationships with nature became problematic through the materially and socially constructed ecological crisis and are now modernized towards more reflexive forms of the domination of nature, e.g. through attempts to “internalize” formerly externalized ecological costs. Therefore, the concept of environmental knowledge is used in a broader sense and the distinction of environmental policy knowledge is important because it sheds light on the fact that societal relationships with nature – and not only the policy knowledge to deal with its problems – are highly power-shaped, i.e. gendered, class-structured, racialized or unevenly distributed regionally and internationally.
The Brazilian sociologist, Henri Acselrad (2008), refers to the concept of "ecopower", which is similar to Foucault’s biopower (1977). The latter intends to fence productive subjectivities and bodies in order to make them compatible with modern societies. Ecopower aims to fence and appropriate (physical–material and social) territorial elements through knowledge, political institutions, property rights and the creation of physical artifacts. The manifold societal relationships with nature, i.e. socio-spatial territories and existing social relations, are shaped for its efficient use, commodification, and valorization under conditions of economic competition (Altvater 1993). This is a hierarchical process which gives certain groups and actors privileged access to nature and excludes others. Moreover, the negative effects of the appropriation of nature are distributed unequally, which raises questions of environmental justice (see below). In that sense, we can interpret the modern forms of global environmental politics as a kind of institutionalized and discursive ecopower because societal relationships with nature are acknowledged to be problematic and should be shaped in specific ways. They tend toward structures and practices of a reflexive domination of nature. These forms of environmental knowledge are an important dimension for understanding societal relationships with nature.

However, the theory of societal relationships with nature emphasizes that there is an enormous and irreducible plurality of societal relationships with nature – in the sense of knowledge and institutional and everyday practices – and, therefore, different societal relations are thus implied. I come back to this point in the last section.

Environmental (policy) knowledge

Environmental policy knowledge – which is the focus of this article – intends to deal explicitly with environmental problems and environmental politics. Given the complexity and uncertainty of environmental problems and the adequate forms to deal with them, it is not just by chance one of the most prominent fields in which the role of expertise and scientific knowledge is examined (Fischer 2003, Conca and Dabelko 2004, Lander 2006, Kütting and Lipschutz 2009). Environmental knowledge, on the one hand, and policy knowledge, on the other, are linked, but the former does not determine the latter. Peter Haas argues persuasively that the role of epistemic communities is crucial in the societal recognition of environmental problems (in my terminology, to create relevant policy knowledge). He sees an epistemic community as “a network of professionals with recognized experience and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area” (Haas 1992, p. 3). Members of an epistemic community are bound together by “their shared belief or faith in the verity and the applicability of particular forms of knowledge or specific truths” (ibid.). This definition was especially used for the analysis of environmental politics (e.g. Young 1999). However, there are many criticisms of this view. The political influence of expert networks remains somehow opaque. The notion of expertise is vague, given the fact that there is an enormous variety of expertise and also non-expert forms of knowledge, all of which might be contested, and, finally, the role of norms and “shared beliefs” is unclear, i.e. that expertise is not a neutral fact and the question of who develops and controls them has to be asked (Forsyth 2009, Jasanoff 1996, Vadrot et al. 2010).
To sum up the argument of this section: developed since the 1990s, the concept of sustainable development is a vague and undefined concept (see below) in the body of hegemonic policy knowledge in environmental politics – and not in all policy fields. The concept opens a discursive space which recognizes the manifold socio-ecological problems and potentially enlarges the political–economic perspective towards issues which are usually beyond the centre of political and economic attention, like gender issues, i.e. questions of an unequal division of labor, of economic reproduction beside formal production and distribution and of patriarchal politics. This was and is at least the hope of many scholars and social actors. However, the hegemonic policy knowledge of sustainable development does not question the overall valorization paradigm. On the contrary, both its obvious and hidden dimensions frame this paradigm. Through this process, specific forms of policies are legitimized, but in a selective way and without transformative perspectives. Let us see along which dimensions this process works.

