

AS WE SEE IT*

Equity, responsibility and climate change

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ABSTRACT: The United Nations Framework Convention on Climate Change (UNFCCC) and its decision-making processes are influenced by powerful economic and political interests, but also by debates on equity and responsibility. This is equally reflected in the work of the Intergovernmental Panel on Climate Change (IPCC), whose task it is to compile and assess existing knowledge for the UNFCCC negotiations. The IPCC is not charged with producing new knowledge, and its assessments, particularly the 'Summary for policy makers', are the product of political and ideological debates, and may include biased statements. The debate on equity and responsibility is characterized by a division, mainly based on socio-geographic differences, between the representatives from developed and those from developing countries. We argue that 'common but differentiated responsibilities' (UNFCCC 1992, Article 3) require a consideration of temporal and sectoral factors, as well as geographic ones. Countries and economic sectors that have caused today's climate change must be held accountable. More attention must be devoted to giving different responsibilities to the various economic sectors according to their importance for basic human needs. The differences in accountability between economic sectors were first analyzed in Agarwal & Narain (1991; Global warming in an unequal world. Centre for Science and Environment, New Delhi); the need for historical accountability was proposed by the Brazilian Delegation in UNFCCC (1997).

KEY WORDS: Equity · Responsibility · Consumption patterns · Climate change

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1. INTRODUCTION

Equity and responsibility in climate policy should become more than mere solutions for maximizing advantages and minimizing costs, or mere tools for attaining targets such as 'economic growth' or 'political stability' (Banuri et al. 1996).

Article 3 of the United Nations Framework Convention on Climate Change (UNFCCC) refers to equity in a subjective manner: 'the Parties should protect the climate system for the benefit of the present and future generations of humankind, on the basis of equity and in accordance with their common but different responsibilities in respect of capacities. As a result, the Devel-

oped Country Parties should take the initiative in combating climate change and its effects' (UNFCCC 1992, Article 3; available at http://unfccc.int/files/essential_background/background_publications_html/pdf/application/pdf/conveng.pdf). Some of the participants in the IPCC and UNFCCC processes are attempting to define the concept of equity more clearly, to help implementation of UNFCCC resolutions (specifically, ratification of the Kyoto Protocol: UNFCCC 1997) in terms that are reasonably fair; according to the Chair of the Kyoto Protocol, Raul Estrada-Oyuela, 'we should not forget that human beings are born equal, despite the Utopian nature of this affirmation' (for the author, Utopia is necessary for

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the progress of political ideas: Estrada-Oyuela 2000, available at: <http://www.teri.res.in/xcut/havana.htm>). Discussions of equity at the UNFCCC included a variety of aspects, such as current or past responsibilities for the causes of climate change, future responsibilities for adaptation to climate change, 'the willingness to pay' for damages caused by climate change, equality of per capita emissions of gases into the atmosphere.

The concept of responsibility is equally fundamental to climate change issues. It involves the idea that 'everything is related to everything else' and includes an appeal for a 'more ethical stance' (as if this were a concrete goal). It is important to avoid vague propositions, as well as the 'militant' aspects often associated with environmental discourse as a whole; this undermines the political credibility of the environmental agenda, which is often viewed as 'non-scientific' in academic circles. 'Equity or environmental issues continue to be treated as externalities to markets' (Burgemeier 2003, p. 172).

2. RESPONSIBILITY

The document issued by IPCC Working Group III on Mitigation of Climate Change focuses on responsibility (Banuri et al. 2001). The issue of responsibility in climate change transcends the significance of any other environmental issue (Muylaert & Rosa 2002). 'Responsibility is an ubiquitous phenomenon. In fact, one hardly needs to point out the ubiquity of responsibility. Someone or other is constantly assuming responsibility, or having the assumption of responsibility demanded of them. A whole ethical doctrine of its own—the ethics of responsibility—has developed around the expression' (Petersen & Faber 2004). The principle of responsibility of Hans Jonas (Jonas 1995) was developed for the environmental problems faced