Ecological modernization as one dominant practice – sustainable development as hegemonic policy knowledge

Generally speaking, (international) environmental politics intends to shape societal orientations and practices which are considered to be harmful for “nature” or to damage societal relationships with nature. Respective policies intend to counter the manifold crises of societal relationships with nature and we can see how dominant and increasingly hegemonic policy knowledge emerged in the last 20 years. The dominant paradigm of global environmental policy knowledge is a particular paradigm, i.e. it frames global environmental politics in a specific way and creates evidence. What is known about the environmental crisis or crises constitute(s), in a certain way, the corridors to deal with it/them. Policy knowledge constitutes power-shaped rules in order to distinguish true or right politics and policies from wrong ones. The struggle over concrete institutional policies “takes place within boundaries” (Dryzek 1999, p. 36, see also Fischer 2003, Prügl 2004). If they are broadly accepted or opposed, actors are not able to question them effectively; we can call the hegemonic forms of knowledge “environmentality” (Luke 2009).

In this sense, the concept of sustainable development or sustainability, respectively, emerged as a “container concept” in the beginning of the 1990s because very different political, economic and societal actors considered it a discursive terrain to promote their norms and interests. Like “gender mainstreaming” (Wöhl 2008) or “global governance” (Brand 2005), sustainable development creates a consensus formula which enables actors to pursue their interests and norms to de-legitimize other norms and interests which go beyond these “consensuses” (Wichterich 2002, Bruyninckx 2006, Brand and Görg 2008). Many institutional mechanisms, scientific studies, prominent speeches and thousands of seminars, articles and features in the media, conferences like the “Rio plus 10” conference 2002 in Johannesburg, and the everyday practices of policy-makers, NGOs and private companies contribute to the hegemonic character of actual global environmental politics (for instance, in Johannesburg, women’s politics was less successful than in Rio 1992; Vinz 2005). Therefore, it is important to consider what is taken for granted and what is left out and therefore implicitly accepted as an unchangeable frame of this kind of policy knowledge.
In which historical context did the policy knowledge of sustainable development emerge? It was briefly mentioned in the Introduction that, in the last three decades, societal reactions to the diverse dimensions of the ecological crisis have emerged. Of course, in earlier times, many political and societal actions have already taken place against environmental degradation, floods, droughts, the overuse of land and the pollution of air. Prior to the broadly acknowledged environmental crisis, Rachel Carson (1962) politicized industrial agriculture with her book, *Silent spring*, but it was in the 1970s that the various dimensions of an environmental crisis were acknowledged. This was not due to material degradation “objectively” reaching a certain point, but rather because societal actors, such as social movements, intellectuals, scientists, international organizations like the FAO and sensitive state officials, began to politicize the environment and societal relationships with nature, respectively. The Stockholm Conference on Human Environment in 1972 played an important role and imbued the concept of human environment with an environmental bias (the foundation of the UN Environmental Program, UNEP, was one institutional outcome). Moreover, the increase in the price of oil and the report to the Club of Rome, “Limits to Growth” (Meadows *et al.* 1972), were important starting points of international debates and policies. The politicization of the ecological crisis was also a questioning of existing forms of knowledge production and knowledge structures as well as of the institutional forms of the appropriation of nature. Vocally criticized areas were industrialized agriculture (the “Green Revolution”), the pollution of air and water, the production of certain drugs (in Germany the most prominent case was the drug Contagan, which caused birth defects when taken by pregnant women), and, later, the use of nuclear power. In sum, Fordist orientations of universal progress and growth via modernization processes were questioned by emphasizing that this went hand in hand with an overuse of resources and sinks. However, it was not clear how to produce societal innovations or radical transformations in order to deal with these issues.

This changed during the 1980s and 1990s. Owing to a different understanding of the ecological crisis, a hegemonic perception emerged and became condensed in the broadly shared understanding of sustainable development. This is less of a concrete policy concept, but rather a broader discourse about adequate forms to deal with the ecological crisis. The report of the World Commission on Sustainable Development (WCED 1987; also called the Brundtland Report, named after the chair of the commission, former Norwegian Prime Minister Gro Harlem Brundtland) was a cornerstone of an emerging discourse and knowledge. UNCED in 1992 was an attempt to promote more coherent environmental and developmental policies – the “crisis of development” was not an issue in Stockholm 1972 – claimed after the “lost decade” for many countries in the 1980s. In the 1990s, a “liberal environmentalism” (Bernstein 2000) became the dominant way of thinking and acting which implied, among other things, a strong market-orientation of public environmental policies.

Liberal internationalist environmentalism became constitutive for a specific type of global environmental politics and sustainable development became its hegemonic policy knowledge. The andocentric concept of nature and respective dualisms (culture–nature, men–women) are not questioned in this perspective but rather they constitute the basis of this knowledge.

There are five central elements of the broadly shared understanding of sustainable development. It became hegemonic because the relevant actors accepted
this discursive terrain. The manifold struggles of actors to promote their interests, values or identities take place with broadly shared assumptions concerning the relevant policy knowledge. Differing perspectives encounter the problem of being considered legitimate on that terrain.

Firstly, and the Brundtland Report says it explicitly, the crisis has to be dealt with through economic growth. The central political document of sustainable development, Agenda 21, which was agreed upon at the Rio Conference in 1992, recommends in article 2.3 that the global economy should create conditions for the promotion of environmental and developmental issues by promoting sustainable development through the liberalization of trade (article 2.3.b). This continues to be a cornerstone of global environmental policy knowledge. Despite global environmental diplomacy, a de-politicization of societal relations takes place through the creation of hegemonic, unquestionable assumptions like the necessity for growth and the superior role of the market. This has, for instance, highly gendered implications. The orientation towards economic growth is gendered in the sense that growth means an expansion of the formal – and, in many cases, the export-oriented – economy. The patriarchal forms of the societal division of labor as well as the non-remunerated economic activities, like care work or non-paid work in local communities, are neglected and considered unimportant (Biesecker and Hofmeister 2006). The actual transformation of societal reproduction through world market-oriented and privatization policies is hidden; especially in countries of the Global South, many women lose control over and access to natural resources through the privatization of land, seeds, water and other resources (Rodda 1991, Wichterich 2002, Braidotti et al. 1994).

Additionally, this orientation towards growth and the market, which is assumed to deliver superior solutions when it is embedded in “sound politics”, goes hand in hand with the creation of a knowledge corridor that views private property as an adequate means of protecting the environment and using it sustainably. This perspective – partly realized in the Climate Convention (Brunnengräber et al. 2008) and in the field of biodiversity through the acceptance of the role of agro and drug companies (Brand et al. 2008) – implies that the policy knowledge of sustainable development is not opposed to the valorization paradigm, but is an integral, however partly contradictory, part of it.

Policy knowledge, which focuses on growth and political cooperation, hides the fact that competition is a structuring feature of international economic and political relations. Therefore, it is no surprise that “globalization”, which became important in the mid-1990s, entered the epistemic and institutional features of sustainable development as a process to be accepted, i.e. as a material constraint (Sachzwang), which cannot be questioned. To quote the former general secretary of the UN, Kofi Annan (2001), in the preparation of the “Rio +10” conference in 2002: “We have to make globalization work for sustainable development”. The economy is not seen as a site of power relations and the hierarchical and power-shaped divisions of labor along gender, class and race are disregarded. Therefore, it is very difficult to develop policies along those lines. The only politicized division of labor is the international one, which is an acknowledged problem for different developmental stages. Therefore, a central dimension of international environmental policy knowledge is that of intergovernmental – and not societal – conflicts, negotiations, and compromises.

A second and crucial element of the policy knowledge of sustainable development is the orientation along ecological modernization (Acselrad 2008, Hajer 1995). The main assumption is that within the existing institutional and epistemic framework a
shift towards more ecological production and consumption orientations can occur. The dominant type of politics, via the state and through cooperation and consensus, without questioning the (capitalist) market, is considered as sufficient. Expert knowledge plays a prominent role here and is in fact a largely “technocratic expertise” (Fischer 2000). This dimension of policy privileges Western and masculine knowledge as universal and, at the same time, superior. The concept of a Western “global expertise” was introduced by the former World Bank president, Robert McNamara (1968–1981), in order to promote a Western-oriented type of development and related developmental knowledge (Goldman 2009, pp. 147–150). Not incidentally, the World Bank calls itself today a “knowledge bank”. Other forms of knowledge are considered as traditional and not adequate for the size of the problems to be dealt with. Michael Goldman shows in his analysis of global environmental elites that “the relationship and identities of global panels of experts, scientific advisory boards, NGOs and business councils, and international aid agencies should not be taken for granted; their genealogies and biographies do matter. Who is billed as scientific or political, public or private, global or local, and inside or outside of civil society has its consequences” (Goldman 2009, pp. 162–163).