by the modern age. The notion of 'responsibility of all' appears to explain that a great number of social actors and individuals are responsible for the environmental problems as parts of a great network of cause-effect relationships. The notion of *collective responsibility* (the 'responsibility of all') helps individuals to settle into a selfish position. The maxim that 'everything depends on everything' implies that nothing substantial can be done, and that the fastest solution to a problem is the best. Consequently, instead of encouraging *effective responsibility* among people, economic benefits are generated for some groups, with no commitment to structural changes in society, and this favors short-term market solutions. Palliative solutions appear on this screen, such as the appeal to consume 'ecologically correct' products.

Another aspect of the notion of 'responsibility of all' involves national sovereignty versus 'global' interests, when national rights are at stake. The idea that the 'atmosphere belongs to the planet as a whole', and the vulnerability to climate change of global resources such as drinking water, show that global problems can interfere with national sovereignties. The IPCC report on impacts, adaptation and vulnerability (Adejuwon et al. 2001) emphasizes the responsibility of the wealthy countries to help the poor ones to face climate problems. The IPCC (1996) has constructed a 'vulnerability index' that highlights the weakness of the poor countries in facing the consequences of climate change. The index is based on the factors 'external dependence', 'island condition and distance', and 'probability and severity of natural disasters'; the index does not include factors such as 'capacity of dealing with difficulties' or 'creativity in facing adversity', as these might substantially change the values of the index. The present index classifies the countries as: developed countries (0.21), developing countries (0.42), and island developing countries (0.59).

Table 1. Demographic and energy data for 1997 for selected countries (from EIA 1999). GDP: gross domestic product; Toe: tons of oil equivalent

	Population (mill.)	GDP per capita (10 ⁶ US\$ ind. ⁻¹)	Consumption of electricity (KWh ind. ⁻¹)	Carbon emissions			
				Total (10 ⁶ tC)	Per capita (tC ind. ⁻¹)	Per GDP (tC US\$ ⁻¹)	Per total energy (tC Toe ⁻¹)
USA	268	30.3	12235	1480	5.52	0.2	0.62
Western Europe	387	22.1	5845	918	2.37	0.1	0.57
Eastern Europe ^a	413	2.3	3593	878	2.12	0.9	0.65
China	1244	0.7	769	822	0.66	0.9	0.89
Brazil	164	4.9	1970	76	0.46	0.1	0.42
Africa	731	0.6	479	214	0.29	0.5	0.74
India	966	0.4	411	236	0.24	0.6	0.79
World total	5868	4.9	2089	6175	1.05	0.2	0.65

^aIncluding countries of the former Soviet Union

3. EQUITY AND DEVELOPMENT PATTERNS

Several indicators of inequities among regions can serve to justify proposals for equity, i.e. for commitments to share the burden of the climate change regime (Table 1 exemplifies the energy sector).

High energy utilization of developed countries is accompanied by low use of energy in developing countries; this is not a sustainable pattern for all. The per capita average of energy utilization levels in developing countries obscures striking inequalities: while the mass of the population does not attain energy utilization levels to meet its basic needs, the local elites utilize a significant proportion of the global income to ensure life-styles that are similar to those of their peers in Europe or North America. This gives rise to energy wastage levels that are also similar to those in wealthy countries, not only in terms of direct utilization (heating/cooling, commuting, lighting, cooking), but also in indirect utilization through the energy required to produce luxury goods and services.

The so-called 'consumption society' is beginning to encounter challenges, even in the developed countries. There are many technological options for boosting energy efficiency and the effective use of materials, while reducing the amount and variety of waste produced. This could help maintain or even improve our current living standards, while using fewer resources and less energy. However, the environmental advantages of many of these technological options may vanish due to effects of scale or rebound effects (Cohen 2002). It is commonly believed that an increase in efficiency leads to proportionally lower resource (energy) utilization, although this does not necessarily take place. In some cases, heightened efficiency may even result in increased energy utilization, i.e. a 'rebound effect' (this phenomenon has been studied by energy economists since 1980, based on an article by Khazoom 1980, which was widely discussed during this period of high oil prices — shipping and housing were areas where a rebound effect occurred due to improved energy efficiency). Even when improved efficiency results in lower energy utilization, the estimated potential reduction is rarely reached.