Part of the policy knowledge of ecological modernization is the fact that (high-)technological innovations are seen as crucial for the treatment of the environmental crisis. Social problems can be solved with technological means and the hegemonic forms of the production of scientific knowledge are seen as an important tool. However, the domination-shaped character is rarely referred to. The concept of sustainable development sets aside the feminist critique of science, technology and development (Wichterich 2002, Singer 2005). Moreover, there is a strong tendency to focus on material aspects of the ecological crisis – to be dealt with by creating objective limits like the percentage reduction of greenhouse gas emissions – and hide societal dimensions like power relations or symbolic-discursive dimensions.

Thirdly, the mode of international politics is that of cooperation and the only widely acknowledged conflicts are those around “national interests”. Governments are the major players in international politics and they formulate “national interests” and “human interests” but not along class, gender or ethnic lines. The manifold social problems and conflicts around the domination-shaped forms of the appropriation of nature are converted into global problems as well as into political and, more precisely, diplomatic conflicts. The national state and the international state apparatus claim to be the authoritative structures to deal with the ecological crisis. This is a crucial function in modern societies. Problems and conflicts are usually dealt with politically and institutionally mainly through the state. Societal “general interests” are formulated here; in the rest of society, especially in the economy, particular interests are legitimately pursued. The transformation of the manifold problems and conflicts into political issues does not take place in a neutral form, but on discursive and institutional terrains which are highly selective and also gender-selective. Sustainable development enables different strategies of various actors to formulate and inscribe these strategies into discursive and political–institutional terrains, where the historically developed terrains are themselves structurally selective (Jessop 2008, chapter 1; on state and nature Wissen 2008; on the strategic-relational approach in international biodiversity politics, cf. Brand 2010).

The long-lasting conflicts around the coming into force of the Kyoto Protocol of the FCCC (finished in 1997, in force since 2005, ending in 2012) are an example of this
specific type of politics. Governments do not act if others do not agree with the argument that negative consequences on international competitiveness must be avoided. This hegemonic perspective of politics, as an intergovernmental structure and process enhanced by other actors to achieve environmental governance, has an important impact.

To give an instructive example: Christa Wichterich calls the Rio conference the beginning of a “decade of agreed language” in international environmental politics – and also in women’s politics (similarly to the Fourth World Conference on Women in Beijing in 1995). Women are the first “major group” on the Rio Agenda 21, followed by other “minorities”. The chapter on women in Agenda 21 underlines the “vital role” of women and the precondition of gender equity for the realization of sustainable development. However, this is not per se critical, but can also lead to the cooptation of feminist demands and the instrumentalization of women to deal with the many everyday crises caused by the neoliberal transformation of society and societal relationships with nature. Gender mainstreaming and empowerment, which were originally critical concepts, have been integrated into mainstream policies and have lost their transformative orientation. It aims to enhance efficiency and to reduce damage by fostering adaptation to changing natural circumstances. Many lobbying strategies try to act consciously on this terrain. The famous and often quoted phrase from Bella Abzug, a prominent liberal feminist in the Rio and Beijing processes, condenses this orientation: “We need to get women into the oceans”, i.e. to lobby women’s issues so that they appear in the chapter on oceans in Agenda 21 (quoted in Wichterich 2002). Wichterich concludes that the compromise was not successful. Gender and sustainable development became “cross-cutting issues”, demonstrating how difficult it is to implement these practically. Gender-sensitive approaches are mainly realized in the agriculture, water and forest sectors, but gender equity in the sense of equal access to and ownership over resources, of the duties and benefits from the appropriation of nature, has found little support.

Fourthly, sustainable development as policy knowledge frames environmental politics as a top-down process. The earth brokers (Chatterjee and Finger 1994), the eco-bureaucrats and diplomats, and the “global bargainers” – to use just a few critical expressions – consider themselves crucial in a process where problems are framed as problems of humanity on the “Spaceship Earth” (Boulding 1966) as a whole and as collective-action problems. This constitutes policy knowledge that Michael Redclift (1992) called “managerialism”. One major result is a technocratic policy approach where conflicts are considered political—diplomatic, but not societal. Despite the fact that the local is considered as an important scale of societal relationships with nature, environmental problems and the crisis are considered as a global one and the collective action problem has to be overcome by international cooperation (Luke 2009). The Earth Summit (i.e. UNCED) itself is the best example of such a top-down perspective. More recent proposals to create a UN “Global Environmental Organization” (Rechkemmer 2005) are the most consequent outcome of such thinking. Only such an organization could concentrate the dispersed – and therefore ineffective – environmental institutional capacities at the international level.

Finally, for quite some time – and in opposition to the proclaimed cross-sectoral character of sustainable development – environmental policy knowledge was assumed to be “issue-specific”. Issue-specific orientations (climate, biodiversity, water, forests, etc.) are deeply inscribed into the existing epistemic and institutional patterns. The weak explicit relations between these orientations and economic or
gender issues have become a mode of functioning for international politics. Sustainable development, as hegemonic policy knowledge of diplomatic negotiations on environmental politics, focuses on cooperation and collective action, both of which take place in an issue-specific context. One development is striking. The still existent and even aggravating crisis of development and the environment could not be coped with by the end of the 1990s. In response, the UN in 2000 developed the Millennium Development Goals (MDGs). They were developed on the basis of the hegemonic assumptions of the policy knowledge of sustainable development.

From the very beginning, the emerging policy knowledge oversaw certain important developments. In the euphoria of Rio 1992, it was almost forgotten that US President Bush declared 17 months before – right before the war against Iraq in 1991 – a “New World Order”, designed to rely much more on military force than on politico-environmental cooperation. Moreover, in 1991, the US government integrated environmental issues into its National Security Strategy for the first time. Since then, a discourse on environmental security has emerged, which also justifies growing military expenditures after the end of the Cold War, but it is not at all part of the policy knowledge on sustainable development. Another striking example is how the “Group of 8” – and in the future possibly the “G-20” – deals with energy security and environmental degradation (especially that related to climate) as separate issues (cf. Brunnengräber et al. 2008). Part of the militarization is the development of sophisticated surveillance methods, i.e. a multibillion dollar project to control the Amazon with satellite techniques. Whereas economic aspects are present and shape environmental thinking, security aspects are absent, while in fact an enormous “environmental–military–complex” exists within its surveillance techniques (Acselrad 2008, Ceceña 2006) and emerges for the militarization of sustainability. However, it is not difficult to predict that these issues will become part of the global environmental policy knowledge over the coming years, embedded in which are strong gender implications. Security issues are among the most male and masculine in society. Private and public military and security tasks are almost exclusively performed by men, and the logic of coercion is part of masculinity and male rationality (Kreisky 2008).

For Foucault (1977) “truth” is not so much the ensemble of true things, but the power-shaped rules that are the basis from which to distinguish the true from the wrong. As I argued, this becomes clear against the background of global environmental politics. Its universalistic construction – to save the planet and humanity steered by state officials and supported by experts – implies the securing of existing (Western) knowledge corridors, processes of capital accumulation, and related practices, and it is immanently male. In international environmental politics, a strategic selectivity towards the exclusion of hierarchies and asymmetries is occurring. However, the manifold concrete practices of the appropriation of nature are gendered, racialized and class-structured, but we can identify a decreasing attention to these issues on an international scale. If there is any explicit policy, we can call it a “symbolic gender policy”, which reproduces hierarchical gender relations and specific forms of gender knowledge. Therefore, we can argue that the policy knowledge of sustainable development is a form of ecopower in times of the ecological crisis, i.e. of the reflexive domination of societal relationships with nature.
Epistemic and practical alternatives

The outlined processes are not at all homogeneous and uncontested. Global climate politics, to give an example, bears the potential to question the profitability of energy corporations and creates problems of legitimacy for dominant politics.