While some scientists still challenge this concept (e.g. Lovins 1988, who does not challenge the existence of the rebound effect as such, but its effective impact, which he states is negligible), the rebound effect raises a significant question: the impact that some technologies (or their efficiency) have on the dematerialization of production and energy utilization is not yet clear, as the behavior of the agents may lead to an increase in resource use.

We require a development model that is less energy intensive, and we need to alter present-day life-styles.

International talks on climate change have highlighted the need for international cooperation mechanisms in order to increase the use of renewable energies, thus enhancing energy efficiency and lowering energy consumption, while reducing CO₂ emissions.

No low-cost replacements for fossil fuels are available as yet on large scales. Meanwhile, the long- and medium-term prospects for renewable energy (solar, wind, biomass electricity) and energy conservation technologies are improving, mostly driven by market rules. Several global networks for promoting decentralized renewable energy were established in the last 5 years with the aim of giving the world's poor (an estimated 1.64 billion people, or 27% of the population in 2000, of which 99% live in developing countries, and 80% in rural areas) more access to electrical energy. The development of decentralized renewable energy at the global level and universal access to energy are influenced by the global market of equipment and technologies. 'Environmentally compatible projects' can also create foreign exchange credits for industrialized countries and export other environmental problems from developed to developing countries. This is the case for some projects involving photovoltaic panels for the generation of electricity in developing countries. Therefore, significant reductions in greenhouse gas (GHG) emissions over the short term would impose costs and/or changes in life-style and consumption standards.

4. CONCLUSIONS

The concepts of equity and responsibility in dealing with climate change are fundamental to guide decision makers. Although the topic of climate change is still controversial (disagreements on the causes and importance of global temperature rise, and on its consequences for future generations), the precautionary principle constitutes a tool for promoting responsibility. As the precautionary principle is based upon the uncertainties associated with scientific research, some manipulation can occur to favor specific groups of interests. The precautionary principle is a very powerful discourse from the technical and scientific standpoint. Some well-known 'global risks' expounded by alarmists are: desertification of agricultural land, famine, lack of potable water, and vulnerability to detrimental effects of climate change.

Decision-makers in industry and politics are always faced with problems that are easier to solve by 'enlarging the cake' rather than redistributing the existing portions. However, we need to think about how to 'partition the cake' (a cake that may be shrinking), by challenging individual freedoms and choices. This

means raising analytical issues that are hard to approach using conventional analytical tools or vague concepts such as equity.

The term 'equity' is not clearly defined (Muylaert & Rosa 2002), and this may open the door to manipulations of the decision-making process. Decision-makers often deal with rules and proposals that root in the power of the best-articulated discourses. In current international debates, the responsibility for climate change is mainly focused on geographical differences, but the historical emissions that caused today's climate change must also be taken into account; the differences among economic sectors (Agarwal & Narain 1991) must be considered as well. The combination of these 2 aspects (historical emissions and emissions by economic sectors) mirror different patterns of development. For example, methane emissions originating from domestic livestock (due to enteric fermentation and nitrous oxide from manure management) are linked to regional differences in food production, cultural expression or even religion, whereas emissions from combustion of fossil fuel represent an unsustainable consumption pattern. We believe that, in the equity debate, it is fair and reasonable to allot different weights to different time periods and economic sectors, depending on their relative importance for the satisfaction of basic needs (Muylaert et al. 2003).

Acknowledgements. We thank Christiano Pires de Campos for discussions of the manuscript.

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Editorial responsibility: Otto Kinne, Oldendorf/Luhe, Germany

*Submitted: November 1, 2004; Accepted: November 11, 2004
Proofs received from author(s): December 12, 2004*