However, it seems difficult to politicize other structuring features and conflict lines beyond modes of global management, ecological modernization and intergovernmental bargaining in line with the valorization paradigm. Therefore, we can call the actual structures and processes of global environmental politics hegemonic, because its forms are not effectively questioned, i.e. the knowledge corridors are quite stable and the opposition is not able to mount an effective challenge. Economic growth and the superiority of “the market” (which is assumed to go hand in hand with private property), Western expertise and technological innovations are accepted as fundamental; managerialism is considered an adequate form of politics and patriarchal gender relations hardly play an explicit role.

Radical socio-ecological thinking and politics intend to shape institutional and discursive societal relations by making their hierarchical, hegemonic and/or oppressive character visible in order to change them. Besides processes, like enhancing the capacity to act for excluded or oppressed forces through collective action, and the shaping of institutions, a major dimension of feminist and radical socio-ecological thinking is to change the epistemic foundations of societal power relations. One experience of critical intellectuals and social movements, especially feminist intellectuals and movements, is important here: in order to politicize environmental issues there is a need to undermine both the existing societal and policy knowledge about the “right” or “legitimized” appropriation of nature and the process through which the ecological crisis, which is itself not only a material crisis but socially constructed, is managed. The “flawed and outmoded governance model” (Park et al. 2008, p. 9) of global environmental politics needs to be questioned conceptually and practically.

The concept of “environmental justice” might become a crucial term in order to bring quite different experiences together and give them orientation. The environmental justice perspective reflects the uneven access to natural goods and the enjoyment of their benefits. It also makes clear that the understanding of problems and the selective dealing with them depends on knowledge (Parks and Roberts 2006, Antipode 2009; from a feminist perspective, Salleh 2009; with its implications for political theory, Barry 2008).

Forms of alternative knowledge for the democratic shaping of societal relationships with nature would mean to deconstruct dominant or even hegemonic forms. In this context, Ken Conca (2008) argues that the major failure of the Rio type of politics is that it did not, and does not, recognize and engage “transnational socio-environmental controversies” about local problems. This means that local problems are not only local but translocal, i.e. often politicized and politicizable along different spatial scales. It would not focus so much on the myth of global management of the environment (Brand and Görg 2008), but on “protecting the planet’s places”, i.e. to deal with the cumulative local problems such as soil erosion, water scarcity and loss of biodiversity (Conca 2006). It is less about “stakeholder dialogue”, but rather about conflicts and, of course, institutional politics which result from a process in which different actors, norms and interests have had a chance to be formulated and heard, and to which a precautionary principle is crucial. The flawed realization of the politics of sustainable development
has to do with its focus on economic growth, cooperation, managerialism, statism and related knowledge. Environmental conflicts beyond the negotiation table are often ignored – in practical politics as well as in social scientific research. Different policy knowledge and respective research strategies are crucial for this. This means a weakening of the dominant and presumed gender-, class- and race-neutral policy knowledge of sustainable development and the opening of intellectual and practical spaces where environmental justice can be fostered.

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Notes
2. When I refer to the concept of hegemony, it is used in the sense that societal relations are broadly shared and institutionalized and that different societal relations do not question hegemonic relations or are not able to articulate differing or even opposing interests, norms and values effectively.
3. Gülay Caglar (2009, pp. 43–53) argues that these approaches conceptualize knowledge in policy processes as influencing policies (and reality in general) rather than constituting them. Knowledge is understood as somehow external to power and policy processes as more or less a resource of information and legitimation. Change is caused by external shocks.
4. The knowledge about the human body and related practices is a different issue which is not dealt with in this article.
5. It should be noted that in some countries environmental issues were politicized and certain policies enacted since the 1960s, e.g. in Germany, because of water and air problems.
6. This dimension of sustainable development might change in the coming years. The already mentioned Millennium Ecosystem Assessment urges the promotion of cross-sectoral perspectives and policies (MASR 2005). Indeed, environmental or, more specifically, climate knowledge is only one aspect of various societal knowledge dimensions. It is articulated with other knowledge of problems and institutionalized policies concerning economic development, the creation of competitiveness, distributional aspects in society, etc. Seen from this perspective, the most important institutional innovation at the international level, which was able to shape societal relationships with nature, was not the two Rio conventions (FCCC and CBD), but the WTO.

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